

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION



**BUDGET
ESTIMATES**

FISCAL YEAR 2024

CONGRESSIONAL SUBMISSION

PRIVILEGED

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Congress.**

**Budget Estimates, Fiscal Year 2024
Congressional Submission**

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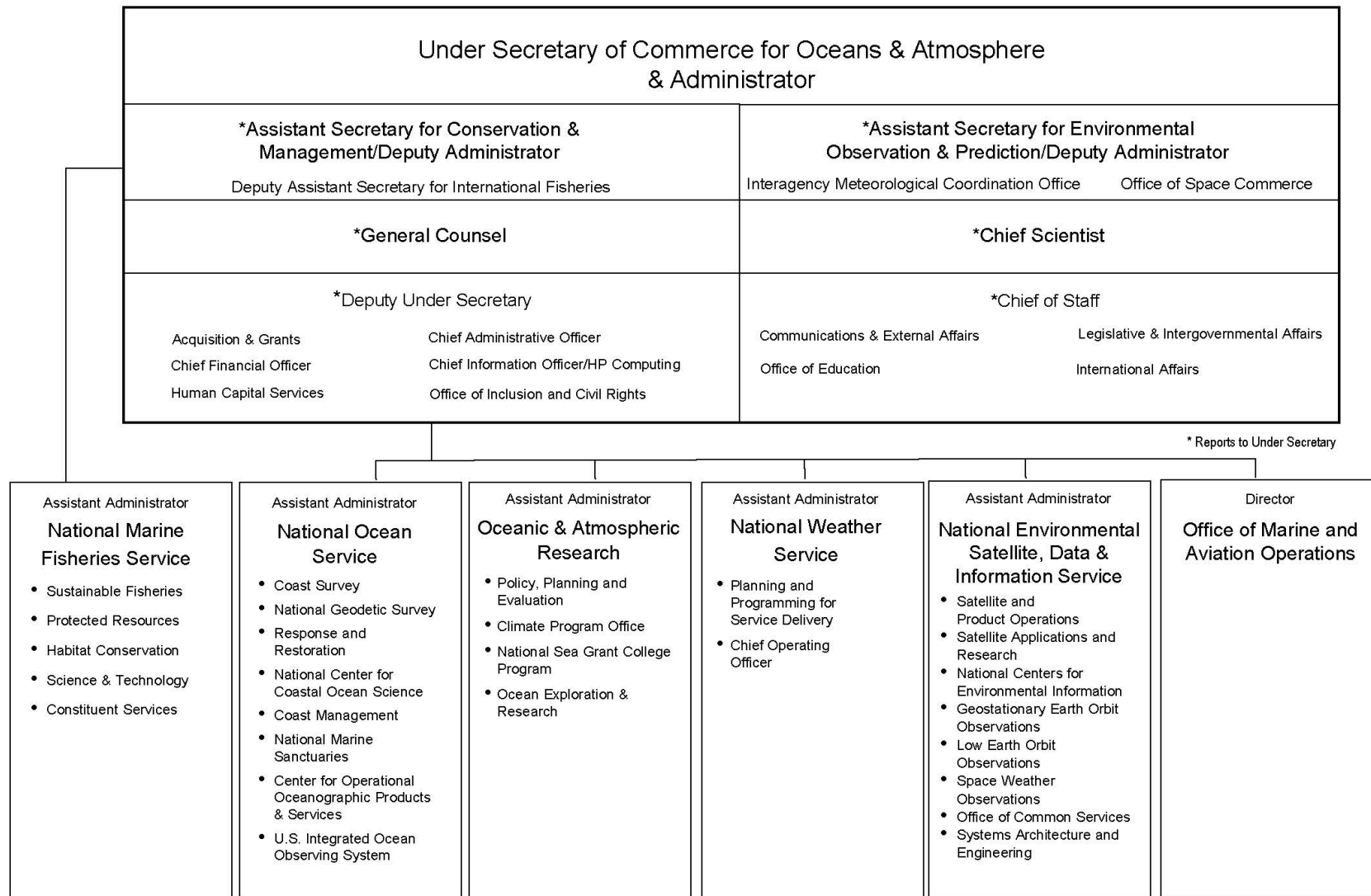
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U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION



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**Department of Commerce
National Oceanic and Atmospheric Administration
Budget Estimates, Fiscal Year 2024**

EXECUTIVE SUMMARY

For Fiscal Year (FY) 2024, the National Oceanic and Atmospheric Administration (NOAA) proposes a budget of \$6,823,609,000 in discretionary appropriations, an increase of \$450,525,000 from the FY 2023 Enacted. In FY 2024, NOAA will continue to build a Climate-Ready Nation by expanding NOAA's authoritative climate products and services; foster environmental stewardship and optimize advances in science and technology to create value-added, data-driven economic development with a particular focus on the New Blue Economy; and continue to integrate equity across the organization by improving capabilities and knowledge sharing, expanding opportunities, and honing service delivery. Additional investments in satellites will reinforce NOAA's commitment to next-generation systems to ensure continuity of critical data and provide significant improvements in data and products, as well as support facilities that are vital to NOAA's critical science, service, and stewardship missions. These investments, in conjunction with the Bipartisan Infrastructure Law and Inflation Reduction Act, will advance NOAA's mission of science, service, and stewardship. More details about these priority NOAA initiatives are provided below.

In FY 2024, NOAA requests an increase of \$78,222,000 to build a Climate-Ready Nation - a thriving Nation whose prosperity, health, safety, and continued growth benefit from and depend upon a shared understanding of, and collective action to reduce, the impacts of climate change. There is increasing demand for NOAA to deliver continually improved products and services, improve predictions of extreme weather events, and improve predictions of climate-related impacts. Climate change is having immediate impacts on communities in the Arctic, and NOAA services in the Alaska Region cannot expand within current resources to meet the increasing complexity of Arctic needs. To better support this increasing demand, an increase of \$4,500,000 is requested to further NOAA's ability to meet expanding mission demands in the changing Arctic. Further, the NOAA fleet operates throughout the world supporting a wide array of NOAA missions. In FY 2024, NOAA's fleet will grow with the addition of a third King Air, and the new NOAA Ships *Oceanographer* and *Discoverer*. NOAA requests an increase of \$4,220,000 to provide the NOAA Corps officers needed to safely and effectively operate the new ships and aircraft. In order to deliver the Days at Sea necessary for at sea data collection and to support critical mission requirements and ship operations and maintenance, NOAA requests \$16,231,000. These platforms will provide programs across NOAA with increased support for products and services that inform public safety, fuel the economy, and increase understanding of climate-induced impacts on our communities and ecosystems.

In FY 2024, NOAA requests \$81,401,000 to support economic development, with a focus on the New Blue Economy. These initiatives support development, framed around an information and knowledge-based approach, of fisheries, transportation, shipping, renewable energy, recreation, and livelihoods. This includes an increase of \$38,648,000 to support the Administration's goal to generate 30 gigawatts of offshore energy by 2030, while protecting biodiversity and promoting sustainable ocean co-use. In addition, NOAA requests an increase of \$2,964,000 to combat and reduce illegal, unreported and unregulated fishing worldwide through enforcement capacity and advanced technology along with improved trade capabilities and economic analysis to enhance U.S. commerce. An increase of \$4,000,000 is requested to support the unification of Tsunami Warning Centers, located in Palmer,

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Budget Estimates, Fiscal Year 2024**

Alaska, and Honolulu, Hawai'i. Tsunamis are unpredictable and have an extremely high impact with potentially disastrous consequences to life and property along the already vulnerable U.S. coastlines, and this request will ensure product consistency and fluid continuity of operations. In FY 2024, NOAA also requests an increase of \$10,000,000 to evaluate industry's potential to deliver phased array radar and meet NOAA's weather radar requirements, and an increase of \$17,700,000 for the Office of Space Commerce to support the development of a space situational awareness capability for civil and commercial space sectors.

In FY 2024, NOAA will continue to lay the foundation for successfully integrating equity across the workforce and the communities we serve. NOAA will build on service equity assessments to ensure our products and services meet user needs, are delivered equitably, and will improve resilience to and understanding of weather, water, and climate events within historically underserved and vulnerable communities. In FY 2024, NOAA requests an increase of \$9,106,000 to support equity and workforce initiatives. An increase of \$2,801,000 will allow for education, outreach, and training to support the seafood industry with a focus on environmental justice and equity, and \$1,413,000 will support workforce development and training pilot projects and grants for a more robust and diverse domestic seafood sector. In addition, \$1,200,000 will allow NOAA to expand the Community Social Vulnerability Indicators Toolbox, and additional funding of \$3,692,000 will increase science and management efforts for economically and culturally significant fisheries located within U.S. Pacific and Caribbean territories.

The FY 2024 request also includes investments for NOAA's satellites and facilities. NOAA requests an increase of \$359,221,000 to support crucial, time-sensitive, and cost-effective investments in the Nation's current and next-generation satellite systems. NOAA requests an increase of \$132,429,000 to support the development of the Geostationary Extended Observations program, advancing NOAA's weather, ocean, and climate observational capabilities to support necessary U.S. forecasting and prediction operations. An increase of \$73,394,000 is requested for Space Weather Next to support the development of a comprehensive space weather program, and an increase of \$45,260,000 will continue LEO Weather Satellites, now known as Near Earth Orbit Network, including development of the QuickSounder demonstration project and formulation activities for the LEO portfolio. NOAA also requests an increase of \$55,700,000 to continue investments aligned with the Facilities Investment Plan which accompanies the NOAA Facilities Strategic Plan.

The NOAA FY 2024 request will make critical investments to invigorate new sectors of our economy through enhanced climate, satellite, and ocean data, as well as ensure that all communities are able to utilize and benefit from our products and services. This, coupled with a robust approach to integrating diversity, equity, inclusion, and accessibility, allows NOAA to be well-positioned to make tangible improvements in the communities we serve, particularly those most vulnerable to climate change and its impacts. Through this budget, NOAA will support the whole-of-government effort to address the climate crisis, boost resilience, and promote economic growth by building a Climate-Ready Nation. For current GPR targets please see the FY 2024/2022 Annual Performance Plan and Report.

Department of Commerce
National Oceanic and Atmospheric Administration
FY 2024 PROGRAM INCREASES / DECREASES / TERMINATIONS
(Dollar amounts in thousands)
(By Budget Program, Largest to Smallest)

Increases

Page No In CJ	Appropriation	Budget Program	Title of Increase	Positions	Budget Authority
NOS-97	ORF	NOS	Increasing Conservation and Protection Across the National Marine Sanctuary System	15	\$17,758
NOS-53	ORF	NOS	Foundational Information for Expansion of Offshore Wind Energy	2	\$6,219
NOS-20	ORF	NOS	Meeting NOAA's Mission in the Arctic	4	\$4,147
NOS-25	ORF	NOS	Foundational Data for Improved Ocean and Coastal Mapping and Charting	4	\$3,125
NOS-30	ORF	NOS	Advancing NOAA's ability to Prepare and Respond to Extreme Weather and Coastal Hazard Events	2	\$1,400
NOS-59	ORF	NOS	Enhancing Marine Debris Science and Innovation	0	\$1,094
NOS-86	ORF	NOS	Meeting NOAA's Mission in the Arctic	0	\$353
NMFS-78	ORF	NMFS	Wind Energy: Scientific Survey Mitigation	25	\$14,601
NMFS-54	ORF	NMFS	Climate Ready Fisheries: Climate-Informed Fisheries Assessments and Management Strategies for Changing Oceans	33	\$10,000
NMFS-59	ORF	NMFS	Wind Energy: Fisheries Science and Technical Reviews	9	\$7,634
NMFS-14	ORF	NMFS	Wind Energy: Protected Species Environmental Reviews and Science	13	\$6,759
NMFS-65	ORF	NMFS	Advancing and Improving Territorial Fisheries Science and Management	7	\$3,692
NMFS-85	ORF	NMFS	Wind Energy: Fisheries Management	20	\$3,435
NMFS-20	ORF	NMFS	Endangered Species Act (ESA) Consultations and Marine Mammal Protection Act (MMPA) Permitting	17	\$3,000
NMFS-90	ORF	NMFS	Education and Outreach for Diverse Participation in Regulatory and Science Processes	0	\$2,801
NMFS-94	ORF	NMFS	Targeting and Combating Illegal, Unreported, and Unregulated (IUU) Fishing	8	\$2,000
NMFS-99	ORF	NMFS	Workforce Training to Support Seafood Industry	0	\$1,413

NOAA-19

Department of Commerce
National Oceanic and Atmospheric Administration
FY 2024 PROGRAM INCREASES / DECREASES / TERMINATIONS
(Dollar amounts in thousands)
(By Budget Program, Largest to Smallest)

NMFS-32	ORF	NMFS	Pacific Salmon	0	\$1,405
NMFS-71	ORF	NMFS	Community Social Vulnerability Indicators (CSVI) Toolbox	2	\$1,200
NMFS-110	ORF	NMFS	Illegal, Unreported, and Unregulated (IUU) Fishing Enforcement	5	\$964
OAR-22	ORF	OAR	Enhancing Regional and Community Resilience by Scaling Up Climate Adaptation Partnerships (CAP) Program	1	\$3,506
OAR-69	ORF	OAR	Uncrewed Systems Increase	1	\$3,034
OAR-42	ORF	OAR	Global Reanalysis Capability	4	\$2,789
OAR-27	ORF	OAR	Precipitation Prediction Grand Challenge Increase	0	\$2,145
OAR-18	ORF	OAR	Sustained Atmospheric Observations Increase	0	\$1,120
OAR-61	ORF	OAR	National Oceanographic Partnership Program Increase	0	\$559
OAR-78	PAC	OAR	Phased Array Radar Research and Development Follow-On Plan	0	\$10,000
NWS-48	ORF	NWS	Integrated Dissemination Program Implementation	0	\$2,447
NWS-37	ORF	NWS	Tsunami Unification – Common Analytic System	0	\$2,250
NWS-20	ORF	NWS	Tsunami Unification – Addressing Information Security Risks	3	\$1,750
NESDIS-48	ORF	NESDIS	Improving Local, State, and Regional Climate Services	0	\$1,600
NESDIS-30	ORF	NESDIS	Satellite and Product Operations Deferred and Extended Maintenance	0	\$1,500
NESDIS-35	ORF	NESDIS	Earth Observations for Polar and Coastal Zone Applications	0	\$598
NESDIS-38	ORF	NESDIS	U.S. Group on Earth Observations (USGEO)	0	\$250
NESDIS-93	PAC	NESDIS	Polar Weather Satellites	0	\$158,910
NESDIS-82	PAC	NESDIS	Geostationary Extended Observations	0	\$132,429
NESDIS-108	PAC	NESDIS	Space Weather Next	0	\$73,394
NESDIS-99	PAC	NESDIS	Near Earth Orbit Network	0	\$45,260

Department of Commerce
National Oceanic and Atmospheric Administration
FY 2024 PROGRAM INCREASES / DECREASES / TERMINATIONS
(Dollar amounts in thousands)
(By Budget Program, Largest to Smallest)

NESDIS-118	PAC	NESDIS	Data-source Agnostic Common Services	0	\$15,478
NESDIS-124	PAC	NESDIS	Commercial Data Purchase	0	\$6,000
MS-28	ORF	MS	Space Commerce	0	\$17,700
MS-25	ORF	MS	Transition to DOC Business Application System	0	\$3,368
MS-35	PAC	MS	Capital Investment Planning and Design	0	\$55,700
OMAO-12	ORF	OMAO	Enhanced Fleet Operations	32	\$16,231
OMAO-40	ORF	OMAO	Officers to Support Marine and Aviation Operations	13	\$4,220
OMAO-23	ORF	OMAO	Flight Hours in Support of Cross-NOAA Climate Objectives	0	\$2,412
Subtotal, Increases				220	\$657,650

Decreases

Page No In CJ	Appropriation	Budget Program	Title of Decrease	Positions	Budget Authority
NOS-35	ORF	NOS	Decrease Geospatial Modeling Grants	0	(\$5,000)
NOS-92	ORF	NOS	Reduce Coastal Zone Management Grants	0	(\$3,000)
NOS-63	ORF	NOS	Decrease Disaster Preparedness Program Funding	0	(\$1,603)
NOS-109	PAC	NOS	Reduce National Estuarine Research Reserve Construction	0	(\$4,000)
NOS-111	PAC	NOS	Reduce Marine Sanctuaries Construction	0	(\$1,500)
NMFS-25	ORF	NMFS	North Atlantic Right Whale Industry Grants	0	(\$19,879)
NMFS-29	ORF	NMFS	Marine Mammal Projects Reduction	0	(\$3,190)
NMFS-104	ORF	NMFS	Fisheries Management Projects Reduction	0	(\$1,850)

Department of Commerce
National Oceanic and Atmospheric Administration
FY 2024 PROGRAM INCREASES / DECREASES / TERMINATIONS
(Dollar amounts in thousands)
(By Budget Program, Largest to Smallest)

NMFS-83	ORF	NMFS	Fisheries Data Collection Projects Reduction	0	(\$1,200)
NMFS-114	ORF	NMFS	Enforcement Projects Reduction	0	(\$950)
OAR-50	ORF	OAR	VORTEX-Southeast	0	(\$3,500)
OAR-34	ORF	OAR	Water in the West	0	(\$3,000)
OAR-81	PAC	OAR	Research and Development (R&D) High Performance Computing	0	(\$1,500)
NWS-13	ORF	NWS	Reduce National Mesonet Program	0	(\$4,745)
NWS-58	ORF	NWS	Reduce the Cooperative Institute for Research to Operations in Hydrology	0	(\$4,480)
NWS-24	ORF	NWS	Eliminate Advanced Hydrologic Prediction Services System Expansion	0	(\$2,483)
NWS-77	PAC	NWS	Reduce Radar Relocations	0	(\$3,500)
NWS-67	PAC	NWS	Slow cloud readiness studies	0	(\$1,649)
NWS-74	PAC	NWS	Dissemination PAC Reduction	0	(\$66)
NWS-63	PAC	NWS	Observations PAC Reduction	0	(\$30)
NESDIS-113	PAC	NESDIS	Space Weather Follow On	0	(\$39,000)
NESDIS-87	PAC	NESDIS	GOES-R Series	0	(\$25,000)
NESDIS-104	PAC	NESDIS	Polar Operational Environmental Satellites (POES) Extension	0	(\$10,000)
OMAO-34	ORF	OMAO	Eliminate Funding for Uncrewed Maritime Systems Services	0	(\$7,132)
OMAO-26	ORF	OMAO	Reduce Atmospheric Rivers Observations	0	(\$1,000)
OMAO-60	PAC	OMAO	Decrease in New Vessel Construction	0	(\$20,000)
OMAO-55	PAC	OMAO	Decrease in Progressive Lifecycle Maintenance	0	(\$3,000)
OMAO-57	PAC	OMAO	Finish P-3 Service Depot Level Maintenance	0	(\$2,500)
Subtotal, Decreases				0	(\$174,757)

Department of Commerce
National Oceanic and Atmospheric Administration
FY 2024 PROGRAM INCREASES / DECREASES / TERMINATIONS
(Dollar amounts in thousands)
(By Budget Program, Largest to Smallest)

Terminations

Page No In CJ	Appropriation	Budget Program	Title of Decrease	Positions	Budget Authority
NOS-4	ORF	NOS	Terminate NOAA Community Project Funding/NOAA Special Projects	0	(\$37,673)
NOS-95	ORF	NOS	Terminate Base Funding for the National Coastal Resilience Fund	0	(\$34,000)
NOS-66	ORF	NOS	Terminate NCCOS Support to NOAA's Cooperative Institute for Research to Operations in Hydrology	0	(\$1,020)
NOS-38	ORF	NOS	Enterprise Infrastructure Solutions (EIS) Decrease	0	(\$1,000)
NOS-68	ORF	NOS	Enterprise Infrastructure Solutions (EIS) Decrease	0	(\$900)
NOS-102	ORF	NOS	Enterprise Infrastructure Solutions (EIS) Decrease	0	(\$800)
NOS-90	ORF	NOS	Enterprise Infrastructure Solutions (EIS) Decrease	0	(\$300)
NMFS-6	ORF	NMFS	Terminate NOAA Community Project Funding/NOAA Special Projects	0	(\$38,486)
NMFS-76	ORF	NMFS	Enterprise Infrastructure Solutions (EIS) Decrease	0	(\$200)
OAR-8	ORF	OAR	Terminate NOAA Community Project Funding/NOAA Special Projects	0	(\$20,841)
NWS-5	ORF	NWS	Terminate NOAA Community Project Funding/NOAA Special Projects	0	(\$7,265)
NWS-40	ORF	NWS	Terminate Tsunami Grant Program	0	(\$6,000)
NESDIS-18	ORF	NESDIS	Terminate NOAA Community Project Funding/NOAA Special Projects	0	(\$2,500)
NESDIS-33	ORF	NESDIS	Enterprise Infrastructure Solutions (EIS) Decrease	0	(\$1,500)
MS-5	ORF	MS	Terminate NOAA Community Project Funding/NOAA Special Projects	0	(\$4,700)
OMAO-17	ORF	OMAO	Enterprise Infrastructure Solutions (EIS) Decrease	0	(\$200)
Subtotal, Terminations				0	(\$157,385)

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Department of Commerce
National Oceanic and Atmospheric Administration
FY 2024 PROGRAM INCREASES / DECREASES / TERMINATIONS
(Dollar amounts in thousands)
(Grouped by Title of Transfer, Largest to Smallest)

Page No In CJ	Budget Program	Appropriations	Title of Transfer	Positions	Budget Authority
	NESDIS		COSMIC-2 / GNSS RO Operational Phase Transfers to	1	8,100
NESDIS-12		ORF	Office of Satellite and Product Operations	[1]	[5,750]
NESDIS-14		ORF	Product Development, Readiness, and Application	[0]	[2,350]
	NESDIS		COSMIC-2 / GNSS RO Operational Phase Transfers from	(1)	(8,100)
NESDIS-11		PAC	Low Earth Orbit	[(1)]	[(5,750)]
NESDIS-13		PAC	Low Earth Orbit	[0]	[(2,350)]
OMAO-3	OMAO	PAC	Aircraft Recapitalization and Construction Transfer to Platform Capital Improvements & Technology Infusion	0	5,000
OMAO-4	OMAO	PAC	Platform Capital Improvements & Technology Infusion from Aircraft Recapitalization and Construction	0	(5,000)
		Total, Transfers		0	0

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Department of Commerce
National Oceanic and Atmospheric Administration
Research and Development (R&D) Investments
(Dollar amounts in thousands)

The NOAA FY 2024 Budget estimates for R&D investments are the result of an integrated requirements-based strategic planning process. This process provides the structure to link NOAA's strategic vision with programmatic detail and budget development, with the goal of maximizing resources while optimizing capabilities.

The NOAA Science Council - an internal body composed of senior scientific personnel from every Line Office in the agency - developed NOAA's most recent Strategic Research Guidance Memorandum, FY 2024. This memorandum guides NOAA's R&D activities and provides a common understanding among NOAA's leadership, its workforce, its partners, constituents and Congress on the value of NOAA's R&D activities.

NOAA requests \$980 million for investments (excluding equipment and facilities) in R&D in the FY 2024 Budget. The distribution by line offices is provided in the table below.

Line Office	Research	Development	Total R&D (excluding Equipment and Facilities)	Equipment and Facilities	Total R&D with Equipment and Facilities
NOS	112,158	15,640	127,798	0	127,798
NMFS	53,423	22,493	75,916	0	75,916
OAR	515,166	114,248	629,414	115,694	745,108
NWS	12,882	28,983	41,865	0	41,865
NESDIS	62,500	0	62,500		62,500
OMAO	42,712	0	42,712	193,868	236,580
MS	0	0	0	0	0
Total	\$798,841	\$181,364	\$980,205	\$309,562	\$1,289,767

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Department of Commerce
National Oceanic and Atmospheric Administration
CONTROL TABLE
(Dollar amounts in thousands)
NATIONAL OCEAN SERVICE
Direct Obligations

FY 2024 Proposed Operating Plan																
	POS	FTE	FY 2023 Enacted	POS	FTE	FY 2024 Calculated ATBs	FY 2024 Technical ATBs	POS	FTE	FY 2024 Base	POS	FTE	FY 2024 Program Changes	POS	FTE	FY 2024 Estimate
Navigation, Observations and Positioning																
Navigation, Observations and Positioning	623	589	184,702	0	0	6,375	0	623	589	191,077	10	8	2,672	633	597	193,749
Hydrographic Survey Priorities/Contracts	24	24	32,500	0	0	113	0	24	24	32,613	0	0	0	24	24	32,613
IOOS Regional Observations	0	0	42,500	0	0	0	0	0	0	42,500	0	0	0	0	0	42,500
Total, Navigation, Observations and Positioning	647	613	259,702	0	0	6,488	0	647	613	266,190	10	8	2,672	657	621	268,862
Coastal Science and Assessment																
Coastal Science, Assessment, Response and Restoration	298	279	96,500	0	0	3,033	0	298	279	99,533	2	2	3,790	300	281	103,323
Competitive Research	4	4	22,500	0	0	38	0	4	4	22,538	0	0	0	4	4	22,538
Total, Coastal Science and Assessment	302	283	119,000	0	0	3,071	0	302	283	122,071	2	2	3,790	304	285	125,861
Ocean and Coastal Management and Services																
Coastal Zone Management and Services	128	126	51,220	0	0	1,422	0	128	126	52,642	0	0	53	128	126	52,695
Coastal Zone Management Grants	0	0	81,500	0	0	0	0	0	0	81,500	0	0	(3,000)	0	0	78,500
National Oceans and Coastal Security Fund	0	0	34,000	0	0	0	0	0	0	34,000	0	0	(34,000)	0	0	0
Coral Reef Program	33	31	33,500	0	0	199	0	33	31	33,699	0	0	0	33	31	33,699
National Estuarine Research Reserve System	0	0	32,500	0	0	0	0	0	0	32,500	0	0	0	0	0	32,500
Sanctuaries and Marine Protected Areas	188	184	68,000	0	0	2,167	0	188	184	70,167	15	11	16,958	203	195	87,125
Total, Ocean and Coastal Management and Services	349	341	300,720	0	0	3,788	0	349	341	304,508	15	11	(19,989)	364	352	284,519
NOAA Community Project Funding/NOAA Special Projects	0	0	37,673	0	0	0	0	0	0	37,673	0	0	(37,673)	0	0	0
Total, NOS - Discretionary ORF	1,298	1,237	717,095	0	0	13,347	0	1,298	1,237	730,442	27	21	(51,200)	1,325	1,258	679,242
Total, NOS - Discretionary PAC	1	1	14,000	0	0	0	0	1	1	14,000	0	0	(5,500)	1	1	8,500
Total, NOS - Other Discretionary Accounts	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Discretionary Total - NOS	1,299	1,238	731,095	0	0	13,347	0	1,299	1,238	744,442	27	21	(56,700)	1,326	1,259	687,742
Total, NOS - Mandatory Accounts	32	32	96,013	0	0	0	(70,046)	32	32	25,967	0	0	0	32	32	25,967
GRAND TOTAL NOS	1,331	1,270	827,108	0	0	13,347	(70,046)	1,331	1,270	770,409	27	21	(56,700)	1,358	1,291	713,709

Department of Commerce
National Oceanic and Atmospheric Administration
CONTROL TABLE
(Dollar amounts in thousands)
Direct Obligations

FY 2024 Proposed Operating Plan			FY 2023		FY 2024		FY 2024		FY 2024				FY 2024		FY 2024	
	POS	FTE	Enacted	POS	FTE	Calculated ATBs	Technical ATBs	POS	FTE	Base	POS	FTE	Program Changes	POS	FTE	Estimate
Protected Resources Science and Management																
Marine Mammals, Sea Turtles, and Other Species	549	465	175,255	0	0	4,363	0	549	465	179,618	30	20	(13,310)	579	485	166,308
Species Recovery Grants	4	2	7,250	0	0	12	0	4	2	7,262	0	0	0	4	2	7,262
Atlantic Salmon	23	19	6,750	0	0	198	0	23	19	6,948	0	0	0	23	19	6,948
Pacific Salmon	340	289	72,000	0	0	2,883	0	340	289	74,883	0	0	1,405	340	289	76,288
Total, Protected Resources Science and Management	916	775	261,255	0	0	7,456	0	916	775	268,711	30	20	(11,905)	946	795	256,806
Fisheries Science and Management																
Fisheries and Ecosystem Science Programs and Services	668	585	161,500	0	0	5,422	0	668	585	166,922	51	40	22,326	719	625	189,248
Fisheries Data Collections, Surveys, and Assessments	511	466	203,851	0	0	4,742	0	511	466	208,593	25	19	13,401	536	485	221,994
Observers and Training	161	149	58,383	0	0	1,091	0	161	149	59,474	0	0	0	161	149	59,474
Fisheries Management Programs and Services	500	458	137,750	0	0	4,324	0	500	458	142,074	28	21	7,799	528	479	149,873
Aquaculture	43	36	19,000	0	0	410	0	43	36	19,410	0	0	0	43	36	19,410
Salmon Management Activities	42	41	65,250	0	0	380	0	42	41	65,630	0	0	0	42	41	65,630
Regional Councils and Fisheries Commissions	13	11	44,297	0	0	1,456	0	13	11	45,753	0	0	0	13	11	45,753
Interjurisdictional Fisheries Grants	2	1	3,377	0	0	6	0	2	1	3,383	0	0	0	2	1	3,383
Total, Fisheries Science and Management	1,940	1,747	693,408	0	0	17,831	0	1,940	1,747	711,239	104	80	43,526	2,044	1,827	754,765
Enforcement																
Enforcement	259	226	82,000	0	0	2,623	0	259	226	84,623	5	4	14	264	230	84,637
Total, Enforcement	259	226	82,000	0	0	2,623	0	259	226	84,623	5	4	14	264	230	84,637
Habitat Conservation and Restoration																
Habitat Conservation and Restoration	191	183	56,684	0	0	1,982	0	191	183	58,666	0	0	0	191	183	58,666
Subtotal, Habitat Conservation & Restoration	191	183	56,684	0	0	1,982	0	191	183	58,666	0	0	0	191	183	58,666
NOAA Community Project Funding/NOAA Special Projects	0	0	38,486	0	0	0	0	0	0	38,486	0	0	(38,486)	0	0	0
Total, NMFS - Discretionary ORF	3,306	2,931	1,131,833	0	0	29,892	0	3,306	2,931	1,161,725	139	104	(6,851)	3,445	3,035	1,154,874
Total, NMFS - Discretionary PAC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total, NMFS - Other Discretionary Accounts	3	3	65,649	0	0	0	0	3	3	65,649	0	0	0	3	3	65,649
Discretionary Total - NMFS	3,309	2,934	1,197,482	0	0	29,892	0	3,309	2,934	1,227,374	139	104	(6,851)	3,448	3,038	1,220,523
Total, NMFS - Mandatory Accounts	165	127	63,473	0	10	0	2,657	165	137	66,130	0	0	0	165	137	66,130
GRAND TOTAL NMFS	3,474	3,061	1,260,955	0	10	29,892	2,657	3,474	3,071	1,293,504	139	104	(6,851)	3,613	3,175	1,286,653

Department of Commerce
National Oceanic and Atmospheric Administration
CONTROL TABLE
(Dollar amounts in thousands)
OFFICE OF OCEANIC AND ATMOSPHERIC RESEARCH
Direct Obligations

FY 2024 Proposed Operating Plan	POS	FTE	FY 2023 Enacted	POS	FTE	FY 2024 Calculated ATBs	FY 2024 Technical ATBs	POS	FTE	FY 2024 Base	POS	FTE	FY 2024 Program Changes	POS	FTE	FY 2024 Estimate
	Climate Research															
Climate Laboratories & Cooperative Institutes	213	201	104,102	0	0	2,029	0	213	201	106,131	0	0	1,120	213	201	107,251
Regional Climate Data & Information	29	29	47,932	0	0	538	0	29	29	48,470	1	1	3,506	30	30	51,976
Climate Competitive Research	60	51	72,116	0	0	855	0	60	51	72,971	0	0	(855)	60	51	72,116
Total, Climate Research	302	281	224,150	0	0	3,422	0	302	281	227,572	1	1	3,771	303	282	231,343
Weather & Air Chemistry Research																
Weather Laboratories & Cooperative Institutes																
Weather Laboratories & Cooperative Institutes	283	243	93,156	0	0	2,211	0	283	243	95,367	4	3	(711)	287	246	94,656
Subtotal, Weather Laboratories and Cooperative Institutes	283	243	93,156	0	0	2,211	0	283	243	95,367	4	3	(711)	287	246	94,656
Weather and Air Chemistry Research Programs																
U.S. Weather Research Program (USWRP)	20	17	39,100	0	0	397	0	20	17	39,497	0	0	0	20	17	39,497
Tornado Severe Storm Research / Phased Array Radar	6	6	20,916	0	0	193	0	6	6	21,109	0	0	0	6	6	21,109
Joint Technology Transfer Initiative	4	4	13,244	0	0	124	0	4	4	13,368	0	0	0	4	4	13,368
Subtotal, Weather and Air Chemistry Research Programs	30	27	73,260	0	0	714	0	30	27	73,974	0	0	0	30	27	73,974
Total, Weather and Air Chemistry Research	313	270	166,416	0	0	2,925	0	313	270	169,341	4	3	(711)	317	273	168,630
Ocean, Coastal, and Great Lakes Research																
Ocean Laboratories and Cooperative Institutes																
Ocean Laboratories and Cooperative Institutes	131	111	39,500	0	0	976	0	131	111	40,476	0	0	0	131	111	40,476
Subtotal, Ocean Laboratories and Cooperative Institutes	131	111	39,500	0	0	976	0	131	111	40,476	0	0	0	131	111	40,476
National Sea Grant College Program																
National Sea Grant College Program	20	20	80,000	0	0	720	0	20	20	80,720	0	0	0	20	20	80,720
Sea Grant Aquaculture Research	4	4	14,000	0	0	129	0	4	4	14,129	0	0	0	4	4	14,129
Subtotal, National Sea Grant College Program	24	24	94,000	0	0	849	0	24	24	94,849	0	0	0	24	24	94,849
Ocean Exploration and Research	38	36	46,000	0	0	567	0	38	36	46,567	0	0	0	38	36	46,567
Integrated Ocean Acidification	14	14	17,000	0	0	214	0	14	14	17,214	0	0	0	14	14	17,214
Sustained Ocean Observations and Monitoring	32	32	52,500	0	0	591	0	32	32	53,091	0	0	0	32	32	53,091
National Oceanographic Partnership Program	1	1	2,500	0	0	25	0	1	1	2,525	0	0	559	1	1	3,084
Total, Ocean, Coastal, and Great Lakes Research	240	218	251,500	0	0	3,222	0	240	218	254,722	0	0	559	240	218	255,281
Innovative Research & Technology																
High Performance Computing Initiatives	17	16	18,231	0	0	236	0	17	16	18,467	0	0	0	17	16	18,467
Uncrewed Systems	3	2	1,000	0	0	20	0	3	2	1,020	1	1	3,034	4	3	4,054
Research Transition Acceleration Program	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total, Innovative Research & Technology	20	18	19,231	0	0	256	0	20	18	19,487	1	1	3,034	21	19	22,521
NOAA Community Project Funding/NOAA Special Projects	0	0	20,841	0	0	0	0	0	0	20,841	0	0	(20,841)	0	0	0
Total, OAR - Discretionary ORF	875	787	682,138	0	0	9,825	0	875	787	691,963	6	5	(14,188)	881	792	677,775
Total, OAR - Discretionary PAC	4	4	100,000	0	0	0	0	4	4	100,000	0	0	8,500	4	4	108,500
Discretionary Total - OAR	879	791	782,138	0	0	9,825	0	879	791	791,963	6	5	(5,688)	885	796	786,275

Department of Commerce
National Oceanic and Atmospheric Administration
CONTROL TABLE
(Dollar amounts in thousands)
NATIONAL WEATHER SERVICE
Direct Obligations

Exhibit 4B

FY 2024 Proposed Operating Plan	FY 2023		FY 2024		FY 2024		FY 2024		FY 2024		FY 2024		FY 2024		FY 2024	
	POS	FTE	Enacted	POS	FTE	Calculated ATBs	Technical ATBs	POS	FTE	Base	POS	FTE	Program Changes	POS	FTE	Estimate
Observations	725	712	251,462	0	0	6,745	0	725	712	258,207	0	0	(4,745)	725	712	253,462
Central Processing	231	221	110,500	0	0	2,600	0	231	221	113,100	3	2	(733)	234	223	112,367
Analyze, Forecast and Support	2,989	2,918	589,500	0	0	24,233	0	2,989	2,918	613,733	0	0	(3,750)	2,989	2,918	609,983
Dissemination	93	85	116,979	0	0	1,792	0	93	85	118,771	0	0	2,447	93	85	121,218
Science and Technology Integration	471	438	178,952	0	0	4,480	0	471	438	183,432	0	0	(4,480)	471	438	178,952
NOAA Community Project Funding/NOAA Special Projects	0	0	7,265	0	0	0	0	0	0	7,265	0	0	(7,265)	0	0	0
Total, NWS - Discretionary ORF	4,509	4,374	1,254,658	0	0	39,850	0	4,509	4,374	1,294,508	3	2	(18,526)	4,512	4,376	1,275,982
Total, NWS - Discretionary PAC	32	31	109,349	0	0	0	0	32	31	109,349	0	0	(5,245)	32	31	104,104
Discretionary Total - NWS	4,541	4,405	1,364,007	0	0	39,850	0	4,541	4,405	1,403,857	3	2	(23,771)	4,544	4,407	1,380,086

Department of Commerce
National Oceanic and Atmospheric Administration

CONTROL TABLE
(Dollar amounts in thousands)

NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE
Direct Obligations

FY 2024 Proposed Operating Plan																
	POS	FTE	FY 2023 Enacted	POS	FTE	FY 2024 Calculated ATBs	FY 2024 Technical ATBs	POS	FTE	FY 2024 Base	POS	FTE	FY 2024 Program Changes	POS	FTE	FY 2024 Estimate
Environmental Satellite Observing Systems																
Office of Satellite and Product Operations	325	311	245,915	1	1	5,266	5,750	326	312	256,931	0	0	0	326	312	256,931
Product Development, Readiness & Application	87	79	57,500	0	0	1,052	2,350	87	79	60,902	0	0	598	87	79	61,500
Office of Space Commerce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
U.S. Group on Earth Observations (USGEO)	0	0	750	0	0	0	0	0	0	750	0	0	250	0	0	1,000
Total, Environmental Satellite Observing Systems	412	390	304,165	1	1	6,318	8,100	413	391	318,583	0	0	848	413	391	319,431
National Centers for Environmental Information																
National Centers for Environmental Information	210	200	71,372	0	0	2,028	0	210	200	73,400	0	0	1,600	210	200	75,000
Total, National Centers for Environmental Information	210	200	71,372	0	0	2,028	0	210	200	73,400	0	0	1,600	210	200	75,000
NOAA Community Project Funding/NOAA Special Projects																
NOAA Community Project Funding/NOAA Special Projects	0	0	2,500	0	0	0	0	0	0	2,500	0	0	(2,500)	0	0	0
Total, NESDIS - Discretionary ORF	622	590	378,037	1	1	8,346	8,100	623	591	394,483	0	0	(52)	623	591	394,431
Total, NESDIS - Discretionary PAC	354	297	1,330,119	(1)	7	0	(8,100)	353	304	1,322,019	0	0	357,471	353	304	1,679,490
Discretionary Total - NESDIS	976	887	1,708,156	0	8	8,346	0	976	895	1,716,502	0	0	357,419	976	895	2,073,921

Department of Commerce
National Oceanic and Atmospheric Administration

Exhibit 4B

CONTROL TABLE
(Dollar amounts in thousands)

MISSION SUPPORT
Direct Obligations

FY 2024 Proposed Operating Plan	FY 2023 Enacted		FY 2024 Calculated ATBs		FY 2024 Technical ATBs		FY 2024 Base		FY 2024 Program Changes		FY 2024 Estimate					
	POS	FTE	POS	FTE	POS	FTE	POS	FTE	POS	FTE	POS	FTE				
Mission Support Services																
Executive Leadership	124	124	31,743	0	0	1,526	0	124	124	33,269	0	0	124	124	33,269	
Mission Services and Management	663	630	182,375	0	0	(488)	0	663	630	181,887	0	0	3,368	663	630	185,255
IT Security	22	22	16,393	0	0	307	0	22	22	16,700	0	0	0	22	22	16,700
Payment to the DOC Working Capital Fund	0	0	71,299	0	0	23,158	0	0	0	94,457	0	0	0	0	0	94,457
Facilities Maintenance	0	0	6,500	0	0	0	0	0	0	6,500	0	0	0	0	0	6,500
Office of Space Commerce	36	29	70,000	0	0	299	0	36	29	70,299	0	0	17,700	36	29	87,999
Total, Mission Support Services	845	805	378,310	0	0	24,802	0	845	805	403,112	0	0	21,068	845	805	424,180
Office of Education																
Office of Education	16	16	35,450	0	0	235	0	16	16	35,685	0	0	0	16	16	35,685
Total, Office of Education	16	16	35,450	0	0	235	0	16	16	35,685	0	0	0	16	16	35,685
NOAA Community Project Funding/NOAA Special Projects	0	0	4,700	0	0	0	0	0	0	4,700	0	0	(4,700)	0	0	0
Total, MS - Discretionary ORF	861	821	418,460	0	0	25,037	0	861	821	443,497	0	0	16,368	861	821	459,865
Total, MS - Discretionary PAC	2	2	90,000	0	0	0	0	2	2	90,000	0	0	55,700	2	2	145,700
Discretionary Total - MS	863	823	508,460	0	0	25,037	0	863	823	533,497	0	0	72,068	863	823	605,565
Total, MS - Mandatory Accounts	0	0	47,000	0	0	0	(47,000)	0	0	0	0	0	0	0	0	0
GRAND TOTAL MS	863	823	555,460	0	0	25,037	(47,000)	863	823	533,497	0	0	72,068	863	823	605,565

Department of Commerce
National Oceanic and Atmospheric Administration
CONTROL TABLE
(Dollar amounts in thousands)
OFFICE OF MARINE AND AVIATION OPERATIONS
Direct Obligations

Exhibit 4B

FY 2024 Proposed Operating Plan																
	POS	FTE	FY 2023 Enacted	POS	FTE	FY 2024 Calculated ATBs	FY 2024 Technical ATBs	POS	FTE	FY 2024 Base	POS	FTE	FY 2024 Program Changes	POS	FTE	FY 2024 Estimate
Marine Operations and Maintenance	704	688	204,000	0	0	4,117	0	704	688	208,117	32	24	16,031	736	712	224,148
Aviation Operations and Aircraft Services	103	97	40,500	0	0	1,460	0	103	97	41,960	0	0	1,412	103	97	43,372
Autonomous Uncrewed Technology Operations	16	13	21,677	0	0	15	0	16	13	21,692	0	0	(7,132)	16	13	14,560
NOAA Commissioned Officer Corps	360	356	62,500	7	7	3,661	0	367	363	66,161	13	10	4,220	380	373	70,381
Total, OMAO - Discretionary ORF	1,183	1,154	328,677	7	7	9,253	0	1,190	1,161	337,930	45	34	14,531	1,235	1,195	352,461
Total, OMAO - Discretionary PAC	69	66	132,000	0	0	0	0	69	66	132,000	0	0	(25,500)	69	66	106,500
Total, OMAO - Other Discretionary Accounts	0	0	1,970	0	0	0	(353)	0	0	1,617	0	0	0	0	0	1,617
Discretionary Total - OMAO	1,252	1,220	462,647	7	7	9,253	(353)	1,259	1,227	471,547	45	34	(10,969)	1,304	1,261	460,578
Total, OMAO - Mandatory Accounts	0	0	34,760	0	0	0	238	0	0	34,998	0	0	0	0	0	34,998
GRAND TOTAL OMAO	1,252	1,220	497,407	7	7	9,253	(115)	1,259	1,227	506,545	45	34	(10,969)	1,304	1,261	495,576

Department of Commerce
National Oceanic and Atmospheric Administration
CONTROL TABLE
(Dollar amounts in thousands)
ORF SUMMARY
LINE OFFICE DIRECT DISCRETIONARY OBLIGATIONS

Exhibit 4B

FY 2024 Proposed Operating Plan	POS	FTE	FY 2023 Enacted	POS	FTE	FY 2024 Calculated ATBs	FY 2024 Technical ATBs	POS	FTE	FY 2024 Base	POS	FTE	FY 2024 Program Changes	POS	FTE	FY 2024 Estimate
National Ocean Service	1,298	1,237	717,095	0	0	13,347	0	1,298	1,237	730,442	27	21	(51,200)	1,325	1,258	679,242
National Marine Fisheries Service	3,306	2,931	1,131,833	0	0	29,892	0	3,306	2,931	1,161,725	139	104	(6,851)	3,445	3,035	1,154,874
Office of Oceanic and Atmospheric Research	875	787	682,138	0	0	9,825	0	875	787	691,963	6	5	(14,188)	881	792	677,775
National Weather Service	4,509	4,374	1,254,658	0	0	39,850	0	4,509	4,374	1,294,508	3	2	(18,526)	4,512	4,376	1,275,982
National Environmental Satellite, Data and Information Service	622	590	378,037	1	1	8,346	8,100	623	591	394,483	0	0	(52)	623	591	394,431
Mission Support	861	821	418,460	0	0	25,037	0	861	821	443,497	0	0	16,368	861	821	459,865
Office of Marine and Aviation Operations	1,183	1,154	328,677	7	7	9,253	0	1,190	1,161	337,930	45	34	14,531	1,235	1,195	352,461
SUBTOTAL LO DIRECT DISCRETIONARY ORF OBLIGATIONS	12,654	11,894	4,910,898	8	8	135,550	8,100	12,662	11,902	5,054,548	220	166	(59,918)	12,882	12,068	4,994,630

Department of Commerce
National Oceanic and Atmospheric Administration
CONTROL TABLE
(Dollar amounts in thousands)
ORF ADJUSTMENTS

Exhibit 4B

FY 2024 Proposed Operating Plan																
	POS	FTE	FY 2023 Enacted	POS	FTE	FY 2024 Calculated ATBs	FY 2024 Technical ATBs	POS	FTE	FY 2024 Base	POS	FTE	FY 2024 Program Changes	POS	FTE	FY 2024 Estimate
SUBTOTAL ORF DIRECT OBLIGATIONS	12,654	11,894	4,910,898	8	8	135,550	8,100	12,662	11,902	5,054,548	220	166	(59,918)	12,882	12,068	4,994,630
FINANCING																
Deobligations	0	0	(23,000)	0	0	0	0	0	0	(23,000)	0	0	0	0	0	(23,000)
Total ORF Financing	0	0	(23,000)	0	0	0	0	0	0	(23,000)	0	0	0	0	0	(23,000)
SUBTOTAL ORF BUDGET AUTHORITY	12,654	11,894	4,887,898	8	8	135,550	8,100	12,662	11,902	5,031,548	220	166	(59,918)	12,882	12,068	4,971,630
TRANSFERS																
Transfer from P&D to ORF	0	0	(344,901)	0	0	0	(10,180)	0	0	(355,081)	0	0	0	0	0	(355,081)
Total ORF Transfers	0	0	(344,901)	0	0	0	(10,180)	0	0	(355,081)	0	0	0	0	0	(355,081)
SUBTOTAL ORF APPROPRIATION	12,654	11,894	4,542,997	8	8	135,550	(2,080)	12,662	11,902	4,676,467	220	166	(59,918)	12,882	12,068	4,616,549

Department of Commerce
National Oceanic and Atmospheric Administration
CONTROL TABLE
(Dollar amounts in thousands)
PROCUREMENT, ACQUISITION, AND CONSTRUCTION
Direct Discretionary Obligations

FY 2024 Proposed Operating Plan	POS	FTE	FY 2023 Enacted	POS	FTE	FY 2024 Calculated ATBs	FY 2024 Technical ATBs	POS	FTE	FY 2024 Base	POS	FTE	FY 2024 Program Changes	POS	FTE	FY 2024 Estimate
NOS																
Acquisition/Construction																
National Estuarine Research Reserve Construction	0	0	8,500	0	0	0	0	0	0	8,500	0	0	(4,000)	0	0	4,500
Marine Sanctuaries Construction	1	1	5,500	0	0	0	0	1	1	5,500	0	0	(1,500)	1	1	4,000
Subtotal, NOS Construction	1	1	14,000	0	0	0	0	1	1	14,000	0	0	(5,500)	1	1	8,500
Total, NOS - PAC	1	1	14,000	0	0	0	0	1	1	14,000	0	0	(5,500)	1	1	8,500
Total, NMFS - PAC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OAR																
Systems Acquisition																
Research Supercomputing/ CCR1	4	4	70,000	0	0	0	0	4	4	70,000	0	0	(1,500)	4	4	68,500
Research Acquisitions and Management	0	0	30,000	0	0	0	0	0	0	30,000	0	0	10,000	0	0	40,000
Subtotal, OAR Systems Acquisition	4	4	100,000	0	0	0	0	4	4	100,000	0	0	8,500	4	4	108,500
Total, OAR - PAC	4	4	100,000	0	0	0	0	4	4	100,000	0	0	8,500	4	4	108,500
NWS																
Systems Acquisition																
Observations	3	3	16,200	0	0	0	0	3	3	16,200	0	0	(30)	3	3	16,170
Central Processing	27	26	69,649	0	0	0	0	27	26	69,649	0	0	(1,649)	27	26	68,000
Dissemination	1	1	10,000	0	0	0	0	1	1	10,000	0	0	(66)	1	1	9,934
Subtotal, NWS Systems Acquisition	31	30	95,849	0	0	0	0	31	30	95,849	0	0	(1,745)	31	30	94,104
Construction																
Facilities Construction and Major Repairs	1	1	13,500	0	0	0	0	1	1	13,500	0	0	(3,500)	1	1	10,000
Subtotal, NWS Construction	1	1	13,500	0	0	0	0	1	1	13,500	0	0	(3,500)	1	1	10,000
Total, NWS - PAC	32	31	109,349	0	0	0	0	32	31	109,349	0	0	(5,245)	32	31	104,104

Department of Commerce
National Oceanic and Atmospheric Administration
CONTROL TABLE
(Dollar amounts in thousands)
PROCUREMENT, ACQUISITION, AND CONSTRUCTION
Direct Discretionary Obligations

FY 2024 Proposed Operating Plan																
	POS	FTE	FY 2023 Enacted	POS	FTE	FY 2024 Calculated ATBs	FY 2024 Technical ATBs	POS	FTE	FY 2024 Base	POS	FTE	FY 2024 Program Changes	POS	FTE	FY 2024 Estimate
NESDIS																
Systems Acquisition																
Geostationary Systems - R	51	48	301,000	0	0	0	0	51	48	301,000	0	0	(25,000)	51	48	276,000
Polar Weather Satellites	57	52	183,500	0	0	0	0	57	52	183,500	0	0	158,910	57	52	342,410
Space Weather Follow On	27	22	136,200	0	0	0	0	27	22	136,200	0	0	(39,000)	27	22	97,200
Common Ground Services (CGS)	78	68	105,433	0	6	0	0	78	74	105,433	0	0	15,478	78	74	120,911
Geostationary Earth Orbit (GEO)	34	28	285,000	0	1	0	0	34	29	285,000	0	0	132,429	34	29	417,429
Low Earth Orbit (LEO)	16	13	96,430	(1)	(1)	0	(8,100)	15	12	88,330	0	0	35,260	15	12	123,590
Space Weather Next	49	32	151,606	0	1	0	0	49	33	151,606	0	0	73,394	49	33	225,000
Systems/Services Architecture and Engineering (SAE)	42	34	68,500	0	0	0	0	42	34	68,500	0	0	6,000	42	34	74,500
Subtotal, NESDIS Systems Acquisition	354	297	1,327,669	(1)	7	0	(8,100)	353	304	1,319,569	0	0	357,471	353	304	1,677,040
Construction																
Satellite CDA Facility	0	0	2,450	0	0	0	0	0	0	2,450	0	0	0	0	0	2,450
Subtotal, NESDIS Construction	0	0	2,450	0	0	0	0	0	0	2,450	0	0	0	0	0	2,450
Total, NESDIS - PAC	354	297	1,330,119	(1)	7	0	(8,100)	353	304	1,322,019	0	0	357,471	353	304	1,679,490
Mission Support																
Construction																
NOAA Construction	2	2	90,000	0	0	0	0	2	2	90,000	0	0	55,700	2	2	145,700
Subtotal, Mission Support Construction	2	2	90,000	0	0	0	0	2	2	90,000	0	0	55,700	2	2	145,700
Total, Mission Support - PAC	2	2	90,000	0	0	0	0	2	2	90,000	0	0	55,700	2	2	145,700
OMAO																
Marine and Aviation Capital Investments																
Platform Capital Improvements & Tech Infusion	17	17	28,000	0	0	0	5,000	17	17	33,000	0	0	(5,500)	17	17	27,500
Vessel Recapitalization and Construction	43	40	95,000	0	0	0	0	43	40	95,000	0	0	(20,000)	43	40	75,000
Aircraft Recapitalization and Construction	9	9	9,000	0	0	0	(5,000)	9	9	4,000	0	0	0	9	9	4,000
Subtotal, Marine and Aviation Capital Investments	69	66	132,000	0	0	0	0	69	66	132,000	0	0	(25,500)	69	66	106,500
Total, OMAO - PAC	69	66	132,000	0	0	0	0	69	66	132,000	0	0	(25,500)	69	66	106,500
GRAND TOTAL PAC DISCRETIONARY OBLIGATIONS	462	401	1,775,468	(1)	7	0	(8,100)	461	408	1,767,368	0	0	385,426	461	408	2,152,794

Department of Commerce
National Oceanic and Atmospheric Administration
CONTROL TABLE
(Dollar amounts in thousands)
PAC ADJUSTMENTS

Exhibit 4B

FY 2024 Proposed Operating Plan	POS	FTE	FY 2023 Enacted	POS	FTE	FY 2024 Calculated ATBs	FY 2024 Technical ATBs	POS	FTE	FY 2024 Base	POS	FTE	FY 2024 Program Changes	POS	FTE	FY 2024 Estimate
SUBTOTAL PAC DIRECT OBLIGATIONS	462	401	1,775,468	(1)	7	0	(8,100)	461	408	1,767,368	0	0	385,426	461	408	2,152,794
FINANCING																
Deobligations	0	0	(13,000)	0	0	0	0	0	0	(13,000)	0	0	0	0	0	(13,000)
Total PAC Financing	0	0	(13,000)	0	0	0	0	0	0	(13,000)	0	0	0	0	0	(13,000)
SUBTOTAL PAC BUDGET AUTHORITY	462	401	1,762,468	(1)	7	0	(8,100)	461	408	1,754,368	0	0	385,426	461	408	2,139,794
TRANSFERS																
Transfer to OIG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total PAC Transfers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL PAC APPROPRIATION	462	401	1,762,468	(1)	7	0	(8,100)	461	408	1,754,368	0	0	385,426	461	408	2,139,794

Department of Commerce
National Oceanic and Atmospheric Administration
CONTROL TABLE
(Dollar amounts in thousands)
OTHER ACCOUNTS DISCRETIONARY

FY 2024 Proposed Operating Plan																
	POS	FTE	FY 2023 Enacted	POS	FTE	FY 2024 Calculated ATBs	FY 2024 Technical ATBs	POS	FTE	FY 2024 Base	POS	FTE	FY 2024 Program Changes	POS	FTE	FY 2024 Estimate
NMFS																
Fishermen's Contingency Fund Obligations	0	0	349	0	0	0	0	0	0	349	0	0	0	0	0	349
Fishermen's Contingency Fund Budget Authority	0	0	349	0	0	0	0	0	0	349	0	0	0	0	0	349
Fishermen's Contingency Fund Appropriations	0	0	349	0	0	0	0	0	0	349	0	0	0	0	0	349
Promote and Develop Fisheries Obligations	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Promote and Develop Fisheries Budget Authority	0	0	(344,901)	0	0	0	(10,180)	0	0	(355,081)	0	0	0	0	0	(355,081)
Promote and Develop Fisheries Appropriation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pacific Coastal Salmon Recovery Fund Obligations	2	2	65,000	0	0	0	0	2	2	65,000	0	0	0	2	2	65,000
Pacific Coastal Salmon Recovery Fund Budget Authority	2	2	65,000	0	0	0	0	2	2	65,000	0	0	0	2	2	65,000
Pacific Coastal Salmon Recovery Fund Appropriation	2	2	65,000	0	0	0	0	2	2	65,000	0	0	0	2	2	65,000
Marine Mammal Unusual Mortality Event Fund Obligations	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Marine Mammal Unusual Mortality Event Fund Budget Authority	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Marine Mammal Unusual Mortality Event Fund Appropriation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fisheries Disaster Assistance Fund Obligations	1	1	300	0	0	0	0	1	1	300	0	0	0	1	1	300
Fisheries Disaster Assistance Fund Budget Authority	1	1	300	0	0	0	0	1	1	300	0	0	0	1	1	300
Fisheries Disaster Assistance Fund Appropriation	1	1	300	0	0	0	0	1	1	300	0	0	0	1	1	300
Subtotal, NMFS Other Discretionary Direct Obligations	3	3	65,649	0	0	0	0	3	3	65,649	0	0	0	3	3	65,649
Subtotal, NMFS Other Discretionary Budget Authority	3	3	(279,252)	0	0	0	(10,180)	3	3	(289,432)	0	0	0	3	3	(289,432)
Subtotal, NMFS Other Discretionary Appropriation	3	3	65,649	0	0	0	0	3	3	65,649	0	0	0	3	3	65,649
OMAO																
Medicare Eligible Retiree Healthcare Fund Obligations	0	0	1,970	0	0	0	(353)	0	0	1,617	0	0	0	0	0	1,617
Medicare Eligible Retiree Healthcare Fund Budget Authority	0	0	1,970	0	0	0	(353)	0	0	1,617	0	0	0	0	0	1,617
Medicare Eligible Retiree Healthcare Fund Appropriation	0	0	1,970	0	0	0	(353)	0	0	1,617	0	0	0	0	0	1,617
Subtotal, OMAO Other Discretionary Direct Obligations	0	0	1,970	0	0	0	(353)	0	0	1,617	0	0	0	0	0	1,617
Subtotal, OMAO Other Discretionary Budget Authority	0	0	1,970	0	0	0	(353)	0	0	1,617	0	0	0	0	0	1,617
Subtotal, OMAO Other Discretionary Appropriation	0	0	1,970	0	0	0	(353)	0	0	1,617	0	0	0	0	0	1,617
TOTAL, OTHER DISCRETIONARY DIRECT OBLIGATIONS	3	3	67,619	0	0	0	(353)	3	3	67,266	0	0	0	3	3	67,266
TOTAL, OTHER DISCRETIONARY BUDGET AUTHORITY	3	3	(277,282)	0	0	0	(10,533)	3	3	(287,815)	0	0	0	3	3	(287,815)
TOTAL, OTHER DISCRETIONARY APPROPRIATION	3	3	67,619	0	0	0	(353)	3	3	67,266	0	0	0	3	3	67,266

Department of Commerce
National Oceanic and Atmospheric Administration
CONTROL TABLE
(Dollar amounts in thousands)
GRAND TOTAL SUMMARY DISCRETIONARY APPROPRIATIONS

Exhibit 4B

FY 2024 Proposed Operating Plan																
	POS	FTE	FY 2023 Enacted	POS	FTE	FY 2024 Calculated ATBs	FY 2024 Technical ATBs	POS	FTE	FY 2024 Base	POS	FTE	FY 2024 Program Changes	POS	FTE	FY 2024 Estimate
Operations, Research, and Facilities	12,654	11,894	4,542,997	8	8	135,550	(2,080)	12,662	11,902	4,676,467	220	166	(59,918)	12,882	12,068	4,616,549
Procurement, Acquisition, and Construction	462	401	1,762,468	(1)	7	0	(8,100)	461	408	1,754,368	0	0	385,426	461	408	2,139,794
Fisherman's Contingency Fund	0	0	349	0	0	0	0	0	0	349	0	0	0	0	0	349
Pacific Coastal Salmon Recovery Fund	2	2	65,000	0	0	0	0	2	2	65,000	0	0	0	2	2	65,000
Fisheries Disaster Assistance Fund	1	1	300	0	0	0	0	1	1	300	0	0	0	1	1	300
Marine Mammal Unusual Mortality Event Fund	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Medicare Eligible Retiree Health Care Fund	0	0	1,970	0	0	0	(353)	0	0	1,617	0	0	0	0	0	1,617
GRAND TOTAL DISCRETIONARY APPROPRIATION	13,119	12,298	6,373,084	7	15	135,550	(10,533)	13,126	12,313	6,498,101	220	166	325,508	13,346	12,479	6,823,609

Department of Commerce
National Oceanic and Atmospheric Administration
CONTROL TABLE
(Dollar amounts in thousands)
SUMMARY OF DISCRETIONARY RESOURCES

FY 2024 Proposed Operating Plan																
	POS	FTE	FY 2023 Enacted	POS	FTE	FY 2024 Calculated ATBs	FY 2024 Technical ATBs	POS	FTE	FY 2024 Base	POS	FTE	FY 2024 Program Changes	POS	FTE	FY 2024 Estimate
Direct Discretionary Obligations																
ORF Direct Obligations	12,654	11,894	4,910,898	8	8	135,550	8,100	12,662	11,902	5,054,548	220	166	(59,918)	12,882	12,068	4,994,630
PAC Direct Obligations	462	401	1,775,468	(1)	7	0	(8,100)	461	408	1,767,368	0	0	385,426	461	408	2,152,794
OTHER Direct Obligations	3	3	67,619	0	0	0	(353)	3	3	67,266	0	0	0	3	3	67,266
TOTAL Direct Discretionary Obligations	13,119	12,298	6,753,985	7	15	135,550	(353)	13,126	12,313	6,889,182	220	166	325,508	13,346	12,479	7,214,690
Discretionary Budget Authority																
ORF Budget Authority	12,654	11,894	4,887,898	8	8	135,550	8,100	12,662	11,902	5,031,548	220	166	(59,918)	12,882	12,068	4,971,630
PAC Budget Authority	462	401	1,762,468	(1)	7	0	(8,100)	461	408	1,754,368	0	0	385,426	461	408	2,139,794
OTHER Budget Authority	3	3	(277,282)	0	0	0	(10,533)	3	3	(287,815)	0	0	0	3	3	(287,815)
TOTAL Discretionary Budget Authority	13,119	12,298	6,373,084	7	15	135,550	(10,533)	13,126	12,313	6,498,101	220	166	325,508	13,346	12,479	6,823,609
Discretionary Appropriations																
ORF Appropriation	12,654	11,894	4,542,997	8	8	135,550	(2,080)	12,662	11,902	4,676,467	220	166	(59,918)	12,882	12,068	4,616,549
PAC Appropriation	462	401	1,762,468	(1)	7	0	(8,100)	461	408	1,754,368	0	0	385,426	461	408	2,139,794
OTHER Appropriation	3	3	67,619	0	0	0	(353)	3	3	67,266	0	0	0	3	3	67,266
TOTAL Discretionary Appropriation	13,119	12,298	6,373,084	7	15	135,550	(10,533)	13,126	12,313	6,498,101	220	166	325,508	13,346	12,479	6,823,609

Department of Commerce
National Oceanic and Atmospheric Administration

CONTROL TABLE
(Dollar amounts in thousands)
OTHER ACCOUNTS MANDATORY

FY 2024 Proposed Operating Plan																	
	POS	FTE	FY 2023 Enacted	POS	FTE	FY 2024 Calculated ATBs	FY 2024 Technical ATBs	POS	FTE	FY 2024 Base	POS	FTE	FY 2024 Program Changes	POS	FTE	FY 2024 Estimate	
NOS																	
Damage Assessment and Restoration Revolving Fund Obligations	30	30	88,296	0	0	0	(72,296)	30	30	16,000	0	0	0	30	30	16,000	
Damage Assessment and Restoration Revolving Fund Budget Authority	30	30	5,996	0	0	0	4	30	30	6,000	0	0	0	30	30	6,000	
Damage Assessment and Restoration Revolving Fund Appropriation	30	30	0	0	0	0	0	30	30	0	0	0	0	30	30	0	
Sanctuaries Enforcement Asset Forfeiture Fund Obligations	0	0	651	0	0	0	(1)	0	0	650	0	0	0	0	0	650	
Sanctuaries Enforcement Asset Forfeiture Fund Budget Authority	0	0	591	0	0	0	9	0	0	600	0	0	0	0	0	600	
Sanctuaries Enforcement Asset Forfeiture Fund Appropriation	0	0	600	0	0	0	0	0	0	600	0	0	0	0	0	600	
Gulf Coast Ecosystem Restoration Fund Obligations	2	2	7,066	0	0	0	2,251	2	2	9,317	0	0	0	2	2	9,317	
Gulf Coast Ecosystem Restoration Fund Budget Authority	2	2	0	0	0	0	0	2	2	0	0	0	0	2	2	0	
Gulf Coast Ecosystem Restoration Fund Appropriation	2	2	0	0	0	0	0	2	2	0	0	0	0	2	2	0	
Subtotal, NOS Other Mandatory Direct Obligations	32	32	96,013	0	0	0	(70,046)	32	32	25,967	0	0	0	32	32	25,967	
Subtotal, NOS Other Mandatory Budget Authority	32	32	6,587	0	0	0	13	32	32	6,600	0	0	0	32	32	6,600	
Subtotal, NOS Other Mandatory Appropriation	32	32	600	0	0	0	0	32	32	600	0	0	0	32	32	600	
NMFS																	
Promote and Develop Fisheries Obligations	0	0	11,500	0	0	0	(3,970)	0	0	7,530	0	0	0	0	0	7,530	
Promote and Develop Fisheries Budget Authority	0	0	356,401	0	0	0	6,210	0	0	362,611	0	0	0	0	0	362,611	
Promote and Develop Fisheries Appropriation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Fisheries Finance Program Account Obligations	0	0	5,722	0	0	0	(5,722)	0	0	0	0	0	0	0	0	0	
Fisheries Finance Program Account Budget Authority	0	0	5,722	0	0	0	(5,722)	0	0	0	0	0	0	0	0	0	
Fisheries Finance Program Account Appropriation	0	0	5,722	0	0	0	(5,722)	0	0	0	0	0	0	0	0	0	
Environmental Improvement & Restoration Fund Obligations	0	0	6,557	0	0	0	7,544	0	0	14,101	0	0	0	0	0	14,101	
Environmental Improvement & Restoration Fund Budget Authority	0	0	6,557	0	0	0	7,544	0	0	14,101	0	0	0	0	0	14,101	
Environmental Improvement & Restoration Fund Appropriation	0	0	6,953	0	0	0	8,000	0	0	14,953	0	0	0	0	0	14,953	
Limited Access System Administration Fund Obligations	40	27	12,877	0	0	0	558	40	27	13,435	0	0	0	40	27	13,435	
Limited Access System Administration Fund Budget Authority	40	27	12,877	0	0	0	558	40	27	13,435	0	0	0	40	27	13,435	
Limited Access System Administration Fund Appropriation	40	27	12,968	0	0	0	495	40	27	13,463	0	0	0	40	27	13,463	
Western Pacific Sustainable Fisheries Fund Obligations	0	0	734	0	0	0	16	0	0	750	0	0	0	0	0	750	
Western Pacific Sustainable Fisheries Fund Budget Authority	0	0	734	0	0	0	16	0	0	750	0	0	0	0	0	750	
Western Pacific Sustainable Fisheries Fund Appropriation	0	0	750	0	0	0	0	0	0	750	0	0	0	0	0	750	
Fisheries Enforcement Asset Forfeiture Fund Obligations	0	0	2,132	0	0	0	(14)	0	0	2,118	0	0	0	0	0	2,118	
Fisheries Enforcement Asset Forfeiture Fund Budget Authority	0	0	2,132	0	0	0	(14)	0	0	2,118	0	0	0	0	0	2,118	
Fisheries Enforcement Asset Forfeiture Fund Appropriation	0	0	2,118	0	0	0	0	0	0	2,118	0	0	0	0	0	2,118	
North Pacific Observer Fund Obligations	0	0	4,451	0	0	0	145	0	0	4,596	0	0	0	0	0	4,596	
North Pacific Observer Fund Budget Authority	0	0	4,451	0	0	0	145	0	0	4,596	0	0	0	0	0	4,596	
North Pacific Observer Fund Appropriation	0	0	4,530	0	0	0	70	0	0	4,600	0	0	0	0	0	4,600	

Department of Commerce
National Oceanic and Atmospheric Administration

CONTROL TABLE
(Dollar amounts in thousands)
OTHER ACCOUNTS MANDATORY

FY 2024 Proposed Operating Plan	POS	FTE	FY 2023 Enacted	POS	FTE	FY 2024 Calculated ATBs	FY 2024 Technical ATBs	POS	FTE	FY 2024 Base	POS	FTE	FY 2024 Program Changes	POS	FTE	FY 2024 Estimate
Seafood Inspection Program Trust Fund	125	100	19,500	0	10	0	4,100	125	110	23,600	0	0	0	125	110	23,600
Seafood Inspection Program Trust Fund	125	100	0	0	10	0	0	125	110	0	0	0	0	125	110	0
Seafood Inspection Program Trust Fund	125	100	0	0	10	0	0	125	110	0	0	0	0	125	110	0
Subtotal, NMFS Other Mandatory Direct Obligations	165	127	63,473	0	10	0	2,657	165	137	66,130	0	0	0	165	137	66,130
Subtotal, NMFS Other Mandatory Budget Authority	165	127	388,874	0	10	0	8,737	165	137	397,611	0	0	0	165	137	397,611
Subtotal, NMFS Other Mandatory Appropriation	165	127	33,041	0	10	0	2,843	165	137	35,884	0	0	0	165	137	35,884
MS																
Spectrum Relocation Fund (ORF) Obligations	0	0	40,900	0	0	0	(40,900)	0	0	0	0	0	0	0	0	0
Spectrum Relocation Fund (ORF) Budget Authority	0	0	40,900	0	0	0	(40,900)	0	0	0	0	0	0	0	0	0
Spectrum Relocation Fund (ORF) Appropriation	0	0	40,900	0	0	0	(40,900)	0	0	0	0	0	0	0	0	0
Spectrum Relocation Fund (PAC) Obligations	0	0	6,100	0	0	0	(6,100)	0	0	0	0	0	0	0	0	0
Spectrum Relocation Fund (PAC) Budget Authority	0	0	6,100	0	0	0	(6,100)	0	0	0	0	0	0	0	0	0
Spectrum Relocation Fund (PAC) Appropriation	0	0	6,100	0	0	0	(6,100)	0	0	0	0	0	0	0	0	0
Subtotal, MS Other Mandatory Direct Obligations	0	0	47,000	0	0	0	(47,000)	0	0	0	0	0	0	0	0	0
Subtotal, MS Other Mandatory Budget Authority	0	0	47,000	0	0	0	(47,000)	0	0	0	0	0	0	0	0	0
Subtotal, MS Other Mandatory Appropriation	0	0	47,000	0	0	0	(47,000)	0	0	0	0	0	0	0	0	0
OMAO																
NOAA Corps Commissioned Officers Retirement Obligations	0	0	34,760	0	0	0	238	0	0	34,998	0	0	0	0	0	34,998
NOAA Corps Commissioned Officers Retirement Budget Authority	0	0	34,760	0	0	0	238	0	0	34,998	0	0	0	0	0	34,998
NOAA Corps Commissioned Officers Retirement Appropriation	0	0	34,760	0	0	0	238	0	0	34,998	0	0	0	0	0	34,998
Subtotal, OMAO Other Mandatory Direct Obligations	0	0	34,760	0	0	0	238	0	0	34,998	0	0	0	0	0	34,998
Subtotal, OMAO Other Mandatory Budget Authority	0	0	34,760	0	0	0	238	0	0	34,998	0	0	0	0	0	34,998
Subtotal, OMAO Other Mandatory Appropriation	0	0	34,760	0	0	0	238	0	0	34,998	0	0	0	0	0	34,998
TOTAL, OTHER MANDATORY DIRECT OBLIGATIONS	197	159	241,246	0	10	0	(114,151)	197	169	127,095	0	0	0	197	169	127,095
TOTAL, OTHER MANDATORY BUDGET AUTHORITY	197	159	477,221	0	10	0	(38,012)	197	169	439,209	0	0	0	197	169	439,209
TOTAL, OTHER MANDATORY APPROPRIATION	197	159	115,401	0	10	0	(43,919)	197	169	71,482	0	0	0	197	169	71,482

Department of Commerce
National Oceanic and Atmospheric Administration
CONTROL TABLE
(Dollar amounts in thousands)
NOAA SUMMARY

Exhibit 4B

FY 2024 Proposed Operating Plan																
	POS	FTE	FY 2023 Enacted	POS	FTE	FY 2024 Calculated ATBs	FY 2024 Technical ATBs	POS	FTE	FY 2024 Base	POS	FTE	FY 2024 Program Changes	POS	FTE	FY 2024 Estimate
TOTAL Direct Obligations (Discretionary & Mandatory)	13,316	12,457	6,995,231	7	25	135,550	(114,504)	13,323	12,482	7,016,277	220	166	325,508	13,543	12,648	7,341,785
TOTAL Budget Authority (Discretionary & Mandatory)	13,316	12,457	6,850,305	7	25	135,550	(48,545)	13,323	12,482	6,937,310	220	166	325,508	13,543	12,648	7,262,818
TOTAL Appropriation (Discretionary & Mandatory)	13,316	12,457	6,488,485	7	25	135,550	(54,452)	13,323	12,482	6,569,583	220	166	325,508	13,543	12,648	6,895,091
Reimbursable Financing	496	421	402,686	0	0	0	(160,686)	496	421	242,000	0	0	0	496	421	242,000
TOTAL OBLIGATIONS (Direct & Reimbursable)	13,812	12,878	7,397,917	7	25	135,550	(275,190)	13,819	12,903	7,258,277	220	166	325,508	14,039	13,069	7,583,785
Offsetting Receipts	0	0	(19,000)	0	0	0	4,194	0	0	(14,806)	0	0	0	0	0	(14,806)
TOTAL OBLIGATIONS (Direct, Reimbursable & Offsetting Receipts)	13,812	12,878	7,378,917	7	25	135,550	(270,996)	13,819	12,903	7,243,471	220	166	325,508	14,039	13,069	7,568,979

Department of Commerce
National Oceanic and Atmospheric Administration
CONTROL TABLE
(Dollar amounts in thousands)
LINE OFFICE SUMMARY

FY 2024 Proposed Operating Plan			FY 2023		FY 2024		FY 2024		FY 2024		FY 2024		FY 2024		FY 2024	
	POS	FTE	Enacted	POS	FTE	Calculated ATBs	Technical ATBs	POS	FTE	Base	POS	FTE	Program Changes	POS	FTE	Estimate
National Ocean Service																
ORF	1,298	1,237	717,095	0	0	13,347	0	1,298	1,237	730,442	27	21	(51,200)	1,325	1,258	679,242
PAC	1	1	14,000	0	0	0	0	1	1	14,000	0	0	(5,500)	1	1	8,500
OTHER	32	32	96,013	0	0	0	(70,046)	32	32	25,967	0	0	0	32	32	25,967
TOTAL, NOS	1,331	1,270	827,108	0	0	13,347	(70,046)	1,331	1,270	770,409	27	21	(56,700)	1,358	1,291	713,709
National Marine Fisheries Service																
ORF	3,306	2,931	1,131,833	0	0	29,892	0	3,306	2,931	1,161,725	139	104	(6,851)	3,445	3,035	1,154,874
PAC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER	168	130	129,122	0	10	0	2,657	168	140	131,779	0	0	0	168	140	131,779
TOTAL, NMFS	3,474	3,061	1,260,955	0	10	29,892	2,657	3,474	3,071	1,293,504	139	104	(6,851)	3,613	3,175	1,286,653
Oceanic and Atmospheric Research																
ORF	875	787	682,138	0	0	9,825	0	875	787	691,963	6	5	(14,188)	881	792	677,775
PAC	4	4	100,000	0	0	0	0	4	4	100,000	0	0	8,500	4	4	108,500
TOTAL, OAR	879	791	782,138	0	0	9,825	0	879	791	791,963	6	5	(5,688)	885	796	786,275
National Weather Service																
ORF	4,509	4,374	1,254,658	0	0	39,850	0	4,509	4,374	1,294,508	3	2	(18,526)	4,512	4,376	1,275,982
PAC	32	31	109,349	0	0	0	0	32	31	109,349	0	0	(5,245)	32	31	104,104
TOTAL, NWS	4,541	4,405	1,364,007	0	0	39,850	0	4,541	4,405	1,403,857	3	2	(23,771)	4,544	4,407	1,380,086
National Environmental Satellite, Data and Information Service																
ORF	622	590	378,037	1	1	8,346	8,100	623	591	394,483	0	0	(52)	623	591	394,431
PAC	354	297	1,330,119	(1)	7	0	(8,100)	353	304	1,322,019	0	0	357,471	353	304	1,679,490
TOTAL, NESDIS	976	887	1,708,156	0	8	8,346	0	976	895	1,716,502	0	0	357,419	976	895	2,073,921
Mission Support																
ORF	861	821	418,460	0	0	25,037	0	861	821	443,497	0	0	16,368	861	821	459,865
PAC	2	2	90,000	0	0	0	0	2	2	90,000	0	0	55,700	2	2	145,700
OTHER	0	0	47,000	0	0	0	(47,000)	0	0	0	0	0	0	0	0	0
TOTAL, Mission Support	863	823	555,460	0	0	25,037	(47,000)	863	823	533,497	0	0	72,068	863	823	605,565
Office of Marine and Aviation Operations																
ORF	1,183	1,154	328,677	7	7	9,253	0	1,190	1,161	337,930	45	34	14,531	1,235	1,195	352,461
PAC	69	66	132,000	0	0	0	0	69	66	132,000	0	0	(25,500)	69	66	106,500
OTHER	0	0	36,730	0	0	0	(115)	0	0	36,615	0	0	0	0	0	36,615
TOTAL, OMAO	1,252	1,220	497,407	7	7	9,253	(115)	1,259	1,227	506,545	45	34	(10,969)	1,304	1,261	495,576
DIRECT DISCRETIONARY OBLIGATIONS																
ORF	12,654	11,894	4,910,898	8	8	135,550	8,100	12,662	11,902	5,054,548	220	166	(59,918)	12,882	12,068	4,994,630
PAC	462	401	1,775,468	(1)	7	0	(8,100)	461	408	1,767,368	0	0	385,426	461	408	2,152,794
OTHER	200	162	308,865	0	10	0	(114,504)	200	172	194,361	0	0	0	200	172	194,361
TOTAL, DIRECT DISCRETIONARY OBLIGATIONS	13,316	12,457	6,995,231	7	25	135,550	(114,504)	13,323	12,482	7,016,277	220	166	325,508	13,543	12,648	7,341,785

Department of Commerce
National Oceanic and Atmospheric Administration
CONTROL TABLE
(Dollar amounts in thousands)
LINE OFFICE SUMMARY

Exhibit 4B

FY 2024 Proposed Operating Plan																
	POS	FTE	FY 2023 Enacted	POS	FTE	FY 2024 Calculated ATBs	FY 2024 Technical ATBs	POS	FTE	FY 2024 Base	POS	FTE	FY 2024 Program Changes	POS	FTE	FY 2024 Estimate
ORF Adjustments (Deobligations/Rescissions)	0	0	(23,000)	0	0	0	0	0	0	(23,000)	0	0	0	0	0	(23,000)
ORF Transfers	0	0	(344,901)	0	0	0	(10,180)	0	0	(355,081)	0	0	0	0	0	(355,081)
PAC Adjustments (Deobligations/Rescissions)	0	0	(13,000)	0	0	0	0	0	0	(13,000)	0	0	0	0	0	(13,000)
PAC Transfers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER Discretionary Adjustments	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mandatory Accounts Excluded	(197)	(159)	(241,246)	0	(10)	0	114,151	(197)	(169)	(127,095)	0	0	0	(197)	(169)	(127,095)
TOTAL, DISCRETIONARY APPROPRIATIONS	13,119	12,298	6,373,084	7	15	135,550	(10,533)	13,126	12,313	6,498,101	220	166	325,508	13,346	12,479	6,823,609

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
Enacted, 2023	12,654	11,894	4,887,898	4,910,898
Plus: Inflationary adjustments to base	0	0	135,550	135,550
Plus: Technical adjustments to base	8	8	8,100	8,100
2024 Base	12,662	11,902	5,031,548	5,054,548
Plus: 2024 Program Changes	220	166	(59,918)	(59,918)
2024 Estimate	12,882	12,068	4,971,630	4,994,630

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)**

Comparison by program		2022 Actual		2023 Enacted		2024 Base		2024 Estimate		Increase/Decrease from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
National Ocean Service	Pos/BA	1,282	959,742	1,298	717,095	1,298	730,442	1,325	679,242	27	(51,200)
	FTE/Obl	1,131	810,544	1,237	717,095	1,237	730,442	1,258	679,242	21	(51,200)
National Marine Fisheries Service	Pos/BA	3,170	1,221,172	3,306	1,131,833	3,306	1,161,725	3,445	1,154,874	139	(6,851)
	FTE/Obl	2,777	1,049,418	2,931	1,131,833	2,931	1,161,725	3,035	1,154,874	104	(6,851)
Oceanic and Atmospheric Research	Pos/BA	852	706,619	875	682,138	875	691,963	881	677,775	6	(14,188)
	FTE/Obl	749	633,988	787	682,138	787	691,963	792	677,775	5	(14,188)
National Weather Service	Pos/BA	4,454	1,211,406	4,509	1,254,658	4,509	1,294,508	4,512	1,275,982	3	(18,526)
	FTE/Obl	4,294	1,183,487	4,374	1,254,658	4,374	1,294,508	4,376	1,275,982	2	(18,526)
National Environmental Satellite, Data, & Info Service	Pos/BA	586	318,829	622	378,037	623	394,483	623	394,431	0	(52)
	FTE/Obl	531	319,218	590	378,037	591	394,483	591	394,431	0	(52)
Mission Support	Pos/BA	817	341,543	852	418,460	861	443,497	861	459,865	0	16,368
	FTE/Obl	695	341,324	821	418,460	821	443,497	821	459,865	0	16,368
Office of Marine & Aviation Operations	Pos/BA	1,119	296,922	1,183	328,677	1,190	337,930	1,235	352,461	45	14,531
	FTE/Obl	992	298,710	1,154	328,677	1,161	337,930	1,195	352,461	34	14,531
ORF Financing	Pos/BA	0	0	0	(23,000)	0	(23,000)	0	(23,000)	0	0
	FTE/Obl	0	0	0	0	0	0	0	0	0	0
Total	Pos/BA	12,280	5,056,233	12,645	4,887,898	12,662	5,031,548	12,882	4,971,630	220	(59,918)
	FTE/Obl	11,169	4,636,689	11,894	4,910,898	11,902	5,054,548	12,068	4,994,630	166	(59,918)

* FY 2023 Amount does include \$42 million in funds provided for base activities by the Disaster Supplemental Appropriations Act, 2023, designated as "base or discretionary funding designated as emergency," but does not include \$49 million designated as "discretionary, emergency, Appropriations Committee. It also does not include funds received through the IJA (\$515.584 million) that became available in FY 2023. FY 2024 Amount also does not include funds received through the IJA (\$515.383 million).

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	2022 Actuals		2023 Enacted		2024 Base		2024 Estimate		Increase/Decrease from 2024 Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Discretionary Obligation	11,169	4,636,689	11,894	4,910,898	11,902	5,054,548	12,068	4,994,630	166	(59,918)
Total Obligations	11,169	4,636,689	11,894	4,910,898	11,902	5,054,548	12,068	4,994,630	166	(59,918)
Adjustments to Obligations:										
Deobligations	0	(65,036)	0	0	0	0	0	0	0	0
Unobligated Balance, SOY	0	(144,198)	0	(23,000)	0	(23,000)	0	(23,000)	0	0
Unobligated Balance, Expiring	0	2,339	0	0	0	0	0	0	0	0
Unobligated Balance, EOY	0	617,288	0	0	0	0	0	0	0	0
Unobligated Balance, Transferred	0	0	0	0	0	0	0	0	0	0
Unobligated Balance, not apportioned	0	0	0	0	0	0	0	0	0	0
Collections	0	0	0	0	0	0	0	0	0	0
Rescission	0	0	0	0	0	0	0	0	0	0
Total Budget Authority	11,169	5,047,082	11,894	4,887,898	11,902	5,031,548	12,068	4,971,630	166	(59,918)
Financing from Transfers and Other:										
Transfer from ORF to PAC	0	0	0	0	0	0	0	0	0	0
Transfer from PAC to ORF	0	(1,905)	0	0	0	0	0	0	0	0
Transfer from P&D to ORF	0	(243,532)	0	(344,901)	0	(355,081)	0	(355,081)	0	0
Transfer from PCSRF to ORF	0	(3,299)	0	0	0	0	0	0	0	0
Transfer from FDAF	0	(200)	0	0	0	0	0	0	0	0
Transfer from USDA to ORF	0	(1,501)	0	0	0	0	0	0	0	0
Transfer to OIG	0	750	0	0	0	0	0	0	0	0
Rescission	0	10,000	0	0	0	0	0	0	0	0
Net Appropriation	11,169	4,807,395	11,894	4,542,997	11,902	4,676,467	12,068	4,616,549	166	(59,918)

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Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
SUMMARY OF REIMBURSABLE OBLIGATIONS
(Dollar Amounts in Thousands)

Comparison by program		2022		2023		2024		2024		Increase/Decrease	
		Actual		Enacted		Base		Estimate		from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
National Ocean Service	Pos./BA	11	34,107	10	36,560	10	24,000	10	24,000	0	0
	FTE/Obl	9	18,479	9	36,560	9	24,000	9	24,000	0	0
National Marine Fisheries Service	Pos./BA	257	85,013	259	72,914	259	95,000	259	95,000	0	0
	FTE/Obl	168	66,890	235	72,914	235	95,000	235	95,000	0	0
Oceanic and Atmospheric Research	Pos./BA	22	129,001	22	145,404	22	50,000	22	50,000	0	0
	FTE/Obl	19	38,521	22	145,404	22	50,000	22	50,000	0	0
National Weather Service	Pos./BA	159	77,100	161	75,879	161	44,000	161	44,000	0	0
	FTE/Obl	160	67,039	112	75,879	112	44,000	112	44,000	0	0
National Environmental Satellite, Data, and Information Service	Pos./BA	26	38,639	24	42,307	24	15,000	24	15,000	0	0
	FTE/Obl	29	36,822	23	42,307	23	15,000	23	15,000	0	0
Mission Support	Pos./BA	19	23,098	20	29,422	20	12,000	20	12,000	0	0
	FTE/Obl	21	22,510	20	29,422	20	12,000	20	12,000	0	0
Office of Marine and Aviation Operations	Pos./BA	0	700	0	200	0	2,000	0	2,000	0	0
	FTE/Obl	0	169	0	200	0	2,000	0	2,000	0	0
NOAA Wide Support Services	Pos./BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl	0	1,070	0	0	0	0	0	0	0	0
Total	Pos./BA	494	387,658	496	402,686	496	242,000	496	242,000	0	0
	FTE/Obl	406	251,500	421	402,686	421	242,000	421	242,000	0	0

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Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
SUMMARY OF FINANCING
(Dollar amounts in thousands)

	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
Direct Discretionary Obligation	4,636,689	4,910,898	5,054,548	4,994,630	(59,918)
Direct Mandatory Obligation	49,371	55,010	53,334	53,334	0
Reimbursable Obligation	251,500	402,686	242,000	242,000	0
Total Obligations	4,937,560	5,368,594	5,349,882	5,289,964	(59,918)
Adjustments to Obligations:					
Federal funds	(235,832)	(347,100)	(194,760)	(194,760)	0
Non-federal Sources	(37,767)	(55,586)	(47,240)	(47,240)	0
Change Uncollected Customer Pmts from Fed. Sources	(16,632)	0	0	0	0
Collections (Direct Disc.)	0	0	0	0	0
Deobligation/Recoveries (Direct Disc.)	(65,036)	(23,000)	(23,000)	(23,000)	0
Deobligation/Recoveries (Mand.)	(298)	0	0	0	0
Unobligated balance adjusted, SOY (Direct Disc.)	(144,198)	(617,288)	(617,288)	(617,288)	0
Unobligated balance, Expiring (Direct Disc.)	2,339	0	0	0	0
Unobligated balance, EOY (Direct Disc.)	617,288	617,288	617,288	617,288	0
Unobligated balance adjusted, SOY (Mand.)	(27,557)	(12,110)	(32,409)	(32,409)	0
Unobligated balance, transferred to other accounts	0	0	0	0	0
Unobligated balance, Expiring (Mand.)	783	0	0	0	0
Unobligated balance, EOY (Mand.)	12,110	32,409	14,073	14,073	0
Unobligated balance, SOY Reimbursable	(67,873)	(106,604)	(106,604)	(106,604)	0
Unobligated balance, EOY Reimbursable	106,604	106,604	106,604	106,604	0
Rescission	0	0	0	0	0
Total Budget Authority	5,081,491	4,963,207	5,066,546	5,006,628	(59,918)
Financing from Transfers and Other:					
Transfer from ORF to PAC	0	0	0	0	0
Transfer from PAC to ORF	(1,905)	0	0	0	0
Transfer from P&D to ORF	(243,532)	(344,901)	(355,081)	(355,081)	0
Transfer from PCSRF to ORF	(3,299)	0	0	0	0
NOAA Corps Retirement Pay (Mand)	(34,409)	(34,409)	(34,998)	(34,998)	0
Spectrum Relocation Fund (Mand)	0	(40,900)	0	0	0
Transfer from FDAF to ORF	(200)	0	0	0	0
Transfer from USDA to ORF	(1,501)	0	0	0	0
Transfer to OIG	750	0	0	0	0
Rescission	10,000	0	0	0	0
Net Appropriation	4,807,395	4,542,997	4,676,467	4,616,549	(59,918)

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Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
ADJUSTMENTS TO BASE
(Dollar amounts in thousands)

	FTE	Amount
Transfer	1	8,100
Adjustment	7	23,000
Financing		(23,000)
<hr/>		
Other Changes		
2023 Pay raise		19,712
2024 Pay raise		70,322
Awards		0
NOAA Corps Allowances		1,655
Change in compensable days		7,101
Civil Service Retirement System (CSRS)		(379)
Federal Employee Retirement System (FERS)		(1,758)
Thrift Savings Plan		76
Federal Insurance Contribution Act (FICA) - OASDI		529
Health Insurance		2,734
TriCare		242
Employees Compensation Fund		40
Travel:		
Mileage		19
Per Diem		282
Rental payments to GSA		1,721
GSA Furniture and IT (FIT) Program		66
Working Capital Fund, Departmental Management*		23,158
Cybersecurity (Non-Add in WCF)		[2,332]
NARA Storage & Maintenance		(6)
General Pricing Level Adjustment		31,056
Enterprise Services		(15,313)
HCHB Utilities		0
Commerce Business System		(6,834)
Federal Protective Service		135
Grants		1,373
Ship and Aircraft Fuel Costs		(379)
		ORF-9

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
ADJUSTMENTS TO BASE
(Dollar amounts in thousands)**

Subtotal, other changes**	0	135,550
Total, Adjustment to Base	8	143,650

*NOAA's total FY 2024 Working Capital Fund bill will be \$94,809, of which 94,457 is funded via annual appropriations and \$352 for the Commerce Infrastructure Coordination Office is funded through the Investment Infrastructure and Jobs act

**Does not add due to rounding

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)**

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
11.1 Full-time permanent compensation	1,251,379	1,374,733	1,448,172	1,462,933	14,761
11.3 Other than full-time permanent	6,505	7,164	7,470	7,470	0
11.5 Other personnel compensation	77,737	86,985	87,109	88,085	976
11.7 Military Personnel	41,513	46,330	49,657	51,235	1,578
11.9 Total personnel compensation	1,377,134	1,515,212	1,592,408	1,609,723	17,315
12.1 Civilian personnel benefits	502,966	552,022	575,026	580,497	5,471
12.2 Military personnel benefits	7,405	7,855	8,133	9,277	1,144
13 Benefits for former personnel	32,199	33,292	33,530	33,530	0
21 Travel and transportation of persons	28,107	30,986	31,286	33,792	2,506
22 Transportation of things	15,395	16,817	17,152	17,957	805
23.1 Rental payments to GSA	100,596	103,873	105,659	105,659	0
23.2 Rental payments to others	30,653	33,960	34,638	34,725	87
23.3 Communications, utilities, and misc. charges	93,631	99,481	101,475	97,187	(4,288)
24 Printing and reproduction	3,472	3,796	3,872	3,874	2
25.1 Advisory and assistance services	337,561	334,829	338,896	358,101	19,205
25.2 Other services from non-Federal sources	702,373	807,143	810,905	844,564	33,659
25.3 Other goods and services from Federal sources	157,255	201,279	224,955	243,044	18,089
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	16,226	16,572	16,768	18,312	1,544
25.7 Operation and maintenance of equipment	0	0	0	0	0
26 Supplies and materials	122,337	127,672	129,414	137,551	8,137

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)**

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
31 Equipment	42,388	46,059	46,981	51,199	4,218
32 Lands and structures	5,895	6,623	6,623	6,623	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	1,110,321	1,028,624	1,029,997	860,585	(169,412)
42 Insurance claims and indemnities	27	30	30	30	0
43 Interest and dividends	118	134	134	134	0
44 Refunds	0	0	0	0	0
99.9 Total obligations	4,686,060	4,966,259	5,107,882	5,047,964	(59,918)
Less Mandatory Obligations	(49,371)	(55,361)	(53,334)	(53,334)	0
Total Discretionary Obligations	4,636,689	4,910,898	5,054,548	4,994,630	(59,918)
Personnel Data					
Full-time Equivalent Employment					
Full-time permanent	11,169	11,894	11,902	12,068	166
Other than full-time permanent	0	0	0	0	0
Total	11,169	11,894	11,902	12,068	166
Authorized Positions:					
Full-time permanent	12,280	12,654	12,662	12,882	220
Other than full-time permanent	0	0	0	0	0
Total	12,280	12,654	12,662	12,882	220

*Totals and deltas may not add due to rounding

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
National Ocean Service
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
11.1 Full-time permanent compensation	146,026	164,727	173,274	175,738	2,464
11.3 Other than full-time permanent	481	544	567	567	0
11.5 Other personnel compensation	4,033	4,543	4,549	4,549	0
11.7 Military Personnel	0	0	0	0	0
11.9 Total personnel compensation	150,540	169,815	178,391	180,855	2,464
12.1 Civilian personnel benefits	54,385	61,350	63,831	64,740	909
12.2 Military personnel benefits	0	0	0	0	0
13 Benefits for former personnel	40	44	44	44	0
21 Travel and transportation of persons	3,256	3,608	3,643	4,093	450
22 Transportation of things	831	931	949	1,144	195
23.1 Rental payments to GSA	13,278	13,842	14,068	14,068	0
23.2 Rental payments to others	1,156	1,295	1,321	1,321	0
23.3 Communications, utilities, and misc. charges	3,895	4,364	4,447	1,817	(2,630)
24 Printing and reproduction	87	98	100	100	0
25.1 Advisory and assistance services	83,832	66,985	67,630	67,630	0
25.2 Other services from non-Federal sources	82,442	100,383	101,349	120,359	19,010
25.3 Other goods and services from Federal sources	3,035	3,401	3,434	3,434	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	437	490	495	495	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
26 Supplies and materials	7,421	8,093	8,243	9,543	1,300

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
National Ocean Service
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)**

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
31 Equipment	5,958	4,911	5,012	5,962	950
32 Lands and structures	1,234	1,383	1,383	1,383	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	398,709	276,095	276,095	202,247	(73,848)
42 Insurance claims and indemnities	1	1	1	1	0
43 Interest and dividends	6	6	6	6	0
44 Refunds	0	0	0	0	0
99.9 Total obligations	810,544	717,095	730,442	679,242	(51,200)
Personnel Data					
Full-time Equivalent Employment					
Full-time permanent	1,131	1,237	1,237	1,258	21
Other than full-time permanent	0	0	0	0	0
Total	1,131	1,237	1,237	1,258	21
Authorized Positions:					
Full-time permanent	1,282	1,298	1,298	1,325	27
Other than full-time permanent	0	0	0	0	0
Total	1,282	1,298	1,298	1,325	27

*Totals and deltas may not add due to rounding

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
National Marine Fisheries Service
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)**

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
11.1 Full-time permanent compensation	332,813	361,439	380,873	390,289	9,416
11.3 Other than full-time permanent	2,959	3,231	3,370	3,370	0
11.5 Other personnel compensation	11,842	12,838	12,857	12,857	0
11.7 Military Personnel	0	0	0	0	0
11.9 Total personnel compensation	347,614	377,509	397,101	406,517	9,416
12.1 Civilian personnel benefits	134,201	145,614	151,717	154,750	3,033
12.2 Military personnel benefits	0	0	0	0	0
13 Benefits for former personnel	82	88	88	88	0
21 Travel and transportation of persons	6,040	6,541	6,606	8,346	1,740
22 Transportation of things	2,800	3,032	3,093	3,580	487
23.1 Rental payments to GSA	17,643	18,091	18,393	18,393	0
23.2 Rental payments to others	2,348	2,543	2,595	2,620	25
23.3 Communications, utilities, and misc. charges	18,731	19,284	19,682	19,702	20
24 Printing and reproduction	2,749	2,977	3,037	3,037	0
25.1 Advisory and assistance services	40,304	43,365	43,615	52,802	9,187
25.2 Other services from non-Federal sources	171,124	183,938	184,998	202,708	17,710
25.3 Other goods and services from Federal sources	13,380	14,489	14,573	14,573	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	74	80	80	858	778
25.7 Operation and maintenance of equipment	0	0	0	0	0
26 Supplies and materials	16,919	18,309	18,661	23,917	5,256

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
National Marine Fisheries Service
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)**

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
31 Equipment	6,082	6,586	6,726	8,318	1,592
32 Lands and structures	1,750	1,896	1,896	1,896	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	267,546	287,461	288,834	232,739	(56,095)
42 Insurance claims and indemnities	4	4	4	4	0
43 Interest and dividends	25	27	27	27	0
44 Refunds	0	0	0	0	0
99.9 Total obligations	1,049,418	1,131,833	1,161,725	1,154,874	(6,851)

Personnel Data

Full-time Equivalent Employment

Full-time permanent	2,777	2,931	2,931	3,035	104
Other than full-time permanent	0	0	0	0	0
Total	2,777	2,931	2,931	3,035	104

Authorized Positions:

Full-time permanent	3,170	3,306	3,306	3,445	139
Other than full-time permanent	0	0	0	0	0
Total	3,170	3,306	3,306	3,445	139

*Totals and deltas may not add due to rounding

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
Office of Oceanic and Atmospheric Research
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
11.1 Full-time permanent compensation	98,851	107,200	112,990	113,442	452
11.3 Other than full-time permanent	1,319	1,433	1,495	1,495	0
11.5 Other personnel compensation	2,945	3,196	3,201	3,201	0
11.7 Military Personnel	0	0	0	0	0
11.9 Total personnel compensation	103,114	111,830	117,687	118,139	452
12.1 Civilian personnel benefits	36,127	39,178	40,827	40,964	137
12.2 Military personnel benefits	0	0	0	0	0
13 Benefits for former personnel	56	62	62	62	0
21 Travel and transportation of persons	2,533	2,783	2,810	2,828	18
22 Transportation of things	1,483	1,640	1,672	1,672	0
23.1 Rental payments to GSA	9,616	9,829	9,994	9,994	0
23.2 Rental payments to others	5,221	5,776	5,891	5,953	62
23.3 Communications, utilities, and misc. charges	8,943	9,891	10,081	10,103	22
24 Printing and reproduction	300	332	339	340	1
25.1 Advisory and assistance services	21,427	23,349	23,617	23,617	0
25.2 Other services from non-Federal sources	70,343	77,917	78,810	80,582	1,772
25.3 Other goods and services from Federal sources	9,792	10,835	10,959	10,994	35
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	5,861	6,389	6,462	7,228	766
25.7 Operation and maintenance of equipment	0	0	0	0	0
26 Supplies and materials	14,235	14,069	14,334	14,413	79

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
Office of Oceanic and Atmospheric Research
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)**

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
31 Equipment	7,392	7,679	7,839	8,281	442
32 Lands and structures	1,378	1,524	1,524	1,524	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	336,156	359,044	359,044	341,070	(17,974)
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	9	10	10	10	0
44 Refunds	0	0	0	0	0
99.9 Total obligations	633,988	682,138	691,963	677,775	(14,188)

Personnel Data

Full-time Equivalent Employment

Full-time permanent	749	787	787	792	5
Other than full-time permanent	0	0	0	0	0
Total	749	787	787	792	5

Authorized Positions:

Full-time permanent	852	875	875	881	6
Other than full-time permanent	0	0	0	0	0
Total	852	875	875	881	6

*Totals and deltas may not add due to rounding

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
National Weather Service
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
11.1 Full-time permanent compensation	467,386	492,238	519,662	519,946	284
11.3 Other than full-time permanent	1,021	1,076	1,124	1,124	0
11.5 Other personnel compensation	34,829	36,692	36,748	36,748	0
11.7 Military Personnel	0	0	0	0	0
11.9 Total personnel compensation	503,236	530,006	557,534	557,818	284
12.1 Civilian personnel benefits	197,049	207,541	216,553	216,653	100
12.2 Military personnel benefits	0	0	0	0	0
13 Benefits for former personnel	287	310	310	310	0
21 Travel and transportation of persons	7,111	7,679	7,755	7,755	0
22 Transportation of things	7,964	8,601	8,775	8,775	0
23.1 Rental payments to GSA	33,321	34,460	35,031	35,031	0
23.2 Rental payments to others	13,193	14,249	14,541	14,541	0
23.3 Communications, utilities, and misc. charges	51,846	53,992	55,094	55,094	0
24 Printing and reproduction	131	142	145	145	0
25.1 Advisory and assistance services	88,502	77,366	78,920	78,920	0
25.2 Other services from non-Federal sources	163,973	193,461	191,528	185,797	(5,731)
25.3 Other goods and services from Federal sources	5,790	6,253	6,379	6,629	250
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	208	224	229	229	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
26 Supplies and materials	51,476	55,194	56,258	56,258	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
National Weather Service
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)**

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
31 Equipment	12,317	13,967	14,243	15,359	1,116
32 Lands and structures	399	430	430	430	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	46,664	50,759	50,759	36,214	(14,545)
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	21	23	23	23	0
44 Refunds	0	0	0	0	0
99.9 Total obligations	1,183,487	1,254,658	1,294,508	1,275,982	(18,526)
Personnel Data					
Full-time Equivalent Employment					
Full-time permanent	4,294	4,374	4,374	4,376	2
Other than full-time permanent	0	0	0	0	0
Total	4,294	4,374	4,374	4,376	2
Authorized Positions:					
Full-time permanent	4,454	4,509	4,509	4,512	3
Other than full-time permanent	0	0	0	0	0
Total	4,454	4,509	4,509	4,512	3

*Totals and deltas may not add due to rounding

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
National Environmental Satellite, Data, and Information Service
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
11.1 Full-time permanent compensation	68,796	78,997	83,188	83,188	0
11.3 Other than full-time permanent	243	279	290	290	0
11.5 Other personnel compensation	6,606	7,591	7,602	7,602	0
11.7 Military Personnel	0	0	0	0	0
11.9 Total personnel compensation	75,645	86,867	91,080	91,080	0
12.1 Civilian personnel benefits	25,820	29,648	30,878	30,878	0
12.2 Military personnel benefits	0	0	0	0	0
13 Benefits for former personnel	4	5	5	5	0
21 Travel and transportation of persons	512	630	635	655	20
22 Transportation of things	159	195	198	198	0
23.1 Rental payments to GSA	16,791	17,139	17,426	17,426	0
23.2 Rental payments to others	589	724	737	737	0
23.3 Communications, utilities, and misc. charges	3,514	4,320	4,395	2,895	(1,500)
24 Printing and reproduction	57	69	70	70	0
25.1 Advisory and assistance services	75,744	91,899	92,998	92,998	0
25.2 Other services from non-Federal sources	62,286	83,650	84,651	88,329	3,678
25.3 Other goods and services from Federal sources	15,707	25,316	33,513	33,513	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	9,553	9,286	9,397	9,397	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
26 Supplies and materials	1,592	1,957	1,990	1,990	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
National Environmental Satellite, Data, and Information Service
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)**

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
31 Equipment	7,724	9,497	9,675	9,675	0
32 Lands and structures	396	486	486	486	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	23,122	16,341	16,341	14,091	(2,250)
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	5	6	6	6	0
44 Refunds	0	0	0	0	0
99.9 Total obligations	319,219	378,037	394,483	394,431	(52)
Personnel Data					
Full-time Equivalent Employment					
Full-time permanent	531	590	591	591	0
Other than full-time permanent	0	0	0	0	0
Total	531	590	591	591	0
Authorized Positions:					
Full-time permanent	586	622	623	623	0
Other than full-time permanent	0	0	0	0	0
Total	586	622	623	623	0

*Totals and deltas may not add due to rounding

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
Mission Support
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
11.1 Full-time permanent compensation	90,264	109,911	115,192	115,192	0
11.3 Other than full-time permanent	276	337	350	350	0
11.5 Other personnel compensation	2,890	3,516	3,520	3,520	0
11.7 Military Personnel	0	0	0	0	0
11.9 Total personnel compensation	93,431	113,764	119,062	119,062	0
12.1 Civilian personnel benefits	33,464	40,746	42,272	42,272	0
12.2 Military personnel benefits	0	0	0	0	0
13 Benefits for former personnel	19	23	23	23	0
21 Travel and transportation of persons	1,059	1,301	1,312	1,312	0
22 Transportation of things	157	193	196	196	0
23.1 Rental payments to GSA	9,114	9,586	9,807	9,807	0
23.2 Rental payments to others	2,681	3,296	3,355	3,355	0
23.3 Communications, utilities, and misc. charges	1,515	1,862	1,897	1,897	0
24 Printing and reproduction	114	140	142	142	0
25.1 Advisory and assistance services	20,785	24,627	24,771	24,771	0
25.2 Other services from non-Federal sources	62,054	79,398	79,864	83,232	3,368
25.3 Other goods and services from Federal sources	99,152	129,921	144,869	162,569	17,700
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	1	1	1	1	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
26 Supplies and materials	1,124	1,380	1,403	1,403	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
Mission Support
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)**

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
31 Equipment	1,570	1,925	1,961	1,961	0
32 Lands and structures	696	855	855	855	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	30,102	30,005	30,005	25,305	(4,700)
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	32	39	39	39	0
44 Refunds	0	0	0	0	0
99.9 Total obligations	357,069	439,061	461,833	478,201	16,368
Less Mandatory Obligations	(15,745)	(20,601)	(18,336)	(18,336)	0
Total Discretionary Obligations	341,324	418,460	443,497	459,865	16,368
 Personnel Data					
Full-time Equivalent Employment					
Full-time permanent	695	821	821	821	0
Other than full-time permanent	0	0	0	0	0
Total	695	821	821	821	0
 Authorized Positions:					
Full-time permanent	817	861	861	861	0
Other than full-time permanent	0	0	0	0	0
Total	817	861	861	861	0

*Totals and deltas may not add due to rounding

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
Office of Marine and Aviation Operations
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
11.1 Full-time permanent compensation	47,242	60,220	62,992	65,137	2,145
11.3 Other than full-time permanent	207	264	274	274	0
11.5 Other personnel compensation	14,592	18,608	18,631	19,607	976
11.7 Military Personnel	41,513	46,330	49,657	51,235	1,578
11.9 Total personnel compensation	103,554	125,422	131,554	136,253	4,699
12.1 Civilian personnel benefits	21,921	27,945	28,948	30,240	1,292
12.2 Military personnel benefits	7,405	7,855	8,133	9,277	1,144
13 Benefits for former personnel	31,712	32,759	32,997	32,997	0
21 Travel and transportation of persons	7,594	8,445	8,526	8,804	278
22 Transportation of things	2,001	2,225	2,269	2,392	123
23.1 Rental payments to GSA	834	925	939	939	0
23.2 Rental payments to others	5,465	6,077	6,198	6,198	0
23.3 Communications, utilities, and misc. charges	5,188	5,769	5,880	5,680	-200
24 Printing and reproduction	34	38	39	40	1
25.1 Advisory and assistance services	6,967	7,237	7,344	17,362	10,018
25.2 Other services from non-Federal sources	90,150	88,396	89,705	84,101	(5,604)
25.3 Other goods and services from Federal sources	10,399	11,064	11,228	11,429	201
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	92	102	104	104	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
26 Supplies and materials	29,569	28,669	28,524	30,985	2,461

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
Office of Marine and Aviation Operations
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)**

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
31 Equipment	1,345	1,495	1,526	1,644	118
32 Lands and structures	43	48	48	48	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	8,022	8,920	8,920	8,920	0
42 Insurance claims and indemnities	22	24	24	24	0
43 Interest and dividends	20	22	22	22	0
44 Refunds	0	0	0	0	0
99.9 Total obligations	332,336	363,437	372,928	387,459	14,531
Less Mandatory Obligations	(33,626)	(34,760)	(34,998)	(34,998)	0
Total Discretionary Obligations	298,710	328,677	337,930	352,461	14,531
Personnel Data					
Full-time Equivalent Employment					
Full-time permanent	992	1,154	1,161	1,195	34
Other than full-time permanent	0	0	0	0	0
Total	992	1,154	1,161	1,195	34
Authorized Positions:					
Full-time permanent	1,119	1,183	1,190	1,235	45
Other than full-time permanent	0	0	0	0	0
Total	1,119	1,183	1,190	1,235	45

*Totals and deltas may not add due to rounding

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
Enacted, 2023	462	401	1,762,468	1,775,468
Less: Other adjustments to base	(1)	7	(8,100)	(8,100)
Less: Carryover	0	0	0	0
2024 Base	461	408	1,754,368	1,767,368
Less: 2024 Program Changes	0	0	385,426	385,426
2024 Estimate	461	408	2,139,794	2,152,794

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)**

Comparison by activity/subactivity		2022 Actual		2023 Enacted		2024 Base		2024 Estimate		Increase/Decrease from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
National Ocean Service	Pos/BA	1	11,509	1	14,000	1	14,000	1	8,500	0	(5,500)
	FTE/OBL	1	11,376	1	14,000	1	14,000	1	8,500	0	(5,500)
National Marine Fisheries Service	Pos/BA	0	0	0	0	0	0	0	0	0	0
	FTE/OBL	0	509	0	0	0	0	0	0	0	0
Oceanic and Atmospheric Research	Pos/BA	3	193,044	4	100,000	4	100,000	4	108,500	0	8,500
	FTE/OBL	2	74,723	4	100,000	4	100,000	4	108,500	0	8,500
National Weather Service	Pos/BA	36	189,111	32	109,349	32	109,349	32	104,104	0	(5,245)
	FTE/OBL	25	125,678	31	109,349	31	109,349	31	104,104	0	(5,245)
National Environmental Satellite, Data, & Information Service	Pos/BA	365	1,284,618	354	1,330,119	353	1,322,019	353	1,679,490	0	357,471
	FTE/OBL	263	1,282,722	297	1,330,119	304	1,322,019	304	1,679,490	0	357,471
Mission Support	Pos/BA	3	57,740	2	90,000	2	90,000	2	145,700	0	55,700
	FTE/OBL	1	10,361	2	90,000	2	90,000	2	145,700	0	55,700
Office of Marine Aviation & Operations	Pos/BA	56	161,849	69	132,000	69	132,000	69	106,500	0	(25,500)
	FTE/OBL	42	122,872	66	132,000	66	132,000	66	106,500	0	(25,500)
Transfer to OIG	Pos/BA	0	0	0	0	0	0	0	0	0	0
	FTE/OBL	0	0	0	0	0	0	0	0	0	0
Other	Pos/BA	0	0	0	(13,000)	0	(13,000)	0	(13,000)	0	0
	FTE/OBL	0	0	0	0	0	0	0	0	0	0
Total	Pos/BA	464	1,897,871	462	1,762,468	461	1,754,368	461	2,139,794	0	385,426
	FTE/OBL	334	1,628,241	401	1,775,468	408	1,767,368	408	2,152,794	0	385,426

* FY 2023 Amount does include \$108.838 million in funds provided by the Disaster Supplemental Appropriations Act, 2023, designated as “base or discretionary funding designated as emergency,” but does not include \$327.701 million designated as “discretionary, emergency, Appropriations Committee.

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	2022 Actuals		2023 Enacted		2024 Base		2024 Estimate		Increase/Decrease from 2024 Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Discretionary Obligation	334	1,628,241	401	1,775,468	408	1,767,368	408	2,152,794	0	385,426
Total Obligations	334	1,628,241	401	1,775,468	408	1,767,368	408	2,152,794	0	385,426
Adjustments to Obligations:										
Deobligations	0	(49,674)	0	(13,000)	0	(13,000)	0	(13,000)	0	0
Unobligated balance, Expiring end of year	0	164	0	0	0	0	0	0	0	0
Unobligated Balance, EOY	0	609,905	0	0	0	0	0	0	0	0
Unobligated Balance Adj. SOY (start of	0	(287,739)	0	0	0	0	0	0	0	0
Unobligated Balance, Transferred	0	0	0	0	0	0	0	0	0	0
Collections	0	(908)	0	0	0	0	0	0	0	0
Rescission	0	0	0	0	0	0	0	0	0	0
Total Budget Authority	334	1,899,989	401	1,762,468	408	1,754,368	408	2,139,794	0	385,426
Financing from Transfers and Other:										
Unoblig Balance Rescission Adj Appn	0	0	0	0	0	0	0	0	0	0
Transfer from ORF to PAC	0	0	0	0	0	0	0	0	0	0
Transfer from PAC to ORF	0	1,905	0	0	0	0	0	0	0	0
Transfer to OIG	0	3,000	0	0	0	0	0	0	0	0
Net Appropriation	334	1,904,894	401	1,762,468	408	1,754,368	408	2,139,794	0	385,426

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Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
SUMMARY OF FINANCING
(Dollar amounts in thousands)

	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
Direct Discretionary Obligation	1,628,241	1,775,468	1,767,368	2,152,794	385,426
Direct Mandatory Obligation	17,923	18,160	6,571	6,571	0
Total Obligations	1,646,164	1,793,628	1,773,939	2,159,365	385,426
Adjustments and Obligations:					
Deobligations/Recoveries (Disc)	(49,674)	(13,000)	(13,000)	(13,000)	0
Collections	(908)	0	0	0	0
Unobligated balance, Expiring end of year	164	0	0	0	0
Unobligated Balance, EOY	609,905	0	0	0	0
Unobligated Balance Adj. SOY Disc	(287,739)	0	0	0	0
Unobligated Balance, SOY Mandatory	(40,046)	(23,221)	(11,161)	(11,161)	0
Unobligated Balance, EOY Mandatory	23,221	11,161	4,590	4,590	0
Deobligations/Recoveries (Mand)	(1,098)	0	0	0	0
Unobligated Balance, Transferred	0	0	0	0	0
Rescission	0	0	0	0	0
Total Budget Authority	1,899,989	1,768,568	1,754,368	2,139,794	385,426
Financing from Transfers and Other:					
Transfer from PAC to ORF	1,905	0	0	0	0
Transfer from ORF to PAC	0	0	0	0	0
Transfer to OIG	3,000	0	0	0	0
Spectrum Relocation Fund (Mand)	0	(6,100)	0	0	0
Unobligated Balance, Rescission	0	0	0	0	0
Net Appropriation	1,904,894	1,762,468	1,754,368	2,139,794	385,426

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Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
ADJUSTMENTS TO BASE
 (Dollar amounts in thousands)

	FTE	Amount
Transfers	(1)	(8,100)
Adjustment	8	13,000
Financing		(13,000)
Total, adjustments to base	7	(8,100)

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Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
11.1 Full-time permanent compensation	48,130	57,987	57,831	57,831	0
11.3 Other than full-time permanent	209	266	266	266	0
11.5 Other personnel compensation	1,354	1,652	1,652	1,652	0
11.7 Military Personnel	(0)	0	0	0	0
11.9 Total personnel compensation	49,693	59,905	59,749	59,749	0
12.1 Civilian personnel benefits	20,784	24,961	24,911	24,911	0
12.2 Military personnel benefits	0	0	0	0	0
13 Benefits for former personnel	9	10	10	10	0
21 Travel and transportation of persons	1,637	1,357	1,357	1,357	0
22 Transportation of things	229	83	83	83	0
23.1 Rental payments to GSA	5,710	5,908	5,908	5,908	0
23.2 Rental payments to others	148	151	151	151	0
23.3 Communications, utilities, and misc. charges	4,463	4,638	4,638	4,638	0
24 Printing and reproduction	61	68	68	68	0
25.1 Advisory and assistance services	308,952	323,999	322,000	368,986	46,986
25.2 Other services from non-Federal sources	240,177	296,592	287,002	283,710	(3,292)
25.3 Other goods and services from Federal sources	856,724	879,861	871,967	1,215,699	343,732
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	32,379	33,629	33,629	33,629	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
26 Supplies and materials	21,414	14,734	14,734	12,234	(2,500)

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
31 Equipment	35,948	34,334	34,334	31,334	(3,000)
32 Lands and structures	5,666	48,268	48,268	55,768	7,500
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	62,133	65,090	65,090	61,090	(4,000)
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	37	41	41	41	0
44 Refunds	0	0	0	0	0
99.9 Total obligations	1,646,164	1,793,628	1,773,939	2,159,365	385,426
Less Mandatory Obligations	(17,923)	(18,160)	(6,571)	(6,571)	0
Total Discretionary Obligations	1,628,241	1,775,468	1,767,368	2,152,794	385,426
Personnel Data					
Full-time Equivalent Employment					
Full-time permanent	334	401	408	408	0
Other than full-time permanent	0	0	0	0	0
Total	334	401	408	408	0
Authorized Positions:					
Full-time permanent	464	462	461	461	0
Other than full-time permanent	0	0	0	0	0
Total	464	462	461	461	0

*Totals and deltas may not add due to rounding

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
National Ocean Service
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
11.1 Full-time permanent compensation	145	150	150	150	0
11.3 Other than full-time permanent	(0)	(0)	(0)	(0)	0
11.5 Other personnel compensation	5	5	5	5	0
11.7 Military Personnel	0	0	0	0	0
11.9 Total personnel compensation	149	154	154	154	0
12.1 Civilian personnel benefits	53	55	55	55	0
12.2 Military personnel benefits	0	0	0	0	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	6	7	7	7	0
22 Transportation of things	0	0	0	0	0
23.1 Rental payments to GSA	22	28	28	28	0
23.2 Rental payments to others	0	0	0	0	0
23.3 Communications, utilities, and misc. charges	1	1	1	1	0
24 Printing and reproduction	0	0	0	0	0
25.1 Advisory and assistance services	185	229	229	229	0
25.2 Other services from non-Federal sources	800	1,031	1,031	1,031	0
25.3 Other goods and services from Federal sources	5	6	6	6	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
26 Supplies and materials	6	7	7	7	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
National Ocean Service
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)**

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
31 Equipment	3,703	4,584	4,584	3,084	(1,500)
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	6,445	7,896	7,896	3,896	(4,000)
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99.9 Total obligations	11,376	14,000	14,000	8,500	(5,500)
Personnel Data					
Full-time Equivalent Employment					
Full-time permanent	1	1	1	1	0
Other than full-time permanent	0	0	0	0	0
Total	1	1	1	1	0
Authorized Positions:					
Full-time permanent	1	1	1	1	0
Other than full-time permanent	0	0	0	0	0
Total	1	1	1	1	0

*Totals and deltas may not add due to rounding

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
National Marine Fisheries Service
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)**

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
11.1 Full-time permanent compensation	12	0	0	0	0
11.3 Other than full-time permanent	(0)	0	0	0	0
11.5 Other personnel compensation	0	0	0	0	0
11.7 Military Personnel	0	0	0	0	0
11.9 Total personnel compensation	13	0	0	0	0
12.1 Civilian personnel benefits	5	0	0	0	0
12.2 Military personnel benefits	0	0	0	0	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	0	0	0	0	0
22 Transportation of things	0	0	0	0	0
23.1 Rental payments to GSA	1	0	0	0	0
23.2 Rental payments to others	0	0	0	0	0
23.3 Communications, utilities, and misc. charges	0	0	0	0	0
24 Printing and reproduction	0	0	0	0	0
25.1 Advisory and assistance services	6	0	0	0	0
25.2 Other services from non-Federal sources	478	0	0	0	0
25.3 Other goods and services from Federal sources	0	0	0	0	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
26 Supplies and materials	6	0	0	0	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
National Marine Fisheries Service
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)**

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
31 Equipment	0	0	0	0	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	0	0	0	0	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99.9 Total obligations	509	0	0	0	0
Personnel Data					
Full-time Equivalent Employment					
Full-time permanent	0	0	0	0	0
Other than full-time permanent	0	0	0	0	0
Total	0	0	0	0	0
Authorized Positions:					
Full-time permanent	0	0	0	0	0
Other than full-time permanent	0	0	0	0	0
Total	0	0	0	0	0

*Totals and deltas may not add due to rounding

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
Office of Oceanic and Atmospheric Research
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
11.1 Full-time permanent compensation	226	379	379	379	0
11.3 Other than full-time permanent	(0)	0	0	0	0
11.5 Other personnel compensation	7	12	12	12	0
11.7 Military Personnel	0	0	0	0	0
11.9 Total personnel compensation	234	392	392	392	0
12.1 Civilian personnel benefits	84	141	141	141	0
12.2 Military personnel benefits	0	0	0	0	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	1	2	2	2	0
22 Transportation of things	6	0	0	0	0
23.1 Rental payments to GSA	23	41	41	41	0
23.2 Rental payments to others	0	1	1	1	0
23.3 Communications, utilities, and misc. charges	498	579	579	579	0
24 Printing and reproduction	0	0	0	0	0
25.1 Advisory and assistance services	625	1,312	1,312	1,312	0
25.2 Other services from non-Federal sources	16,769	39,626	39,626	49,626	10,000
25.3 Other goods and services from Federal sources	45,930	45,327	45,327	45,327	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
26 Supplies and materials	814	588	588	588	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
Office of Oceanic and Atmospheric Research
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)**

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
31 Equipment	5,769	8,345	8,345	6,845	(1,500)
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	3,969	3,646	3,646	3,646	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	1	1	1	0
44 Refunds	0	0	0	0	0
99.9 Total obligations	74,723	100,000	100,000	108,500	8,500

Personnel Data

Full-time Equivalent Employment

Full-time permanent	2	4	4	4	0
Other than full-time permanent	0	0	0	0	0
Total	2	4	4	4	0

Authorized Positions:

Full-time permanent	3	4	4	4	0
Other than full-time permanent	0	0	0	0	0
Total	3	4	4	4	0

*Totals and deltas may not add due to rounding

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
National Weather Service
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)**

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
11.1 Full-time permanent compensation	4,902	5,114	5,114	5,114	0
11.3 Other than full-time permanent	14	15	15	15	0
11.5 Other personnel compensation	110	113	113	113	0
11.7 Military Personnel	(0)	0	0	0	0
11.9 Total personnel compensation	5,026	5,242	5,242	5,242	0
12.1 Civilian personnel benefits	2,783	2,927	2,927	2,927	0
12.2 Military personnel benefits	0	0	0	0	0
13 Benefits for former personnel	2	1	1	1	0
21 Travel and transportation of persons	254	256	256	256	0
22 Transportation of things	38	32	32	32	0
23.1 Rental payments to GSA	1,312	1,328	1,328	1,328	0
23.2 Rental payments to others	121	124	124	124	0
23.3 Communications, utilities, and misc. charges	3,525	3,601	3,601	3,601	0
24 Printing and reproduction	1	1	1	1	0
25.1 Advisory and assistance services	12,514	11,200	11,200	11,200	0
25.2 Other services from non-Federal sources	68,495	64,116	64,116	58,871	(5,245)
25.3 Other goods and services from Federal sources	5,139	5,089	5,089	5,089	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
26 Supplies and materials	15,361	9,765	9,765	9,765	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
National Weather Service
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)**

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
31 Equipment	7,630	2,221	2,221	2,221	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	3,473	3,439	3,439	3,439	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	5	5	5	5	0
44 Refunds	0	0	0	0	0
99.9 Total obligations	125,678	109,349	109,349	104,104	(5,245)

Personnel Data

Full-time Equivalent Employment

Full-time permanent	25	31	31	31	0
Other than full-time permanent	0	0	0	0	0
Total	25	31	31	31	0

Authorized Positions:

Full-time permanent	36	32	32	32	0
Other than full-time permanent	0	0	0	0	0
Total	36	32	32	32	0

*Totals and deltas may not add due to rounding

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
National Environmental Satellite, Data and Information Service
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)**

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
11.1 Full-time permanent compensation	37,502	43,926	43,770	43,770	0
11.3 Other than full-time permanent	145	170	170	170	0
11.5 Other personnel compensation	1,039	1,216	1,216	1,216	0
11.7 Military Personnel	0	0	0	0	0
11.9 Total personnel compensation	38,685	45,313	45,157	45,157	0
12.1 Civilian personnel benefits	15,621	18,298	18,248	18,248	0
12.2 Military personnel benefits	0	0	0	0	0
13 Benefits for former personnel	6	6	6	6	0
21 Travel and transportation of persons	789	820	820	820	0
22 Transportation of things	16	16	16	16	0
23.1 Rental payments to GSA	3,860	4,006	4,006	4,006	0
23.2 Rental payments to others	18	18	18	18	0
23.3 Communications, utilities, and misc. charges	344	358	358	358	0
24 Printing and reproduction	22	23	23	23	0
25.1 Advisory and assistance services	275,098	285,695	285,695	291,695	6,000
25.2 Other services from non-Federal sources	54,225	54,301	54,301	62,040	7,739
25.3 Other goods and services from Federal sources	804,693	828,476	820,582	1,164,314	343,732
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	32,354	33,602	33,602	33,602	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
26 Supplies and materials	653	678	678	678	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
National Environmental Satellite, Data and Information Service
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)**

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
31 Equipment	4,501	4,675	4,675	4,675	0
32 Lands and structures	3,628	3,768	3,768	3,768	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	48,191	50,049	50,049	50,049	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	17	18	18	18	0
44 Refunds	0	0	0	0	0
99.9 Total obligations	1,282,722	1,330,119	1,322,019	1,679,490	357,471
Personnel Data					
Full-time Equivalent Employment					
Full-time permanent	263	297	304	304	0
Other than full-time permanent	0	0	0	0	0
Total	263	297	304	304	0
Authorized Positions:					
Full-time permanent	365	354	353	353	0
Other than full-time permanent	0	0	0	0	0
Total	365	354	353	353	0

*Totals and deltas may not add due to rounding

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
Mission Support
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
11.1 Full-time permanent compensation	265	161	161	161	0
11.3 Other than full-time permanent	(0)	0	0	0	0
11.5 Other personnel compensation	9	5	5	5	0
11.7 Military Personnel	0	0	0	0	0
11.9 Total personnel compensation	273	166	166	166	0
12.1 Civilian personnel benefits	98	60	60	60	0
12.2 Military personnel benefits	0	0	0	0	0
13 Benefits for former personnel	0	1	1	1	0
21 Travel and transportation of persons	402	74	74	74	0
22 Transportation of things	137	0	0	0	0
23.1 Rental payments to GSA	27	8	8	8	0
23.2 Rental payments to others	6	6	6	6	0
23.3 Communications, utilities, and misc. charges	2	0	0	0	0
24 Printing and reproduction	1	5	5	5	0
25.1 Advisory and assistance services	12,321	16,750	14,751	58,737	43,986
25.2 Other services from non-Federal sources	10,154	45,739	36,149	40,363	4,214
25.3 Other goods and services from Federal sources	849	846	846	846	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
26 Supplies and materials	1,134	0	0	0	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
Mission Support
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)**

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
31 Equipment	838	0	0	0	0
32 Lands and structures	2,038	44,500	44,500	52,000	7,500
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	0	0	0	0	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	3	5	5	5	0
44 Refunds	0	0	0	0	0
99.9 Total obligations	28,284	108,160	96,571	152,271	55,700
Less Mandatory Obligations	(17,923)	(18,160)	(6,571)	(6,571)	0
Total Discretionary Obligations	10,361	90,000	90,000	145,700	55,700
 Personnel Data					
Full-time Equivalent Employment					
Full-time permanent	1	2	2	2	0
Other than full-time permanent	0	0	0	0	0
Total	1	2	2	2	0
 Authorized Positions:					
Full-time permanent	3	2	2	2	0
Other than full-time permanent	0	0	0	0	0
Total	3	2	2	2	0

*Totals and deltas may not add due to rounding

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
Office of Marine and Aviation Operations
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)**

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
11.1 Full-time permanent compensation	5,079	8,256	8,256	8,256	0
11.3 Other than full-time permanent	50	81	81	81	0
11.5 Other personnel compensation	185	301	301	301	0
11.7 Military Personnel	0	0	0	0	0
11.9 Total personnel compensation	5,313	8,638	8,638	8,638	0
12.1 Civilian personnel benefits	2,140	3,479	3,479	3,479	0
12.2 Military personnel benefits	0	0	0	0	0
13 Benefits for former personnel	1	1	1	1	0
21 Travel and transportation of persons	184	198	198	198	0
22 Transportation of things	32	35	35	35	0
23.1 Rental payments to GSA	463	497	497	497	0
23.2 Rental payments to others	3	3	3	3	0
23.3 Communications, utilities, and misc. charges	92	99	99	99	0
24 Printing and reproduction	36	39	39	39	0
25.1 Advisory and assistance services	8,203	8,812	8,812	5,812	(3,000)
25.2 Other services from non-Federal sources	89,258	91,779	91,779	71,779	(20,000)
25.3 Other goods and services from Federal sources	108	116	116	116	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	26	27	27	27	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
26 Supplies and materials	3,439	3,695	3,695	1,195	(2,500)

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
Office of Marine and Aviation Operations
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)**

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
31 Equipment	13,507	14,510	14,510	14,510	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	56	60	60	60	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	11	12	12	12	0
44 Refunds	0	0	0	0	0
99.9 Total obligations	122,872	132,000	132,000	106,500	(25,500)
Personnel Data					
Full-time Equivalent Employment					
Full-time permanent	42	66	66	66	0
Other than full-time permanent	0	0	0	0	0
Total	42	66	66	66	0
Authorized Positions:					
Full-time permanent	56	69	69	69	0
Other than full-time permanent	0	0	0	0	0
Total	56	69	69	69	0

*Totals and deltas may not add due to rounding

**Department of Commerce
National Oceanic and Atmospheric Administration
National Ocean Service
Budget Estimates, Fiscal Year 2024**

Executive Summary

For FY 2024, NOAA requests a total of \$713,709,000 and 1,291 FTE/ 1,358 positions for the National Ocean Service (NOS), including a net decrease of \$56,700,000 and an increase of 21 FTE/ 27 positions in program changes.

NOS enables the safe, sustainable, and efficient use of marine and coastal resources across the range of significant U.S. economic sectors. Those sectors include maritime commerce and marine transportation, fishing and aquaculture, energy development, coastal recreation, and inland export and import industries, which depend on the flow of goods through seaports. NOS's products and services sustain livelihoods, reduce risk, and facilitate adaptation to change. Its earth observations and navigation products are used daily by ship pilots, port managers, surveyors, resource managers, and airports. When oil spills, chemical releases, and marine debris damage coastal resources, NOS's scientific expertise is essential to emergency response and long-term recovery.

While coastal and Great Lakes counties represent less than 10 percent of the land area of the U.S., they are home to over 40 percent of our country's population¹. Supporting them and other communities across the Nation, the U.S. oceans and Great Lakes economy consists of over 164,000 business establishments, employing 3.5 million people, paying \$149 billion in wages, and producing \$351 billion in goods and services². While these communities and their economies depend on marine resources, they also face unique environmental threats:

- Coastal storms threaten lives and destroy property
- Tidal flooding damages infrastructure and forces costly adaptations
- Ecological hazards, such as harmful algal blooms, disrupt fishing, water supplies, and tourism
- Production and transport of fossil fuels, while essential to the U.S. economy, creates a constant risk of spills, including catastrophic ones like the Deepwater Horizon oil spill
- The same coastal industries that are the engines of thriving ocean economies also generate port congestion, marine pollution, and navigation hazards

¹ <https://oceanservice.noaa.gov/facts/population.html>

² National Oceanic and Atmospheric Administration (NOAA), Office for Coastal Management. 2022. "NOAA Report on the U.S. Marine Economy." Charleston, SC: NOAA Office for Coastal Management. Available at: <http://coast.noaa.gov/digitalcoast/training/econreport.html>

**Department of Commerce
National Oceanic and Atmospheric Administration
National Ocean Service
Budget Estimates, Fiscal Year 2024**

As a result, coastal communities, governments, and businesses need reliable data and tools to help make informed decisions in the face of climate threats. NOS helps people and places prepare for, respond to, and recover from these coastal disasters. NOS provides communities with data, observations, modeling, tools, and training to understand, forecast and respond to the local impacts of climate change, sea level change and coastal flooding, harmful algal blooms, extreme natural events, and changing ecosystem conditions. NOS promotes smart resource management through technical assistance, applied research, and partnership building. NOS also plays a leading role in protecting the Nation's special marine places, including the National Marine Sanctuaries System, the National Estuarine Research Reserve System, and the National System of Marine Protected Areas.

Significant Adjustments:

Inflationary Adjustments

NOAA's FY 2024 Base includes a net increase of \$13,347,000 and 0 FTE/ 0 positions to account for the full funding requirement for certain inflationary adjustments to current programs for NOS activities. This includes inflationary increases for labor and non-labor activities including benefits and rent charges from the General Services Administration.

Department of Commerce
National Oceanic and Atmospheric Administration
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

		2022 Actual		2023 Enacted		2024 Base		2024 Estimate		Increase/Decrease from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
NATIONAL OCEAN SERVICE											
Navigation, Observations and Positioning	Pos/BA	646	312,072	647	259,702	647	266,190	657	268,862	10	2,672
	FTE/OBL	572	267,312	613	259,702	613	266,190	621	268,862	8	2,672
Coastal Science and Assessment	Pos/BA	278	141,445	302	119,000	302	122,071	304	125,861	2	3,790
	FTE/OBL	250	118,777	283	119,000	283	122,071	285	125,861	2	3,790
Ocean and Coastal Management and Services	Pos/BA	358	480,623	349	300,720	349	304,508	364	284,519	15	(19,989)
	FTE/OBL	309	407,585	341	300,720	341	304,508	352	284,519	11	(19,989)
NOAA Community Project Funding/NOAA Special Projects	Pos/BA	0	25,602	0	37,673	0	37,673	0	0	0	(37,673)
	FTE/OBL	0	16,870	0	37,673	0	37,673	0	0	0	(37,673)
TOTAL NOS - ORF	Pos/BA	1,282	959,742	1,298	717,095	1,298	730,442	1,325	679,242	27	(51,200)
	FTE/OBL	1,131	810,544	1,237	717,095	1,237	730,442	1,258	679,242	21	(51,200)
NOS Construction	Pos/BA	1	11,509	1	14,000	1	14,000	1	8,500	0	(5,500)
	FTE/OBL	1	11,376	1	14,000	1	14,000	1	8,500	0	(5,500)
TOTAL NOS - PAC	Pos/BA	1	11,509	1	14,000	1	14,000	1	8,500	0	(5,500)
	FTE/OBL	1	11,376	1	14,000	1	14,000	1	8,500	0	(5,500)
Damage Assessment and Restoration Revolving Fund	Pos/BA	30	5,842	30	5,996	30	6,000	30	6,000	0	0
	FTE/OBL	53	94,954	30	83,060	30	78,915	30	78,915	0	0
Sanctuaries Asset Forfeiture Fund	Pos/BA	0	423	0	591	0	600	0	600	0	0
	FTE/OBL	0	231	0	1,216	0	660	0	660	0	0
Gulf Coast Ecosystem Restoration Fund	Pos/BA	2	0	2	0	2	0	2	0	0	0
	FTE/OBL	3	5,705	2	8,982	2	9,467	2	9,467	0	0
TOTAL NOS	Pos/BA	1,315	977,516	1,331	737,682	1,331	751,042	1,358	694,342	27	(56,700)
	FTE/OBL	1,188	922,810	1,270	824,353	1,270	833,484	1,291	776,784	21	(56,700)

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		2024 Base		2024 Estimate		Decrease from 2024 Base	
		<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>
NOAA Community Project Funding/	Pos./BA	0	37,673	0	0	0	(37,673)
NOAA Special Projects	FTE/OBL	0	37,673	0	0	0	(37,673)

Terminate NOAA Community Project Funding/NOAA Special Projects (-\$37,673, 0 FTE/0 Positions) – This program change removes funding for one-time congressionally directed projects provided in the FY 2023 enacted bill.

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Activity: Navigation, Observations and Positioning

Goal Statement

Provides foundational navigational, geodetic, and oceanographic data to the public and private sectors to inform decisions that protect life, property and the environment, and ensures the flow of commerce to support growth of the American Blue Economy.

Base Program

The following NOS Offices are responsible for conducting the activities held within Navigation, Observations and Positioning:

- **Office of Coast Survey (OCS)** – is responsible for surveying U.S. waters, establishing maritime boundaries for the U.S. Exclusive Economic Zone (EEZ), and delivering navigation products, services, and marine geospatial data to the Nation. The OCS Director serves as the U.S. National Hydrographer representing the U.S. interests in international fora. <https://nauticalcharts.noaa.gov/>
- **National Geodetic Survey (NGS)** – manages the National Spatial Reference System (NSRS), delineates the National Shoreline for nautical charts, and sets guidelines for all foundational positioning, geodesy, and coastal mapping activities. <https://geodesy.noaa.gov/>
- **Center for Operational Oceanographic Products and Services (CO-OPS)** – is the authoritative source for accurate, reliable, and timely tides, water level and currents information. CO-OPS provides the framework for vertical tidal datums across the U.S. and maintains long-term sea level trends for the Nation. <https://tidesandcurrents.noaa.gov/>
- **Integrated Ocean Observing System (IOOS)** – is an integrated network of people and technology gathering observing data, developing tracking and predictive tools, and delivering tailored products to regional stakeholders to benefit the economy, the environment, and public safety. <https://ioos.noaa.gov/>

The data and services provided by these Offices support applications across many NOAA mission areas, including safe and efficient navigation and transportation, coastal resilience, climate readiness, infrastructure, emergency planning and response, place-based conservation and restoration, recreation and tourism, and living marine resource management, among others.

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Statement of Operating Objectives

Schedule and Milestones:

OCS

- Conduct 145 hydrographic surveys that provide data for use in electronic navigational charts (annually)
- Complete 750 newly reschemed electronic navigational chart cells (FY 2024 – FY 2026)
- Engage broadly with stakeholders through regional mapping campaigns and other venues, such as the Alaska Mapping Executive Committee, to expand mapping partnerships, identify mapping priorities, and coordinate on ocean and coastal mapping data collection (FY 2024)

NGS

- Update seven percent of the National Shoreline and 33 percent of ports identified as having high priority shoreline mapping needs to support Precision Marine Navigation and 1,200 square nautical miles of nearshore topographic-bathymetric (topobathy) data from lidar (FY 2024)
- Complete the build out of the National Bathymetric Source database for the west coast (California, Oregon, and Washington region), in support of the BlueTopo database that was launched in FY 2022 (FY 2024 – FY 2025)
- Expand the Foundation Continuously Operating Reference Stations (CORS) Network by building new stations, adopting high-quality stations from Federal partner networks, and upgrading stations to the strict International Global Navigation Satellite System (GNSS) Service standard (FY 2024)
- Release a new geoid model that includes all available Gravity for the Redefinition of the American Vertical Datum (GRAV-D) data (FY 2025)
- Enhance coverage for Vdatum for Alaska (FY 2024 – FY 2028)

CO-OPS

- Establish one new Physical Oceanographic Real-Time Systems (PORTS) in Pearl Harbor, Honolulu, HI (FY 2024)
- Install Microwave Water Level sensors at four National Water Level Observation Network (NWLON) stations to advance the transition to new technology of the primary water level sensor (FY 2024)
- Conduct comprehensive annual NWLON maintenance including precise leveling to ensure station accuracy and stability at 160 of 210 NWLON stations

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- Leveraging historic NWLON observations, develop animated sea level trend plots to show changes in sea level rise (FY 2024)
- Conduct the second year of a two-year tidal current survey in the Columbia River to support safe and efficient maritime commerce. (FY 2024)
- Complete an Advanced Circulation Model coastal water level reanalysis of the east and gulf coasts (FY 2024 – FY 2025)

IOOS

- Partner with OAR's Ocean Acidification Program to deploy and operate ocean acidification sensors (buoys, shore stations, gliders) on regional Integrated Ocean Observing System (IOOS) platforms (ongoing)
- Transition demonstrated marine sensor tools and technologies into operations (ongoing)
- Maintain existing levels of glider-based subsurface monitoring in every IOOS regional coastal observing system (ongoing)
- Maintain the network of surface current observing platforms producing real time observations and informing forecasts along the U.S. coastline (ongoing)
- Continue the development of a National Harmful Algal Bloom (HAB) Observing Network (NHABON) via ten pilot projects and a HAB testbed. Coordinate pilots with the National Centers for Coastal Ocean Science (NCCOS) research goals and activities (ongoing)

Deliverables:

- 2,950 square nautical miles of hydrographic data collected annually
- 5,000 new source data applications added to the suite of electronic navigational charts
- High quality real-time oceanographic and meteorological observations provided 24 hours per day, 365 days per year, for 38 existing NOAA PORTS® systems to support safe and efficient maritime commerce in our Nation's seaports
- 3D coastal modeling in the west coast and Great Lakes regions developed and implemented to support marine transportation
- Over 95 percent of water level data made available to the public annually
- Official U.S. Tidal Current Predictions maintained and provided to the public

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- Integrated High Tide Bulletin with both seasonal and annual flooding data incorporated into the Coastal Inundation Dashboard³
- GRAV-D data for the U.S. and its territories
- New tidal current predictions provided for the Delaware Bay and River
- Enhanced high-resolution bathymetry (IHO S-102) and water level (IHO S-104) forecast guidance provided for the Precision Marine Navigation processing and dissemination system
- Comprehensive data management and cyberinfrastructure system utilized to enable the dissemination of diverse and distributed ocean observing data, products and services by IOOS
- At least one regional mapping summit
- A U.S. mapping collaboration platform to sharing mapping plans, progress, connect with partners, and identify priorities⁴

³ <https://tidesandcurrents.noaa.gov/inundationdb/>

⁴ <http://Fedmap.seasketch.org>

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Explanation and Justification

Comparison by subactivity		2022		2023		2024	
		Actual		Enacted		Base Program	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Navigation, Observations and Positioning	Pos/BA	622	225,218	623	184,702	623	191,077
	FTE/OBL	553	190,163	589	184,702	589	191,077
Hydrographic Survey Priorities/Contracts	Pos/BA	24	31,685	24	32,500	24	32,613
	FTE/OBL	19	31,200	24	32,500	24	32,613
IOOS Regional Observations	Pos/BA	0	55,169	0	42,500	0	42,500
	FTE/OBL	0	45,949	0	42,500	0	42,500
Total Activity	Pos/BA	646	312,072	647	259,702	647	266,190
	FTE/OBL	572	267,312	613	259,702	613	266,190

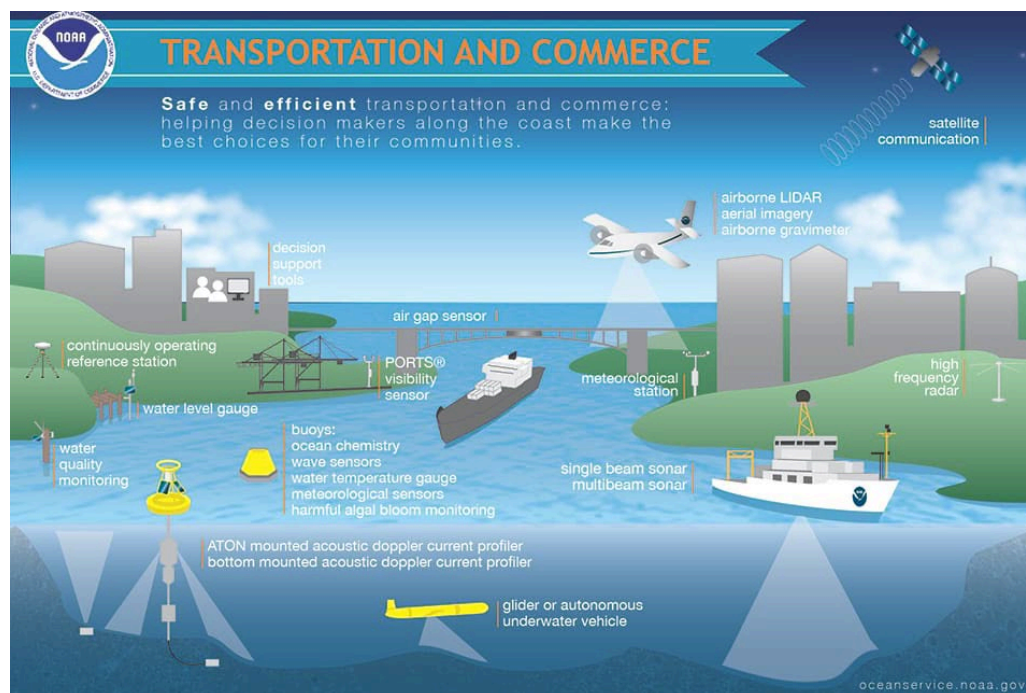
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Navigation, Observations and Positioning

The Navigation, Observations and Positioning subactivity directly supports the American Blue Economy's commerce, transportation, and infrastructure, and enables the efficient transportation of over \$1.5 trillion worth of products moving through U.S. ports each year⁵. Every ship moving in and out of U.S. ports relies on navigation charts and water level information that NOS alone provides. All mapping, charting, and transportation activities and infrastructure are founded on a reliable, accurate national coordinate system called the National Spatial Reference System⁶. NOS is solely responsible for maintaining that system, which provides more than \$2.4 billion in potential annual benefits to the U.S. economy⁷.

Businesses in the maritime community rely on NOS for a range of decisions, from how much cargo to load to choosing the safest and most efficient route between two points. They use NOS data, tools, and services to plan seasonally for ship schedules to service global trade more safely and efficiently.

Navigation, Observation and Positioning activities are grouped into three categories: Observations and Data Management, Products and Services, and Integration and Partnerships.



⁵ <https://coast.noaa.gov/states/fast-facts/ports.html>

⁶ <https://oceanservice.noaa.gov/facts/nsrs.html>

⁷ https://www.ngs.noaa.gov/PUBS_LIB/Socio-EconomicBenefitsOfCORSandGRAV-D.pdf

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Observations and Data Management

Foundational data is essential to plan for and adapt to changing environmental conditions, enabling coastal decision-makers to make informed decisions to prepare their communities from the risks of coastal inundation and the consequences of sea level rise. It is relied upon by nearly every Federal agency, state, local, and Tribal government, academic, non-profit, or private sector actor working along our Nation's coasts. Ocean, coastal and geodetic observations and data are the foundation of built infrastructure and the Blue Economy, supporting safe and efficient transportation of air, land, and sea commerce.

Hydrographic Surveys and Data Management: Complete and up-to-date hydrographic data is central to developing accurate nautical charts and ensuring the safety of life at sea, and promoting efficient maritime commerce. OCS conducts hydrographic/seafloor surveys to understand the depth of and habitat features on the seafloor onboard NOAA survey vessels and survey contract vessels (<https://nauticalcharts.noaa.gov/about/docs/about/ocean-mapping-capabilities.pdf>). It acquires and processes the Nation's bathymetry, and is the authoritative source for all offshore depth information within the U.S. EEZ. Using its National Ocean Mapping Strategy to guide the application of its expertise and capabilities, OCS uses smart management, strategic partnerships, and investment in force-multiplying technology to survey the Nation's coasts and oceans (<https://nauticalcharts.noaa.gov/learn/docs/hydrographic-surveying/ocs-ocean-mapping-strategy.pdf>). Survey priorities are determined using a variety of inputs including the Hydrographic Health Model, and annual survey year plans are made publicly available, with real time updates as progress is made with each survey project (<https://storymaps.arcgis.com/stories/33758b0990bb4e23a7b61323db3ae670>). The data is used to update nautical charts and develop hydrographic models, following the "Map Once Use Many Times" principle, and the bathymetry collected serves many uses beyond nautical charting - see the Products and Services section below (NOS – 13).

Shoreline Mapping: NGS's Coastal Mapping Program maps and defines the Nation's 95,000-mile shoreline and near-shore bathymetry using tide coordinated, geo-referenced data from aerial photographs, high-resolution satellite imagery, and aerial topobathy lidar (<https://geodesy.noaa.gov/RSD/cmp.shtml>). These data are essential for nautical charts and the determination of U.S. maritime boundaries such as the EEZ, and are also used in applications such as inundation modeling, benthic habitat mapping, marine debris detection, and coastal zone management (<https://oceanservice.noaa.gov/geodesy/aerialphotos/>). Furthermore, airborne and satellite data used in shoreline mapping is made available in products that support coastal change analysis, inundation mapping, storm surge modeling and airport obstruction charts (https://www.ngs.noaa.gov/RSD/cmp_data.shtml). Post-incident data collection missions at the coast assist first responders in identifying critical coastal impacts and plan response actions to hurricanes, oil spills, and other extreme events (<https://storms.ngs.noaa.gov/>).

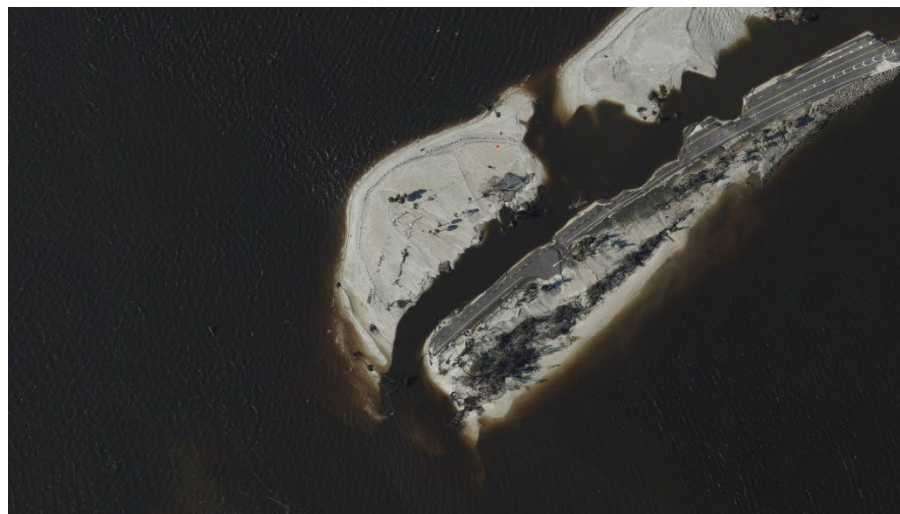
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Following Hurricane Ian in 2022, NGS collected more than 13,000 post-storm images after flying 16,000 square kilometers, which NGS provided to the public on its hurricane areal imagery viewer⁸. NOAA saw a sharp increase in website traffic during this time, as users regularly consulted NGS's aerial imagery to assess damages in the wake of Hurricane Ian. Thanks to the utility of this imagery, users on Twitter called NOS "a fantastic public service," and stated that "peace of mind wouldn't have been possible without you."

Continuously Operating Reference Station (CORS) Network:

NGS serves as the U.S. authority in the management of public data from over 1,700 continuous-Global Navigation Satellite System (GNSS) receivers located throughout the U.S. and territories. This information is made publicly available for surveyors and engineers. NOAA has partnered with NASA and the National Science Foundation to establish a network of Federally-owned CORS (known as Foundation CORS) using the most modern GNSS receivers and antennas, to contribute to a more consistent worldwide spatial reference frame, improving forecasts of global sea level rise and informing climate resilience planning. (<https://geodesy.noaa.gov/CORS/>)

Gravity Program: NGS observes and analyzes the Nation's gravity field to define a geoid height model - a model of global mean sea level that is used to measure precise surface elevations. Within the Gravity Program, GRAV-D is a long-term project to collect airborne gravity data and redefine the geoid height model for the Nation, ultimately reducing height errors in the current vertical reference frame. This system helps communities improve resilience by determining where water flows, allowing them to make accurate inundation models and floodplain maps. In 2019, a socio-economic study found that the NGS Gravity Program alone is worth between \$4.2 billion and \$13.3 billion over ten years. (<https://geodesy.noaa.gov/GRAV-D/>)



Sanibel Causeway, National Geodetic Survey aerial assessment imagery collected on Sept. 29, 2022.

⁸ <https://oceanservice.noaa.gov/news/sep22/ngs-storm-imagery-ian.html>

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National Water Level Observation Network (NWLON): The NWLON is the foundation of the comprehensive system for observing, communicating, and assessing the impact of changing water levels nationwide. With a network of 210 long-term, continuously operating water level stations throughout the Nation's Great Lakes (non-tidal), estuaries, oceans and U.S. territories, the NWLON is the "go to" source for government and commercial sector navigation, recreation, and coastal ecosystem management. It maintains the Nation's water level reference framework to which all water elevations and marine boundaries are based on. From navigation to engineering to preservation, water levels are one of the most critical pieces of oceanographic data used to protect life, property, and the environment. NWLON water levels and meteorological information are integrated into NOAA PORTS® to support safe and efficient maritime commerce, and are also used by the NWS to meet its mission for coastal hazards and tsunami monitoring. (https://tidesandcurrents.noaa.gov/water_level_info.html)

Physical Oceanographic Real Time System (PORTS®): PORTS® is an integrated system of sensors in and around U.S. seaports that provide commercial vessel operators with accurate and reliable real-time information about environmental conditions. PORTS® data is made available to promote navigation safety, improve the efficiency of U.S. ports and harbors, and ensure the protection of coastal marine resources. It has been proven to improve the safety and efficiency of maritime commerce and coastal resource management, as well as enhance navigational safety by reducing groundings and collisions for both commercial and recreational vessels. A study published in 2014 looking at the value of specific safety and efficiency benefits realized at several operational PORTS® estimated as much as \$300 million annual benefit from an expanded PORTS® system, serving all 175 major U.S. seaports. This same study found that the utilization of the PORTS® decision support tool decreased groundings by 59 percent, reduced property damage by 37 percent, and reduced deaths by 60 percent⁹. (https://tidesandcurrents.noaa.gov/ports_info.html)

IOOS Observations, Data Management and Cyberinfrastructure: The U.S. IOOS Office oversees the acquisition, integration, and distribution of ocean, coastal, and Great Lakes data sets including those from the 11 Federally-certified IOOS Regional Associations (RAs), and other interagency, private, academic, and nonprofit partners. IOOS ensures that the observations from its Federally-certified RAs meet the proper technical standards for data quality, user accessibility and interoperability, enabling modelers, researchers, meteorologists, and other stakeholders to develop new and value-added products. Through the integration of marine data streams, IOOS data management enhances the utility of ocean observations from across the distributed regional network and increases both the discovery and accessibility of ocean information to the public. This increased accessibility of ocean information supports a range of federal missions including maritime navigation, public health and safety, coastal resilience, fisheries, marine conservation and protected areas, and ocean and Great Lakes resource management.

⁹ <https://oceanservice.noaa.gov/facts/ports.html>

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Uncrewed Systems: OCS and NGS have been investigating the use of uncrewed systems to provide more efficient and effective hydrographic and lidar aerial survey operations for over 19 years, encompassing a wide variety of system types and environments. Current efforts focus on operational implementation of Uncrewed Surface Vessels (USVs) and Uncrewed Aerial Systems (UAS), as was done on the NOAA Ship Thomas Jefferson over in August 2022¹⁰. USVs provide benefits over crewed launches, in particular with high endurance models that can survey independently for multiple days and in higher sea states.
(<https://nauticalcharts.noaa.gov/learn/autonomous-systems.html>)

Geospatial Data Management: NOAA provides access to a variety of environmental data products, tools, and models, including those from partner organizations. By storing information in databases and delivering it through open-access mapping applications NOAA ensures its stakeholders - as well as the general public - can easily access and process millions of data files every year. These databases include the National Bathymetric Source and Nautical Charting Database within OCS, the National Spatial Reference System (NSRS) database within NGS (<https://geodesy.noaa.gov/NGSDataExplorer/>), the robust Application Program Interfaces and GIS data portals containing real-time and historic CO-OPS data (https://tidesandcurrents.noaa.gov/web_services_info.html), and the IOOS.us National Data Portal (<https://ioos.noaa.gov/data/access-ioos-data/>).

Products and Services

Products and services within the Navigation, Observations and Positioning portfolio provide equitable access to foundational data. NOAA provides private and public stakeholders with the tools needed to help monitor and plan for changing coastal and inland conditions. These products and services support NOAA's investment in safe and efficient navigation, preparedness and risk reduction.

Navigational Charts and Precision Navigation: Navigational charts and precision navigation data are critical to ensure safe and efficient maritime navigation. Once solely produced on paper, OCS now maintains a suite of over 2,100 electronic nautical charts (ENC) covering the entire 95,000 miles of the U.S. shoreline, and 3.6 million square nautical miles within the U.S. EEZ. These ENCs enable full electronic navigation, providing real-time ship positioning as well as collision and grounding avoidance (<https://nauticalcharts.noaa.gov/charts/noaa-enc.html>). NOS aims further to seamlessly integrate high-resolution bathymetry, high accuracy positioning and shoreline data with forecast data—such as water levels, surface currents, salinity, temperature, waves, and

¹⁰ <https://nauticalcharts.noaa.gov/updates/noaa-focuses-on-the-great-lakes-for-the-2022-field-season/>

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weather forecasts through its Precision Marine Navigation program. In 2022, the International Maritime Organization decided to amend its Electronic Chart Display and Information System (ECDIS) standard to leverage S-100 based Electronic Navigational Charts, to take effect beginning in 2026. NOS is transitioning to provide this enhanced precision maritime navigation information in the internationally recognized standards (S-100). This will allow for efficient operation in shipboard navigation systems through a dissemination system for easier access (<https://marinenavigation.noaa.gov/>). This standard along with the integrated stack of additional data products produced under precision marine navigation will provide integrated navigational information on ship's navigation systems for better decision making. Because it involves many types of data sources, NOAA's Precision Navigation efforts are a collaborative effort across OCS, CO-OPS, NGS, IOOS and even NWS. NOS is working closely with industry partners throughout this entire process to ensure that the service NOAA develops is effective at disseminating precision navigation data¹¹.

BlueTopo: A public facing web service derived from the NBS that connects the non-navigation community with the best available bathymetry for use in offshore renewable energy development, identification of sensitive marine habitats and influence coastal models. (<https://www.nauticalcharts.noaa.gov/data/bluetopo.html>)

Authoritative U.S. Tide and Tidal Current Predictions, and Water Levels: Accurate tide and tidal current predictions, and water level data are critical for safe and efficient marine navigation and for the protection of infrastructure along the coast. CO-OPS maintains and updates the official U.S. tide and tidal current predictions. Both products each contain predictions for over 3,000 locations. The predictions are available online and include the most accurate, up-to-date and location specific information. CO-OPS also measures local water levels along the coast and in the Great Lakes through the NWLON and related partnerships to determine boundaries for privately owned land, state owned land, the territorial sea, the EEZ, and the high seas (https://tidesandcurrents.noaa.gov/water_level_info.html). This information is critical to habitat restoration, lakes water level regulation, forecasting, and coastal resilience planning.

National Spatial Reference System (NSRS): The NSRS plays a critical role in seamlessly aligning our Nation's significant geospatial investments in mapping and resilient infrastructure. As the common reference framework that defines latitude, longitude, height, scale, and gravity for all geospatial data and positioning activities in the Nation, NSRS is undergoing a modernization effort, led by NGS, to improve its accuracy and accessibility throughout the country. The resulting improved accuracy and accessibility will enable stakeholders, including emergency managers, to better plan for rising sea levels with improved floodplain maps, resilient infrastructure, and evacuation routes for coastal disaster preparedness. Equitable access to the NSRS's coordinate and height data

¹¹ <https://nauticalcharts.noaa.gov/learn/precision-navigation.html#:~:text=Precision%20marine%20navigation%20is%20the,narrow%20channels%2C%20or%20other%20hazards>

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is provided through the Online Positioning User Service (OPUS) tool, which is commonly used by surveyors and engineers who are planning infrastructure projects. (<https://oceanservice.noaa.gov/facts/nsrs.html>)

Coastal Resilience Planning Products: NOS is the Nation's source for coastal inundation data and sea level trends. Each year, CO-OPS recalculates relative sea level trends for more than 100 long-term water level stations, which is critical to mitigate the impacts of sea level rise (<https://coast.noaa.gov/slr/>). These updated sea level trends were highlighted in the recent 2022 Sea Level Rise Technical Report¹², which synthesizes the most recent science related to sea level rise, and serves as a key technical input for the Fifth National Climate Assessment that is underway. Further access to NOS's data and online tools and analysis, such as NOAA's Coastal Inundation Dashboard, help coastal communities to better plan for and mitigate risk from changing ocean conditions in order to protect people, land, and infrastructure from extreme events and sea level changes. (https://tidesandcurrents.noaa.gov/sea_level_info.html)

Navigation Response Teams/Navigation Managers: Coast Survey's mobile navigation response teams (NRT) are strategically located around the country and remain on call to respond to emergencies, speeding the resumption of shipping after storms, and conducting routine nearshore hydrographic surveys for ports, harbors, and fairways. Regional navigation managers work directly with pilots, mariners, port authorities and recreational boaters to address local issues along the U.S. coast and Great Lakes. (<https://nauticalcharts.noaa.gov/customer-service/navigation-response.html>, <https://nauticalcharts.noaa.gov/customer-service/regional-managers/index.html>)

Regional Geodetic Advisor Program: NGS provides training, guidance and assistance throughout the entire Nation to state and local geodetic and survey programs, GIS users, and coastal managers. Advisors serve as a liaison between NOAA and its public, academic and private sector constituents within their assigned region. They provide expert guidance and assistance to constituents who manage geospatial activities tied to the NSRS. A 2018 study estimated the economic benefits of the Regional Geodetic Advisor Program to be between \$18.6 million and \$39.7 million annually. (<https://geodesy.noaa.gov/ADVISORS/index.shtml>)

Standards and Product Specifications: NOS also develops national and international standards and guidelines for geodetic reference frames, bathymetry, electronic navigational charts, currents and water level data, and ocean and geodetic observations. In addition, NOS conducts research to improve the resilience of the U.S. positioning, navigation, and timing infrastructure.

¹² <https://oceanservice.noaa.gov/hazards/sealevelrise/sealevelrise-tech-report.html>

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Integration and Partnerships

NOAA partners with Federal and state agencies, academic institutions, the private sector, and other organizations to meet its mission mandates, improve its products and services, and deliver benefits to stakeholders. Integration of marine data streams across disciplines, institutions, time scales, and geographies allows for the development of advanced, innovative products and services for the public. NOAA partnerships also focus heavily on training, outreach, and an exchange of knowledge and expertise with its partners. NOAA conducts workshops, hosts constituent forums around the country, and directly engages with industry partners that build on base products to make data, tools, and science accessible to all users.

Integrated Ocean and Coastal Mapping (IOCM): IOCM coordinates the planning, acquisition, integration and sharing of ocean and coastal mapping data and related products for easy public access. “Map Once, Use Many Times” is the motto of IOCM, who strive to make the best use of collective resources maximizing Federal, state, local and academic investments in ocean mapping for restoration, conservation, and coastal resilience. The IOCM team leads the development of guidance documents, like the Standard Ocean Mapping Protocol, to ensure that data acquired and processed are standardized to support wide availability, access, and use to minimize duplication of effort. (<https://iocm.noaa.gov/>)

Ocean Mapping Centers of Excellence: OCS has two-world class cooperative agreements with the University of New Hampshire’s Center for Coastal and Ocean Mapping/Joint Hydrographic Center, a 24-year partnership and the newly established Center of Ocean Mapping and Innovative Technologies at the University of South Florida that began in FY 2021. These two centers have specialized expertise in the development of new technologies for ocean mapping, application of hydrographic data through tools and models, and training the next generation of hydrographers and ocean mappers. In 2023, NOAA is working to establish a Center of Excellence for Operational Ocean and Great Lake Mapping. This Center of Excellence will leverage existing capabilities to help operationalize newly developed technologies, including mapping platforms and sensors. This Center will provide a focal point for applied training for mapping and surveying operations, providing an agency-wide technical support for ocean mapping technologies to operators in the field; and leveraging public-private partnerships in advancing the Nation's ocean and Great Lakes mapping goals. (<http://ccom.unh.edu/>; <https://www.marine.usf.edu/comit/>)

IOOS Regional Data Integration: NOAA’s U.S. IOOS Office provides technical and funding support for non-Federal regional observing systems and improves compatibility between Federal and regional observations. By enhancing the accessibility and interoperability of ocean data, IOOS enables users of ocean data (resource managers, modelers, researchers, meteorologists, and others) to focus their resources on developing products. IOOS observing platforms, data management, data assimilation, and

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predictive systems include observations by NOS and NOAA assets, and partner networks, which are improving operational oceanography for the Nation. (<https://ioos.noaa.gov/data/access-ioos-data/>; <https://ioos.noaa.gov/data/>)

In addition to the above listed efforts, additional partnerships exist within the previously listed work with private sector companies, other Federal agencies, academic institutions, executive committees, and state and local governments.

Hydrographic Survey Priorities/Contracts

Knowledge of the depth, shape, and composition of the seafloor has far-reaching benefits, including safer navigation, hazard mitigation for coastal resilience, preservation of marine habitats and heritage, and a deeper understanding of natural resources for sustainable ocean economies. NOAA currently has four hydrographic ships, and also relies on hydrographic survey contractors to complement NOAA's surveys. In deeper water, more data can be collected because the multi-beam sonar has a wider swath. OCS has set aside a small amount of funds for matching with states and non-Federal partners to increase collaboration and mapping coverage (<https://iocm.noaa.gov/documents/mapping-progress-report2022.pdf>).

Much of the momentum behind these efforts is being driven by new and emerging technologies in areas such as uncrewed systems, artificial intelligence, machine learning, geographic information systems and cloud computing. These advances are enabling the ability to more efficiently, effectively and accurately map the seafloor and provide much needed data to inform decisions vital to resource conservation and our national and economic security. Mapping America's waters is vital to human and marine health, coastal resilience, safe navigation and national security. It is key to sustainable use of ocean resources and better understanding how the ocean influences climate.

IOOS Regional Observations

U.S. IOOS is a national-regional partnership working to provide critical data, models, and new tools and forecasts to capture the climate change signal in our oceans and Great Lakes, improve safety, enhance the economy, and protect our environment. Integrated ocean information is available to users and stakeholders in coastal communities in near real time, as well as retrospectively, in order to support local decision-making and management activities. Easier and better access to this information is improving our ability to understand and predict coastal events - such as storms, wave heights, and sea level change, and to support commerce, safety, environmental stewardship, and coastal resilience.

The 11 NOAA-certified IOOS Regional Associations (RAs) support observing requirements of local communities and complements Federal ocean observations and models. Data coming from all IOOS partners now adheres to common Federal collection, storage

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and management standards, meaning it can be integrated with other data, and help make "big data" research and development possible. NOAA supports IOOS RAs through cooperative agreements for operations and maintenance, capital projects, and new sensor technology. IOOS RAs deploy observing assets in accordance with nationally coordinated build-out plans, which identify highest-priority gaps and needs. In the last five years priorities for investment included:

- Regional Ocean and Great Lakes Observing System infrastructure, including buoys, uncrewed underwater profiling gliders, coastal high frequency radar, animal telemetry tags, and sensors that provide the foundational data that informs our understanding of the ocean, coastal climate change, marine hazards, and safe and efficient marine navigation
- Operational ocean and Great Lakes models and predictions that inform mitigation strategies for coastal hazards and extreme weather, as well as resource management of protected areas and fisheries
- Advances in those ocean predictions through the Coastal and Ocean Modeling Testbed, an extramural program among the research community and IOOS RAs designed to develop, test, and transition advances in experimental and operational models and forecasts. The Coastal and Ocean Modeling Testbed supports integration, comparison, scientific analyses and archiving of data and model output needed to elucidate, prioritize, and resolve Federal and regional operational coastal ocean issues associated with a range of existing and emerging coastal oceanic, hydrologic, and ecological models
- Coordinating the collection of and access to marine life observations that were gathered by partners to support place-based and other resource management activities via the interagency-supported Marine Biodiversity Observation Network and Animal Telemetry Network
- The Ocean Technology Transition program to support research, development, testing, and evaluation of new sensor technology and observing strategies. This program sponsors the transition of emerging marine observing technologies, for which there is an existing operational requirement and a demonstrated commitment to integration and use by the ocean observing community, to operational mode



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		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Navigation,	Pos./BA	623	191,077	627	195,224	4	4,147
Observations and Positioning	FTE/OBL	589	191,077	592	195,224	3	4,147

Meeting NOAA’s Mission in the Arctic: (+\$4,147, 3 FTE/4 Positions) – NOAA requests an increase in order to bolster NOAA’s Arctic mission to provide fundamental science, critical national and international services, and responsible management of marine resources in Alaska, the Arctic, and the Central Arctic Ocean. Funding will support scientific monitoring and prediction of Arctic systems, development of innovative observational technologies, and enhanced modeling capabilities for sea ice and ecosystems.

Additional funding would allow NOAA to meet our expanding mission demands in the changing Arctic. Over the past several decades, Arctic air temperatures have increased at a rate more than twice the global average since 2000. Arctic communities are grappling with a large number of issues including climate change-related impacts on subsistence livelihoods and food security, infrastructure, and transportation due to retreating sea ice, shorter winters, and a fragile ecosystem. If NOAA’s existing, limited level of service remains the status quo, the resilience of Arctic communities and their supporting ecosystems will decline, and potential economic improvements will remain unrealized amidst environmental changes.

Specifically, NOAA requests:

- **\$2.5 million for VDatum, in service to Alaska Coastal Mapping Strategy Objective 2.2: Upgrade Alaska National NSRS Components to Support Mapping Data Acquisition.** NOS will obtain foundational water level observations and global navigation satellite system (GNSS) observations on tidal benchmarks to fill known data gaps. The result will be statewide models of sea surface data that enables intelligent coastal decision-making and analysis. This funding will assist with obtaining a portion of the 110 remaining water level observations and 215 tidal benchmark sites and modeling efforts
- **\$1.6 million for new observing technology to ensure that NOAA has a range of flexible, cost-effective options to expand water level monitoring in the wide variety of challenging Alaska environments.** This increase will be used to

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research, test, develop, evaluate, and operationalize a GNSS Reflectometry (GNSS-R) based tide control program, and a comprehensive buoy-based offshore tide control program

This request is complimentary to the request of the same name found in the Coastal Zone Management and Services subactivity (NOS-86).

Schedule and Milestones:
FY 2024 – FY 2028

- Collect foundational water level observations and GNSS observations on tidal benchmarks in data gaps (FY 2024)
- Provide foundational water level observations and GNSS observations on tidal benchmarks at known data gaps fed into a statewide model, allowing the product to have the accuracy needed to perform informed and intelligent coastal zone management decision-making (FY 2025 – FY 2028)
- Operate two GNSS-tide buoys to provide tide control in remote Alaska environments (FY 2026)
- Develop, test, and evaluate an offshore bottom-mounted-pressure-gauge buoy capability (FY 2027)
- Install at least two GNSS-R water level stations in remote areas where traditional tide gauges are not an option, operationalized in partnership with the Alaska Ocean Observing System (FY 2027)
- Evaluate at least two GNSS-R water level stations in remote areas where traditional tide gauges are not an option, operationalized in partnership with the Alaska Ocean Observing System (FY 2028)

Deliverables:

- 10 - 15 foundational water level observations in known data gaps per year for model ingestion
- 30 - 40 foundational GNSS observations on tidal benchmarks per year for model ingestion
- At least two innovative water level measurement/tide control technologies that can be effectively deployed in remote Arctic environments
- Full coverage of NOAA storm surge models, and digital coast tools in place to convert elevation data between tidal, orthometric, and ellipsoidal vertical datums, allowing users to establish a common reference system for all elevation data sets

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Performance Measures	2024	2025	2026	2027	2028
Percentage of VDatum observations (geodetic and tidal) collected towards creating tidal datums and Topography of the Sea Surface grid that supports VDatum model build-out in Alaska					
With Increase	15	30	45	60	75
Without Increase	3	5	7	9	11
Outyear Costs:					
Direct Obligations	4,147	4,147	4,147	4,147	4,147
Capitalized	2,511	2,511	2,511	2,511	2,511
Uncapitalized	1,636	1,636	1,636	1,636	1,636
Budget Authority	4,147	4,147	4,147	4,147	4,147
Outlays	2,571	2,571	2,571	2,571	2,571
FTE	3	4	4	4	4
Positions	4	4	4	4	4

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PROGRAM CHANGE PERSONNEL DETAIL**

Activity: Navigation, Observations and Positioning
 Subactivity: Navigation, Observations and Positioning
 Program Change: Meeting NOAA's Mission in the Arctic

<u>Title</u>	<u>Grade</u>	<u>Number</u>	<u>Annual Salary</u>	<u>Total Salaries</u>
Physical Scientist	ZP-04	1	162,000	162,000
Physical Scientist	ZP-03	1	110,000	110,000
Geodesist	ZP-04	1	162,000	162,000
IT Specialist	ZP-04	1	162,000	162,000
Total		<u>4</u>		<u>596,000</u>
Less lapse	25.00%	<u>(1)</u>		<u>(149,000)</u>
Total full-time permanent (FTE)		3		447,000
2024 Pay Adjustment (5.2%)				<u>23,244</u>
				470,244
 <u>Personnel Data Summary</u>				
Full-time Equivalent Employment (FTE)				
Full-time permanent		<u>3</u>		
Total FTE		3		
Authorized Positions:				
Full-time permanent		<u>4</u>		
Total Positions		4		

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Activity: Navigation, Observations and Positioning
Subactivity: Navigation, Observations and Positioning

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1 Full-time permanent compensation	68,303	71,718	75,751	76,221	470
11.3 Other than full-time permanent	17	18	18	18	0
11.5 Other personnel compensation	2,033	2,135	2,135	2,135	0
11.7 Military personnel compensation	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	70,353	73,871	77,904	78,374	470
12 Civilian personnel benefits	24,929	26,176	27,318	27,497	179
13 Benefits for former personnel	11	11	11	11	0
21 Travel and transportation of persons	1,687	1,687	1,704	2,004	300
22 Transportation of things	515	515	525	700	175
23 Rent, communications, and utilities	9,102	9,102	9,273	9,273	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental Payments to others	0	0	0	0	0
23.3 Communications, utilities and misc charges	0	780	780	780	0
24 Printing and reproduction	9	9	9	9	0
25.1 Advisory and assistance services	0	0	0	0	0
25.2 Other services from non-Federal sources	56,491	39,960	40,822	43,195	2,373
25.3 Other goods and services from Federal	0	0	0	0	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	4,747	4,522	4,609	5,159	550
31 Equipment	3,252	3,252	3,305	3,405	100
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	19,064	24,814	24,814	24,814	0
42 Insurance claims and indemnities	1	1	1	1	0
43 Interest and dividends	2	2	2	2	0
44 Refunds	0	0	0	0	0
99 Total obligations	190,163	184,702	191,077	195,224	4,147

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		2024 Base		2024 Estimate		Increase from 2024 Base	
		<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>
Navigation, Observations and Positioning	Pos./BA	623	191,077	627	194,202	4	3,125
	FTE/OBL	589	191,077	592	194,202	3	3,125

Foundational Data for Improved Ocean and Coastal Mapping and Charting (+\$3,125, 3 FTE/ 4 Positions) – NOAA requests additional funds to fill data gaps in the foundational data for ocean and coastal mapping and charting of the U.S. EEZ. Increasing the robustness of these foundational data will significantly improve the quality and utility of NOAA ocean and coastal mapping efforts, and build out foundational geospatial and water level infrastructure, benefiting local communities and Tribal populations. This proposal supports the Administration priorities to rebuild infrastructure, respond to the climate crisis, and create a sustainable economy nationwide, using a 'Map Once, Use Many Times' approach. NOS programs will work together to address the data gaps in coastal areas and provide foundational information from which to build the Nations climate resilience now and into the future.

These funds will be used as following:

- \$1.0 million to conduct airborne lidar and imagery surveys in priority areas, with early focus on Alaska, and deliver updated shoreline data for use in authoritative NOAA nautical charts and coastal climate mitigation strategies
- \$1.0 million to develop high-resolution bathymetric datasets through the National Bathymetric Source, re-scheme for improved electronic navigational charts (ENC), and support better coordination on Federal/state regional ocean mapping under NOMECE
- \$1.125 million to maintain foundational geodetic and water level infrastructure, including Foundation Continuously Operating Reference Stations (CORS) and National Water Level Observation Network (NWLON), necessary to make surveying and mapping more efficient, ensure safe marine commerce and facilitate robust coastal community resilience planning

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**Schedule and Milestones:
FY 2024 – FY 2028**

- Continue to refine mapping priorities with stakeholders and share data standards/best practices (FY 2024 – FY 2028)
- Conduct shoreline data collection (FY 2024 – FY 2028)
- Maintain the Foundation CORS network (FY 2024 – FY 2028)
- Fill one critical gap in the NWLON (FY 2027)
- Build out National Bathymetric Source datasets (FY 2024 – FY 2028)

Deliverables:

- 57 ports analyzed for shoreline change using satellite imagery
- 57 ports updated with new shoreline information through lidar and aerial imagery surveys per year
- Re-schemed navigational charts for improved navigational safety

Performance Measures	2024	2025	2026	2027	2028
Annual Percent of the National Shoreline updated with current/new aerial imagery and elevation data to improve navigational safety					
With Increase	7.3%	7.3%	7.3%	7.3%	7.3%
Without Increase	7.0%	7.0%	7.0%	7.0%	7.0%
Outyear Costs:					
Direct Obligations	3,125	3,125	3,125	3,125	3,125
Capitalized	0	0	0	0	0
Uncapitalized	3,125	3,125	3,125	3,125	3,125

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Budget Authority	3,125	3,125	3,125	3,125	3,125
Outlays	1,938	1,938	1,938	1,938	1,938
FTE	3	4	4	4	4
Positions	4	4	4	4	4

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PROGRAM CHANGE PERSONNEL DETAIL**

Activity: Navigation, Observations and Positioning
 Subactivity: Navigation, Observations and Positioning
 Program Change: Foundational Data for Improved Ocean and Coastal Mapping and Charting

<u>Title</u>	<u>Grade</u>	<u>Number</u>	<u>Annual Salary</u>	<u>Total Salaries</u>
Geodesist	ZP-03	2	114,000	228,000
Cartographer	ZP-03	2	114,000	228,000
Total		<u>4</u>		<u>456,000</u>
Less lapse	25.00%	<u>(1)</u>		<u>(114,000)</u>
Total full-time permanent (FTE)		3		342,000
2023 Pay Adjustment (5.2%)				<u>17,784</u>
				359,784
<u>Personnel Data Summary</u>				
Full-time Equivalent Employment (FTE)				
Full-time permanent		<u>3</u>		
Total FTE		3		
Authorized Positions:				
Full-time permanent		<u>4</u>		
Total Positions		4		

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(Direct Obligations amounts in thousands)

Activity: Navigation, Observations and Positioning
Subactivity: Navigation, Observations and Positioning

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1 Full-time permanent compensation	68,303	71,718	75,751	76,111	360
11.3 Other than full-time permanent	17	18	18	18	0
11.5 Other personnel compensation	2,033	2,135	2,135	2,135	0
11.7 Military personnel compensation	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	70,353	73,871	77,904	78,264	360
12 Civilian personnel benefits	24,929	26,176	27,318	27,455	137
13 Benefits for former personnel	11	11	11	11	0
21 Travel and transportation of persons	1,687	1,687	1,704	1,704	0
22 Transportation of things	515	515	525	525	0
23 Rent, communications, and utilities	9,102	9,102	9,273	0	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental Payments to others	0	0	0	0	0
23.3 Communications, utilities and misc charges	0	780	780	780	0
24 Printing and reproduction	9	9	9	9	0
25.1 Advisory and assistance services	0	0	0	0	0
25.2 Other services from non-Federal sources	56,491	39,960	40,822	43,350	2,528
25.3 Other goods and services from Federal sources	0	0	0	0	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	4,747	4,522	4,609	4,609	0
31 Equipment	3,252	3,252	3,305	3,405	100
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	19,064	24,814	24,814	24,814	0
42 Insurance claims and indemnities	1	1	1	1	0
43 Interest and dividends	2	2	2	2	0
44 Refunds	0	0	0	0	0
99 Total obligations	190,163	184,702	191,077	184,929	3,125

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		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Navigation, Observations and Positioning	Pos./BA	623	191,077	625	192,477	2	1,400
	FTE/OBL	589	191,077	591	192,477	2	1,400

Advancing NOAA’s ability to Prepare and Respond to Extreme Weather and Coastal Hazard Events (+\$1,400, 2 FTE/2 Positions)

– NOAA requests an increase to better prepare communities for extreme weather events and increasingly frequent coastal hazards. In 2021, the U.S. topped its five-year annual average of \$17.8 billion disasters (CPI-adjusted)¹³ by experiencing 20 weather/climate disaster events with losses exceeding \$1.0 billion each. This is a significant increase from the \$7.7 billion disasters (CPI-adjusted) annual average of the last 40 years¹⁴. The resulting damage from these 2021 extreme weather events were not restricted to infrastructure; it caused at least 688 fatalities¹⁵, and significant economic effects on the affected areas. In 2022, there were 18 weather/climate disaster events with losses also exceeding \$1.0 billion each, resulting in 474 deaths and significant economic impact on the areas affected¹⁶. As this increasing trend is projected to continue, NOAA needs to significantly improve its response readiness and response time in the wake of a disaster, and decrease the recovery time of our Nation’s coastal communities.

The following multi-faceted approach will allow NOAA to strengthen its response capabilities and advance its emergency services such as real-time storm surge alerts to assess evacuation needs:

- **\$700 thousand to ensure operational readiness of the National Water Level Observation Network (NWLON) for extreme event preparedness and response** – will increase comprehensive annual maintenance at all 210 NWLON stations, such that the NWLON continues to provide authoritative coastal and Great lakes water level observations for safe and

¹³ <https://www.ncei.noaa.gov/access/billions/>

¹⁴ <https://www.ncei.noaa.gov/access/billions/>

¹⁵ <https://www.climate.gov/news-features/blogs/beyond-data/2021-us-billion-dollar-weather-and-climate-disasters-historical>

¹⁶ <https://www.ncei.noaa.gov/access/billions/>

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efficient marine navigation, real-time inundation alerts, tsunami warnings, annual high tide flooding outlooks, long-term sea level trends, and accurate national water level models. This increase will restore the required level of routine field operations and maintenance of all 210 NWLON stations

- **\$700 thousand to enable real time transmission of Emergency Response Imagery** – will allow first responders to immediately access imagery to assess and prioritize response efforts, improving positioning and processing, and delivering high resolution GIS ready imagery in real-time (instead of four to six hours after landing)

Schedule and Milestones:

FY 2024 – FY 2028

- Conduct comprehensive annual maintenance at 190 NWLON stations (FY 2024 – FY 2028)
-
- Enable real-time availability of emergency response imagery (FY 2024 – FY 2028)

Deliverables:

- Comprehensive annual NWLON maintenance at 190 NWLON stations through FY 2028
- Real time transmission of Emergency Response Imagery, allowing communities and emergency managers to more quickly understand damages following severe weather

Performance Measures	2024	2025	2026	2027	2028
Conduct comprehensive annual maintenance at NWLON stations					
With Increase	190	190	190	190	190
Without Increase	160	160	160	160	160
Outyear Costs:					
Direct Obligations	1,400	1,400	1,400	1,400	1,400
Capitalized	221	221	221	221	221
Uncapitalized	2,779	2,779	2,779	2,779	2,779

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Budget Authority	1,400	1,400	1,400	1,400	1,400
Outlays	868	868	868	868	868
FTE	2	2	2	2	2
Positions	2	2	2	2	2

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PROGRAM CHANGE PERSONNEL DETAIL**

Activity: Navigation, Observations and Positioning
 Subactivity: Navigation, Observations and Positioning
 Program Change: Advancing NOAA's ability to Prepare and Respond to Extreme Weather and Coastal Hazard Events

<u>Title</u>	<u>Grade</u>	<u>Number</u>	<u>Annual Salary</u>	<u>Total Salaries</u>
Physical Scientist	ZP-04	1	150,000	150,000
Physical Scientist	ZP-03	1	110,000	110,000
Total		<u>2</u>		<u>260,000</u>
Less lapse	25.00%	<u>(1)</u>		<u>(65,000)</u>
Total full-time permanent (FTE)		2		195,000
2024 Pay Adjustment (5.2%)				<u>10,140</u>
				205,140

Personnel Data Summary

Full-time Equivalent Employment (FTE)

Full-time permanent	<u>2</u>
Total FTE	2

Authorized Positions:

Full-time permanent	<u>2</u>
Total Positions	2

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(Direct Obligations amounts in thousands)

Activity: Navigation, Observations and Positioning
Subactivity: Navigation, Observations and Positioning

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1 Full-time permanent compensation	68,303	71,718	75,751	75,959	208
11.3 Other than full-time permanent	17	18	18	18	0
11.5 Other personnel compensation	2,033	2,135	2,135	2,135	0
11.7 Military personnel compensation	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	70,353	73,871	77,904	78,112	208
12 Civilian personnel benefits	24,929	26,176	27,318	27,396	78
13 Benefits for former personnel	11	11	11	11	0
21 Travel and transportation of persons	1,687	1,687	1,704	1,704	0
22 Transportation of things	515	515	525	525	0
23 Rent, communications, and utilities	9,102	9,102	9,273	9,273	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental Payments to others	0	0	0	0	0
23.3 Communications, utilities and misc charges	0	780	780	780	0
24 Printing and reproduction	9	9	9	9	0
25.1 Advisory and assistance services	0	0	0	0	0
25.2 Other services from non-Federal sources	56,491	39,960	40,822	41,936	1,114
25.3 Other goods and services from Federal sources	0	0	0	0	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	4,747	4,522	4,609	4,609	0
31 Equipment	3,252	3,252	3,305	3,305	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	19,064	24,814	24,814	24,814	0
42 Insurance claims and indemnities	1	1	1	1	0
43 Interest and dividends	2	2	2	2	0
44 Refunds	0	0	0	0	0
99 Total obligations	190,163	184,702	191,077	192,477	1,400

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PROGRAM DECREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>
Navigation, Observations and Positioning	Pos./BA	623	191,077	623	186,077	0	(5,000)
	FTE/OBL	589	191,077	589	186,077	0	(5,000)

Decrease Geospatial Modeling Grants (-\$5,000, 0 FTE/ 0 Positions) – NOAA proposes to decrease the Geospatial Modeling Grants program. NOAA will continue to support a range of other geospatial requirements through NOS’s Coastal Zone Management and Services and Navigation, Observations and Positioning subactivities. These activities include the NSRS, operating CORS data access, and capacity building.

**Schedule and Milestones:
FY 2024 – FY 2028**

- Provide competitive funding opportunities focused on modernizing and improving the NSRS, addressing emerging research problems in the field of geodesy, and supporting a Geodesy Community of Practice in collaboration with Federal and non-Federal stakeholders to address the nationwide deficiency of geodesists, at reduced level (FY 2024 – FY 2028)
- Execute funding to provide coastal data, tools, and/or training to address coastal needs (FY 2024 – FY 2028)

Deliverables:

- Geospatial and remote sensing surveys conducted at a reduced capacity
- Geospatial outreach, education, and training events conducted at a reduced capacity

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Performance Measures	2024	2025	2026	2027	2028
Number of states with geodetic research funded by geospatial modeling grants (annual)					
With Decrease	1	1	1	1	1
Without Decrease	10	10	10	10	10
Number of person hours of training provided on concepts and software systems associated with geographic information systems					
With Decrease	0	0	0	0	0
Without Decrease	1,500	1,500	1,500	1,500	1,500
Outyear Costs:					
Direct Obligations	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)
Capitalized	0	0	0	0	0
Uncapitalized	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)
Budget Authority	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)
Outlays	(3,100)	(3,100)	(3,100)	(3,100)	(3,100)
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Navigation, Observation and Positioning
Subactivity: Navigation, Observations and Positioning

Object Class		2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1	Full-time permanent compensation	68,303	71,718	75,751	75,751	0
11.3	Other than full-time permanent	17	18	18	18	0
11.5	Other personnel compensation	2,033	2,135	2,135	2,135	0
11.7	Military personnel compensation	0	0	0	0	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	70,353	73,871	77,904	77,904	0
12	Civilian personnel benefits	24,929	26,176	27,318	27,318	0
13	Benefits for former personnel	11	11	11	11	0
21	Travel and transportation of persons	1,687	1,687	1,704	1,704	0
22	Transportation of things	515	515	525	525	0
23	Rent, communications, and utilities	9,102	9,102	9,273	9,273	0
23.1	Rental payments to GSA	0	0	0	0	0
23.2	Rental Payments to others	0	0	0	0	0
23.3	Communications, utilities and misc charges	0	780	780	780	0
24	Printing and reproduction	9	9	9	9	0
25.1	Advisory and assistance services	0	0	0	0	0
25.2	Other services from non-Federal sources	56,491	39,960	40,822	40,822	0
25.3	Other goods and services from Federal	0	0	0	0	0
25.4	Operation and maintenance of facilities	0	0	0	0	0
25.5	Research and development contracts	0	0	0	0	0
25.6	Medical care	0	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0	0
26	Supplies and materials	4,747	4,522	4,609	4,609	0
31	Equipment	3,252	3,252	3,305	3,305	0
32	Lands and structures	0	0	0	0	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	19,064	24,814	24,814	19,814	(5,000)
42	Insurance claims and indemnities	1	1	1	1	0
43	Interest and dividends	2	2	2	2	0
44	Refunds	0	0	0	0	0
99	Total obligations	190,163	184,702	191,077	186,077	(5,000)

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		2024 Base		2024 Estimate		Decrease from 2024 Base	
		<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>
Navigation, Observations and Positioning	Pos./BA	623	191,077	623	190,077	0	(1,000)
	FTE/OBL	589	191,077	589	190,077	0	(1,000)

Enterprise Infrastructure Solutions (EIS) Decrease (-\$1,000, 0 FTE/ 0 Positions) – NOAA requests a reduction for EIS. Funds provided to NOS through FY 2023 were sufficient to complete the transition of telecommunications services to GSA's EIS contract vehicle.

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(Direct Obligations amounts in thousands)

Activity: Navigation, Observations and Positioning
Subactivity: Navigation, Observations and Positioning

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1 Full-time permanent compensation	68,303	71,718	75,751	75,751	0
11.3 Other than full-time permanent	17	18	18	18	0
11.5 Other personnel compensation	2,033	2,135	2,135	2,135	0
11.7 Military personnel compensation	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	70,353	73,871	77,904	77,904	0
12 Civilian personnel benefits	24,929	26,176	27,318	27,318	0
13 Benefits for former personnel	11	11	11	11	0
21 Travel and transportation of persons	1,687	1,687	1,704	1,704	0
22 Transportation of things	515	515	525	525	0
23 Rent, communications, and utilities	9,102	9,102	9,273	9,273	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental Payments to others	0	0	0	0	0
23.3 Communications, utilities and misc charges	0	780	780	0	(780)
24 Printing and reproduction	9	9	9	9	0
25.1 Advisory and assistance services	0	0	0	0	0
25.2 Other services from non-Federal sources	56,491	39,960	40,822	40,602	(220)
25.3 Other goods and services from Federal	0	0	0	0	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	4,747	4,522	4,609	4,609	0
31 Equipment	3,252	3,252	3,305	3,305	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	19,064	24,814	24,814	24,814	0
42 Insurance claims and indemnities	1	1	1	1	0
43 Interest and dividends	2	2	2	2	0
44 Refunds	0	0	0	0	0
99 Total obligations	190,163	184,702	191,077	190,077	(1,000)

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Activity: Coastal Science and Assessment

Goal Statement

Conduct applied research and deliver scientific information for disasters and pollution emergency response and management, protection, and restoration of ocean and coastal resources and communities. Provide coastal managers information and planning tools to guide communities in managing ocean space, anticipating and responding to climate change, and protecting people, fisheries, and drinking water from harmful algal blooms (HABs) and other contaminants.

Base Program

The work conducted within the Coastal Science and Assessment activity helps with understanding, forecasting, and mitigating the impacts of oil and chemical spills, marine debris, HABs, and climate change on coastal resources. It supports the blue economy and the advancement of climate resilience by developing tools for siting of wind energy and aquaculture development, green infrastructure, and habitat restoration. Through this activity, NOS provides coordination and support for coastal disasters and pollution incidents, including provision of a common operating picture that integrates spatial data from plans and real-time feeds in the online Environmental Response Management Application (ERMA®¹⁷), an online tool that integrates real-time data with mapping to coordinate emergency response to coastal disasters. NOS ecological forecasts enable communities and businesses to plan for and mitigate the impacts of HABs, hypoxia, pathogens, and other ecological threats. NOS maximizes investment in resilient coastal infrastructure by identifying vulnerable communities, incorporating nature-based features, and identifying best practices. Restoration after pollution enhances recovery of disadvantaged coastal communities, resilience and the Blue Economy.

The following offices are responsible for carrying out the work within the Coastal Science and Assessment activity:

- **National Centers for Coastal Ocean Science (NCCOS)** – builds the science foundation and applied tools to increase community and ecosystem resilience to climate change. Its products and services help the public understand forecast and mitigate HABs, hypoxia and pathogens. NCCOS science is critical to develop habitat and species forecasts, inform marine aquaculture, and help with offshore wind energy siting (<https://coastalscience.noaa.gov/>)
- **Office of Response and Restoration (OR&R)** – prepares for, evaluates, and responds to threats to coastal environments including oil and chemical spills, releases from hazardous waste sites, marine debris, and natural disasters. When coastal

¹⁷ <https://response.restoration.noaa.gov/maps-and-spatial-data/environmental-response-management-application-erma>

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and marine natural resources are impacted, OR&R assesses the impacts and ensures that response, recovery, and restoration actions maximize recovery of those resources and surrounding economies
(<https://response.restoration.noaa.gov/>)

Statement of Operating Objectives

Schedule and Milestones:

- Complete three of the four NOAA-led Save Our Seas 2.0 Act required studies, pilot projects, and reports (FY 2024)
- Finalize and begin implementation of new Marine Debris Action Plans for Southern New England, Alaska, and Puerto Rico (FY 2024)
- Administer regional-scale removal, prevention and research projects with Bipartisan Infrastructure Law (BIL) funding (FY 2024 – FY 2026)
- Provide comprehensive regional marine spatial modeling and characterization of natural and cultural resources, industries, oceanography and climate, and national security assets (FY 2024 – FY 2027)
- Develop, host, and disseminate regional high-resolution spatial data products for increased understanding, ecological modeling and conservation of NOAA-managed places and NOAA trust resources, including sensitive habitats and protected species; and other foundational data including ocean infrastructure and ocean uses, supporting regional marine spatial modeling and offshore wind planning and siting investments (FY 2024 – FY 2027)
- Provide HAB, pathogen, and hypoxia forecasts that protect communities (drinking water) and support the blue economy (recreation and seafood) in the Gulf of Maine, Chesapeake Bay, Gulf of Mexico, Lake Erie, California, the Pacific Northwest, and Alaska (FY 2024 – FY 2028)
- Increase capacity for long-term coastal planning by improving tools and products for modeling impacts of sea-level rise and assessing vulnerabilities of marshes and beaches to sea level rise and coastal storms (FY 2024 – FY 2028)
- Protect communities from sea level rise and storm surge by using dredged sediment from nearby navigation channels to create wetlands (FY 2024 – FY 2028)
- Increase the number of underserved communities with integrated socioeconomic and ecological vulnerability assessments (FY 2024 – FY 2028)

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- Assess presence and impacts of Perfluoroalkyl Substances PFAS in coastal and Great Lakes ecosystems, including chronic and mixture effects (FY 2024 – FY 2028)
- Validate and transition HAB detection and monitoring products to provide identification and toxicity measurements for regional observing networks, states, municipalities and Tribal nations (FY 2024 – FY 2028)
- Resolve liability for five natural resource damage assessment cases annually (FY 2024 – FY 2028)
- Respond to 100 coastal pollution incidents annually, or total number of incidents in U.S. if less than 100 (FY 2024 – FY 2028)
- Release updates to three publicly available emergency response tools annually (FY 2024 – FY 2028)
- Train 1,000 emergency responders annually (FY 2024 – FY 2028)
- Reduce barriers to participation in citizen science marine debris shoreline monitoring through the development of tools, resources, and outreach projects (FY 2024 – FY 2028)
- Accelerate repair and acquisition of scientific equipment to support research and modeling related to spatial planning, ecological forecasting, chemical contaminants, and coastal change (FY 2024 – FY 2028)
- Conduct three preparedness exercises annually to enhance NOS, NOAA, and partner agencies response and recovery readiness for natural and human caused disasters (FY 2024 – FY 2028)
- Collaborate with Sea Grant to fund community preparedness research and/or projects that focus on innovation and underrepresented communities resulting in safer and more resilient coastal communities (FY 2024 – FY 2028)
- Continue implementing the laboratory facilities disposition and attrition/workforce restructuring plan (FY 2024 and ongoing)

Deliverables:

- Up to three Offshore Wind Opportunity Atlases, with spatial ecosystem models that show habitats, species, and human uses relevant to planning and siting offshore wind energy projects
- 160 metric tons of marine debris removed annually
- 10,000 youth and adults engaged through formal and informal marine debris education and outreach efforts
- 30 - 40 aquaculture operators trained in early detection of algae that are harmful to shellfish, and guidelines for aquaculture monitoring that are consistent nationally, regionally appropriate and environmentally responsible

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- Research grants supporting at least 30 coastal states or territories, delivering clear guidance on managing natural resources, community adaptation planning, and incorporating more natural habitat considerations into flood protection strategies
- Local tailored information and tools to update city planning, infrastructure plans, and/or natural resource management planning annually for at least four underserved coastal communities at risk from inundation impacts now or under sea level rise
- Interactive tools and applications to predict and mitigate sea level rise and inundation that are developed with and used by end-users in the region of the project, guiding decision making each year
- Improved estimates of the social and economic effects and costs of response to HABs in the U.S.
- Annual operational forecasts for HABs in Lake Erie, Gulf of Maine, and the Gulf of Mexico, for pathogens in the Chesapeake Bay, and Pacific Northwest, and for hypoxia in the Gulf of Mexico
- Increased use of science-based predictions of marsh vulnerability, stakeholder input, and dredge sediment availability to identify options for beneficial use of dredged material to protect shorelines and create habitat
- Restored habitats, resources, and the services they provide to compensate the public from pollution events
- Emergency response capacity maintained across the coastal and Great Lakes region
- Improved preparedness across NOAA, through annual training and exercises, for community resilience via Disaster Preparedness Program-funded Sea Grant projects and initiatives
- NOAA-led Save Our Seas 2.0 Act required studies and reports delivered each year to the public
- Improved retention of long-term citizen scientists that assess the amount and types of marine debris on shorelines, in support of the Marine Debris Monitoring and Assessment Project

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Explanation and Justification

Comparison by subactivity		2022		2023		2024	
		Actual		Enacted		Base Program	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Coastal Science, Assessment, Response and Restoration	Pos/BA	275	120,142	298	96,500	298	99,533
	FTE/OBL	245	96,782	279	96,500	279	99,533
Competitive Research	Pos/BA	3	21,303	4	22,500	4	22,538
	FTE/OBL	5	21,995	4	22,500	4	22,538
Total Activity	Pos/BA	278	141,445	302	119,000	302	122,071
	FTE/OBL	250	118,777	283	119,000	283	122,071

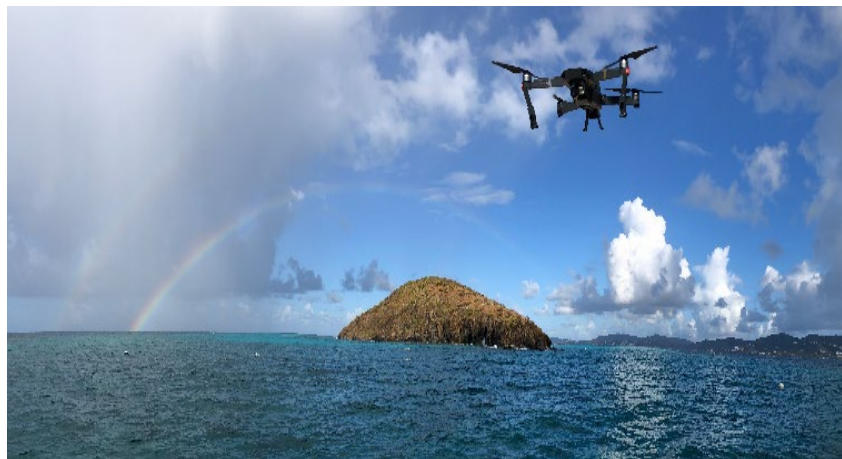
Coastal Science and Monitoring

NOS conducts applied research, ecological assessments, and tool development that build the scientific foundation to plan for and manage environmental risks to coastal communities and economies. Its Coastal Science and Monitoring Programs have six focus areas:

- Advancing Ecosystem Science for Conservation and Sustainable Use: NOS provides information that communities, state and Federal stewards, and industries (such as aquaculture, energy and tourism) use to make decisions balancing the trade-offs between resource use and conservation
- Developing and Implementing Advanced Observation Technologies and Ecological Forecasts: NOS detects and delivers timely and actionable forecasts for harmful algal blooms, hypoxia, and pathogens for coastal habitats, allowing coastal resource managers and public health officers to mitigate impacts to coastal ecosystems and communities

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- Detecting, Monitoring, and Mitigating Impacts of Chemical and Biological Stressors: NOS' research in stressor detection and understanding of stressor impacts on coastal resources help communities protect their water supplies, local fish and shellfish industries, public health, and coastal and lakefront tourism
- Facilitating Resilience and Adaptation to Inundation and Climate Impacts: NOS provides holistic scientific assessments, information, and tools to help coastal communities plan for and mitigate climate-related risks
- Advancing Social, Economic, and Behavioral Approaches to Coastal Stewardship: All coastal and marine management decisions affect multiple communities. NOS evaluates and measures a wide suite of ecosystem services and vulnerabilities to meet the diverse ways in which communities value, depend on, and interact with coastal resources
- Communicating Science to the Public: NOS is committed to communicating science activities, findings, and products to the public, partners, and stakeholders, and gathering input from these groups to identify gaps in our efforts, identify opportunities, and ensure alignment with their ongoing or changing needs



A small Unmanned Aircraft System (DJI Mavic Pro) flying east of Buck Island, St. Croix, USVI provides coastal mapping and elevation data for improved marine ecological and modeling. (Photo Credit: Oregon State University.)

NCCOS oversees activities that inform coastal management through research on wind energy and aquaculture siting, natural-infrastructure, habitat mapping and biogeographic assessments; and ecological forecasts and vulnerability assessments. Ecological forecasts for hazards such as HABs and pathogens help communities safeguard drinking water and commercial and recreational fisheries, and forecasting climate impacts help us plan for resilient infrastructure and protected areas. Research on contaminants (including oil, hazardous chemicals, and microplastics) improves disaster response and restoration. Vulnerability assessments and shoreline stabilization tools help communities prepare for inundation and storms. Increased use of artificial intelligence, machine learning, and remote sensing field observations is expanding our capacity to map, model, and predict impacts of climate change on coastal communities and natural resources. NCCOS' research integrates a broad spectrum of physical, biological, and social

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sciences to inform and guide resource managers seeking a balance among resource use, economic development, restoration, and conservation.

NCCOS intramural research programs have long-standing expertise in key areas that assist critical partners in the emergency and resource management communities. For example, when natural resource damage occurs, NCCOS long-term monitoring datasets establish a baseline of ecosystem conditions that existed before the event for assessing the extent of damages. The research in these areas also enables NOS to develop resource protection strategies for National Marine Sanctuaries and other NOAA-managed areas.



One of Monterey Bay Aquarium Research Institute's long-range autonomous underwater vehicles makes its way through the green, algae-rich waters of Lake Erie to track the 2019 harmful algal bloom as part of a research collaboration with NOAA. (Image: Ben Yair Raanan, Monterey Bay Aquarium Research Institute)

The Competitive Research Program funds regional-scale and targeted research and assessment activities through a competitive external grant process in support of NOAA's coastal mission areas (<https://coastalscience.noaa.gov/about/funding-opportunities/>). This program maintains the only national grant programs dedicated to research topics under the HAB and Hypoxia Research and Control Act (<https://coastalscience.noaa.gov/science-areas/stressor-impacts-mitigation/habhrca/>). Grantee developed detection tools and forecast models for HABs have helped to protect public health and prevent adverse economic impacts from contaminated, unsafe drinking water supplies, and beachgoer's exposure to algal toxins from red tides or other bloom events. The grants also address a variety of coastal resiliency issues, including coastal flooding, inundation, sea-level rise, ocean acidification, and the first national map showing how climate change will impact marsh location and health (<https://coastalscience.noaa.gov/science-areas/coastal-change/ecological-effects-sea-level-rise-program/>). While most research programs focus on understanding the impact of single stressors on species and ecosystems, the Competitive Research Program is also supporting research that increases our understanding

of the combined impacts of multiple stressors on the function and health of marine ecosystems due to climate change (<https://coastalscience.noaa.gov/project/science-to-support-a-climate-ready-dungeness-crab-fishery-in-the-northern-california->

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current/). This information will be used to improve place-based management of marine protected areas and enable the proactive protection of these critical ecosystems under future climate scenarios.

Coordination among NOAA, grantee researchers, and user communities ensures that research findings and new technologies developed through this program are applied to resource management decisions. For example, grantee research protects traditional and subsistence use of natural resources, and the health of Tribes and Alaska Native communities by communicating HAB risks and expanding the capacity for Tribes to detect HAB toxins in shellfish. Additionally, this research helps to understand how changing temperature and oxygen conditions in the California current system influence important fish and shellfish species, and supports development of portable toxin detection technology for Great Lakes decision support tools aimed at mitigating harmful algal blooms. The Gulf of Mexico states also use grantee research to assess coastal vulnerability to sea level rise and coastal storms, target land acquisition and habitat restoration projects, and to plan for building adaptation and infrastructure protection. Funding has resulted in the development of decision support tools that evaluate inundation risk (in Florida), determination of coastal sediment deficits (in California), and modeling to inform sand placement and holistic dune and beach management to reduce inundation risk (in North Carolina).

Increased support for research on vulnerability to and impacts of coastal inundation, flooding, and sea level rise provides information and predictive capabilities to inform community and infrastructure adaptation planning, particularly through expanded use of nature-based solutions and in underserved communities. Expanded partnerships with the Department of Transportation and Army Corps of Engineers are helping more communities evaluate their vulnerabilities and assess the effectiveness of mitigation solutions, resulting in clear guidance on incorporating natural habitat considerations into advanced flood protection strategies, locally tailored information and tools to update city planning, natural resource management, and infrastructure modernization.

The funding currently supports a diverse portfolio of six programs with approximately 331 experts across 147 institutions in 27 states and territories. Topics include:

- Predicting HABs and developing tools to prevent, detect, control, and mitigate HABs and their impacts
- Developing and evaluating the effectiveness of nature-based approaches to mitigate the effects of sea-level rise and inundation on roads and other surface transportation infrastructure
- Determining the causes and biological impacts of hypoxia (low oxygen) in coastal waters
- Managing coastal ecosystems to mitigate impacts from inundation and coastal storms, assessing the economic value of protecting the communities and infrastructure fusing natural habitats and nature-based approaches

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- Understanding species' habitat usage and connectivity to increase the resilience of managed areas to climate and other impacts
- Sustaining partnerships across NOAA to assess the combined effects of ocean acidification, HABs, and hypoxia on economically and ecologically significant species and habitats

NCCOS extramural research grants are responsible for much of the regional-scale, integrated science that informs Marine Protected Area (MPA) management, coastal flooding and sea-level rise vulnerability and adaptation, and serves as the foundation for innovative HAB control and mitigation techniques.

Emergency Response, Assessment and Restoration of NOAA Trust Resources

NOAA's OR&R responsible for preparing for, evaluating, and responding to threats to coastal environments including oil and chemical spills, releases from hazardous waste sites, disasters, and marine debris. This is done through NOS's OR&R, which is the center for expertise whose mission is to protect and restore NOAA Trust resources. Activities conducted by OR&R include:

- Preparing for natural and man-made disasters
- Providing scientific and technical support to prepare for and respond to oil and chemical releases, including on-scene and off-site expertise to the U.S. Coast Guard, FEMA, EPA, or other federal partners during oil spills and natural disasters
- Assessing and restoring natural resources damaged from marine pollution
- Investigating and preventing impacts from marine debris
- Contributing to resilient coastal communities, including those disproportionately impacted by pollution and disasters, which directly supports environmental justice initiatives

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Disaster Preparedness

In 2017, NOS consolidated its interagency and intergovernmental responder training, preparedness and incident coordination under the Disaster Preparedness Program (DPP) within OR&R. The DPP includes, and will continue to build on, the vision and activities at the Gulf of Mexico Disaster Response Center (DRC), to improve national preparedness for and response to all hazard types. During hurricane seasons, the DPP and the DRC coordinate across all NOS program offices to gather information on NOS mission support, logistical needs, and impacts to NOS personnel and infrastructure. The DPP is also charged with ensuring preparedness across NOS through simulated emergency response drills, training and evaluation for continuous improvement as well as ensuring effective continuity of operations in NOS. As such, the DPP is the central coordination body for NOS mission readiness and situational awareness during all emergencies, including the COVID-19 response.

(<https://response.restoration.noaa.gov/disaster-preparedness>)



NOAA
Research vessel at the Taylor Energy oil spill site offshore of Louisiana pre-containment. (NOAA)

Pollution Response

NOAA supports FEMA's Emergency Support Function 10: Oil and Hazardous Materials Response for all U.S. incidents, in addition to responsibilities required by Presidential Policy Directive (PPD)-8, which are outlined in the National Response Framework¹⁸, the Oil and Hazardous Materials Response Annex¹⁹, and the Oil and Chemical Incident Annex²⁰. Federal, state, and local agencies across the country depend on 24-hour availability of NOAA's scientific advice and training of OR&R trained responders to minimize harm to natural resources from anthropogenic and natural hazards. These hazards can include oil and chemical spills, vessel groundings, hazardous waste releases, hurricanes, and national security events. OR&R also addresses persistent coastal hazards such as marine debris and historic shipwrecks. Its emergency services include spill trajectory modeling, shoreline cleanup assessment, impacts identification, incident coordination, and information management. NOS further partners with the Environmental Protection

¹⁸ <https://www.fema.gov/emergency-managers/national-preparedness/frameworks/response>

¹⁹ https://www.fema.gov/sites/default/files/2020-07/fema_ESF_10_Oil-Hazardous-Materials.pdf

²⁰ https://www.fema.gov/sites/default/files/documents/fema_incident-annex-oil-chemical.pdf

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Agency to support first responders with critical, on the ground decision support tools across the country and the world. In December 2020, the Great Lakes Environmental Sensitivity Index (ESI) Act of 2020 was signed into law. NOAA has established Federal and state partnerships and contracts to begin updating ESI products for two regions in the Great Lakes within the 180-day requirement. (<https://response.restoration.noaa.gov/oil-and-chemical-spills>)

Restoration after Pollution

After the initial response to an acute or chronic pollution event or grounding, NOAA and other natural resource trustees are responsible for determining the extent of damages to natural resources and for seeking restoration on behalf of the public for the loss of ecosystem services. NOS' OR&R works with the NOAA Office of General Counsel, Natural Resources Section and the NMFS Office of Habitat Conservation to carry out the NOAA Damage Assessment, Remediation and Restoration Program (DARRP). OR&R activities include:

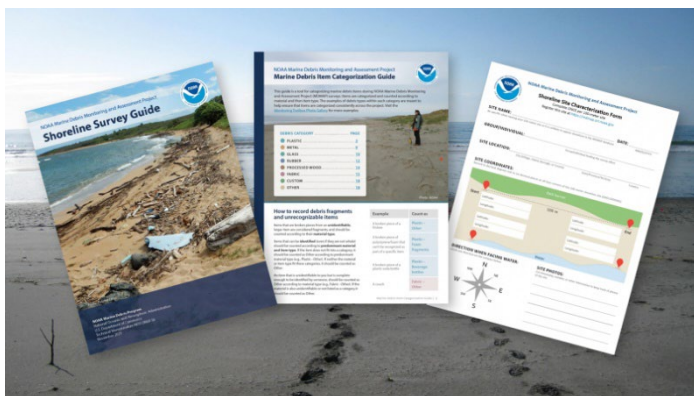
- Assessing environmental injury and reduced access to public natural resources from pollution events and ship groundings
- Ensuring that cleanup actions protect resources from further damage and promote faster recovery
- Compensating the public for lost recreational opportunities, which is a critical piece of ensuring a healthy Blue Economy
- Helping restore previously damaged habitats, fisheries, and protected resources, which contribute to resilient coastal communities, including those disproportionately impacted by pollution, which directly supports environmental justice initiatives

Through the DARRP, NOAA and co-trustees have secured \$10.5 billion for restoration from responsible parties at 320 oil spills, Superfund sites and ship groundings, since 1998. Between October 1, 2021 and June, 2022 alone, five settlements by NOAA and co-trustees collected \$40 million for restoration in Louisiana, Pennsylvania, Hawaii, and Texas. These funds are reserved for ecosystem restoration and restoration of recreational use of the damaged resources. Funds are not associated with third party or private claims for property damage and lost business. In addition to securing resources for restoration, NOAA has also ensured that protection and restoration have been integrated into 500+ waste site cleanups to reduce further injuries and promote recovery. These restoration projects put back what was lost, and provide economic benefits in the form of tourism, recreation (fishing, etc.), green jobs, coastal resiliency, property values and quality of life, including in indigenous and disadvantaged communities. There are currently 112 active cases in the DARRP docket; as of June 2022, 42 cases were in active injury assessment and restoration planning, while 72 are in restoration implementation or monitoring. Each case represents an oil spill, chemical spill, hazardous waste site, or ship grounding that may have damaged natural resources or reduced recreational opportunities.

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Marine Debris Program

NOAA is the Federal lead for addressing marine debris affecting the ocean and coastal environment and navigation safety in the U. S., which is one of the most pervasive global threats to the health of the ocean and our waterways, and is an issue of growing local, regional, national, and international concern. Marine debris is an added stressor to the natural environment that impairs ecosystem services and thereby coastal and ocean resilience. Through the Marine Debris Act, NOS' Marine Debris Program (MDP), managed by OR&R, is mandated to lead national and regional coordination, and to assess, research, prevent, reduce, and remove marine debris. These mandates and authorities are the foundation for the six program areas of the MDP: marine debris prevention, removal, research, response, coordination, and monitoring and detection.



An updated Marine Debris Monitoring and Assessment Project Shoreline Survey Guide and other Monitoring Toolbox materials (Credit: NOAA)

The MDP supports activities across the country, in each of these six program areas, to address the adverse impacts of marine debris on the marine environment, navigation safety, human health, and the U.S. economy. The Program spearheads prevention, removal, and research efforts and provides funding towards impactful marine debris projects. Since its establishment in 2006, the MDP has fostered partnerships with hundreds of organizations and removed over 33,000 metric tons of marine debris from coastal areas. Its staff is strategically located around the country to lead region-specific approaches to addressing marine debris with state and local agencies, tribes, nongovernmental organizations, academia, and industry. Currently there are 13 active Marine Debris Marine Debris Action Plans, at the state and regional level combined, that serve to provide a comprehensive framework for strategic action in coordination with stakeholders.

The MDP, chairs the Interagency Marine Debris Coordinating Committee (IMDCC), which helps inform and coordinate action across the U.S. Government to more effectively address this issue. NOAA demonstrates international leadership in several key global efforts, including engagement through the State Department to provide technical expertise in the negotiation of a new global agreement on plastic pollution. The MDP works through partnerships such as the Global Partnership on Marine Litter and the Global Ghost Gear Initiative to coordinate action across governments, private industry, civil society and other stakeholders to holistically address marine debris (<https://marinedebris.noaa.gov/>)

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In December 2020, the Save our Seas 2.0 Act was signed into law. The law requires several new studies and reports and established the new Marine Debris Foundation. In April 2022, the MDP supported the launch of the inaugural Board of Directors of the new Marine Debris Foundation. This distinguished group will help the Foundation to begin operations and start augmenting Federal efforts to address marine debris²¹. That same year, through the National Academies of Sciences, NOAA completed the study to assess the United States contributions to global ocean plastic waste²².

²¹ <https://marinedebris.noaa.gov/who-we-are/marine-debris-foundation>

²² <https://nap.nationalacademies.org/catalog/26132/reckoning-with-the-us-role-in-global-ocean-plastic-waste>

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(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Coastal Science, Assessment, Response and Restoration	Pos./BA	298	99,533	300	105,752	2	6,219
	FTE/OBL	279	99,533	281	105,752	2	6,219

Foundational Information for Expansion of Offshore Wind Energy (+\$6,219, 2 FTE/2 Positions) – NOAA requests an increase in funding to develop the social and ecological science to plan and site offshore wind energy development in support of the Administration’s effort to deploy 30 gigawatts of offshore wind energy by 2030.

This investment will facilitate and accelerate offshore wind development by advancing and sustaining dynamic operational models that incorporate new spatial data and changing ocean and socioeconomic conditions. The resulting data products and tools will represent the state of the ocean on the day they are generated or under modeled conditions rather than a snapshot with limited shelf-life. This is critical given the length of the permit and construction process, and the speed at which socioeconomic and biophysical conditions can shift. NOAA will expand data collection for NOAA trust resources including seafloor mapping and biological assessments; in situ observations; predictive models for marine species distribution; and studies of human perceptions and attitudes towards offshore wind within and near potential wind energy areas. In conjunction with the ongoing national mapping strategy, NOAA will work with agency partners and stakeholders to identify priority mapping and data needs and build upon and leverage the resources provided in FY 2023 to accelerate and expand the development of public-facing tools to address those needs (e.g., Marine Cadastre (<https://marinecadastre.gov/>), OceanReports (<https://marinecadastre.gov/oceanreports/>), and regional data portals); and inform the planning and siting of wind energy especially in and around special places managed by NOAA. Most important, the FY 2024 resources would enable development of operational whole-ecosystem spatial models to inform siting of offshore wind. These tools will be developed in consultation with and provided to the Bureau of Ocean Energy Management and others to improve regulatory coordination and stakeholder engagement.

The funding requested for this initiative will allow NOAA to routinely incorporate new data from the public and private sector into the regional spatial models. It includes data integration, synthesis, processing, and accelerated development of data products and tools

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to inform planning and siting of offshore wind energy and increase transparency. It also includes support for robust stakeholder engagement to identify and address potential use conflicts, and to increase NOAA's capacity for permitting and environmental review associated with these projects. The engagement will not only address activities in Federal waters, but focus on outreach to states, tribes, territories, and commonwealths with respect to energy transmission lines and viewsheds.

Schedule and Milestones:
FY 2024 – FY 2028

- Increased engagement with NOAA, BOEM and other Federal, state, Tribal territory, and commonwealth partners across all applicable regions to define and advance activities and products (FY 2024)
- Develop operational whole-ecosystem spatial models to inform siting of offshore wind for all regions of the U.S. including the Northeast, Mid-Atlantic, Southeast, Gulf of Mexico, U.S. Caribbean, Northwest (Oregon and Washington), and Southwest (California), and the U.S. Pacific
- Deliver regional Offshore Wind Opportunity Atlases or assessments as needed that provide comprehensive regional marine spatial modeling and characterization of natural and cultural resources, industries, oceanography and climate, and national security assets for a region (e.g., Southern and Central CA, Northern CA/OR/WA, the US Caribbean, and/or Pacific Islands) (FY 2024 – FY 2028)
- Develop, host, and disseminate regional high-resolution spatial data products for increased understanding, ecological modeling and conservation of NOAA-managed places and NOAA trust resources, including sensitive habitats and protected species; and other foundational data including ocean infrastructure and ocean uses. In cooperation with NMFS, address spatial and temporal patterns of commercial and recreational fishing industries to support regional marine spatial modeling (FY 2024 – FY 2028)
- Implement the approach defined in FY 2023 to identify patterns and intensity of human activity to address potential use conflicts through a participatory GIS process, and to identify impacts on sensitive natural resources. Expand ecosystem service valuations, and develop standards to quantify citizen perceptions and attitudes towards offshore wind (FY 2024 – FY 2028)
- Organize stakeholder engagement meetings, including Tribal engagement and interagency coordination, to develop data and information products to minimize resource use conflicts in Federal and state waters (FY 2024 – FY 2028)
- Enhance and expand digital public-facing tools and ensure transparency of assessments and enable dissemination of products and associated data. Work with state, Tribal, and regional partners to continue to develop data and expand tools for

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use in state waters through enhancements of Marine Cadastre, IOOS portals, and OceanReports and evaluate FY 2023 prototype “CoastalReports” that focuses on nearshore waters (FY 2024 - FY 2028)

Deliverables:

- Regionally synthesized fishing effort data, oceanographic and climatological trends, marine life, and ocean use data
- Operational whole-ecosystem regional ocean spatial models to inform regional wind energy siting along U.S. coast
- Developed process for ingesting in situ private sector data in and around wind energy areas through IOOS, Integrated Ocean and Coastal Mapping, and other coordination networks depending upon data types and user needs
- New and higher resolution oceanographic data, ocean use data, ocean infrastructure data and Tribal data (as appropriate) ingested into the Marine Cadastre data registry and OceanReports tool
- Expanded functionality and enhanced systems architecture for OceanReports and evaluate prototype of “CoastalReports” that focuses on state waters to enable custom shape upload, user briefcase, automated updates from Marine Cadastre, and new infographics
- Improved current observations, forecast models, and approaches through IOOS to reduce interference on high-frequency radar from wind turbines
- New and sustained agency and industry partnerships to leverage, ingest, and process private sector data
- Management plans for National Marine Sanctuaries, National Estuarine Research Reserves, and other NOAA-protected areas that consider the environmental and social impacts of potential wind energy development
- Improved relationships between BOEM task forces nationally and existing regional groups (e.g., Regional Ocean Partnerships, Fishery Management Councils, tribes, Sea Grant Consortia), improving resolution of contentious issues, and raising the level of understanding on emerging issues

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Performance Measures	2024	2025	2026	2027	2028
Number of new authoritative data products made available to the public through the Marine Cadastre and OceanReports to inform ocean use planning and siting activities, including for wind energy. (cumulative)					
With Increase	3	6	9	12	15
Without Increase	1	3	5	7	9
Number of new regional products that characterize human use patterns in the ocean and the bio-physical characteristics of ocean regions available to the public (Cumulative)					
With Increase	2	4	5	6	7
Without Increase	0	0	0	0	0
Direct Obligations	6,219	6,219	6,219	6,219	6,219
Capitalized	0	0	0	0	0
Uncapitalized	6,219	6,219	6,219	6,219	6,219
Budget Authority	6,219	6,219	6,219	6,219	6,219
Outlays	3,856	3,856	3,856	3,856	3,856
TE	2	2	2	2	2
Positions	2	2	2	2	2

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PROGRAM CHANGE PERSONNEL DETAIL**

Activity: Coastal Science and Assessment
 Subactivity: Coastal Science, Assessment, Response and Restoration
 Program Change: Foundational Information for Expansion of Offshore Wind Energy

<u>Title</u>	<u>Grade</u>	<u>Number</u>	<u>Annual Salary</u>	<u>Total Salaries</u>
Geographer	ZP-3/4	1	135,000	135,000
Marine Biologist	ZP-04	1	135,000	135,000
Total		2		270,000
Less lapse	25.00%	0		0
Total full-time permanent (FTE)		2		270,000
2024 Pay Adjustment (5.2%)				14,040
				284,040
 <u>Personnel Data Summary</u>				
Full-time Equivalent Employment (FTE)				
Full-time permanent		2		
Total FTE		2		
Authorized Positions:				
Full-time permanent		2		
Total Positions		2		

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Coastal Science and Assessment
Subactivity: Coastal Science, Assessment, Response and Restoration

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1 Full-time permanent compensation	34,431	36,153	38,185	38,469	284
11.3 Other than full-time permanent	307	322	322	322	0
11.5 Other personnel compensation	912	958	958	958	0
11.7 Military personnel compensation	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	35,650	37,433	39,465	39,749	284
12 Civilian personnel benefits	12,854	13,497	14,085	14,166	81
13 Benefits for former personnel	13	13	13	13	0
21 Travel and transportation of persons	734	734	742	742	0
22 Transportation of things	140	140	143	143	0
23 Rent, communications, and utilities	3,172	3,172	3,232	3,232	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental Payments to others	0	0	0	0	0
23.3 Communications, utilities and misc charges	0	750	750	750	0
24 Printing and reproduction	45	45	46	46	0
25.1 Advisory and assistance services	0	0	0	0	0
25.2 Other services from non-Federal sources	28,353	24,895	25,179	31,033	5,854
25.3 Other goods and services from Federal sources	0	0	0	0	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	1,241	1,241	1,264	1,264	0
31 Equipment	2,054	2,054	2,088	2,088	0
32 Lands and structures	1,257	1,257	1,257	1,257	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	11,267	11,267	11,267	11,267	0
42 Insurance claims and indemnities	2	2	2	2	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total obligations	96,782	96,500	99,533	105,752	6,219

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(Dollar amounts in thousands)

		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Coastal Science, Assessment, Response and Restoration	Pos./BA	298	99,533	298	100,627	0	1,094
	FTE/OBL	279	99,533	279	100,627	0	1,094

Enhancing Marine Debris Science and Innovation (+\$1,094, 0 FTE/0 Positions) – NOAA requests an increase to fund critical science needs and innovative marine debris projects. There is an increasing need to create and foster natural and economic resilience along the U.S. coasts through support, expertise and robust, on-the-ground partnerships and place-based conservation activities.

The Save Our Seas 2.0 Act of 2020 provided additional mandates and authorities for NOAA to enhance the domestic marine debris response. The Act established a Marine Debris Foundation to augment NOAA’s work to assess, prevent, reduce, and remove marine debris and directs the Department of Commerce to establish a Genius Prize for Save Our Seas Innovation. The additional funds being requested will allow NOAA to comply with the direction of the Act and address the increasing concerns with marine debris nationwide.

Approximately half of this request will be used to support the Foundation and establish the Genius Prize as envisioned by Congress, and ultimately award prizes for projects that advance human understanding and innovation in removing and preventing plastic waste, thereby preventing marine debris.

The other half will be used to advance critical science to quantify impacts to the economy, society, and better understand the long-term impacts of marine debris to ecosystem services and coastal resilience. NOAA will fund at least two research projects biennially that focus on knowledge gaps, produce relevant, practical, and applicable results that advance marine debris science with a focus on the social and economic cost of marine debris to communities. Ecological restoration and community resilience, as outlined in EO 14008, are integral to NOAA and the Administration’s climate strategy.

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The additional funding would come at a critical time. With the launch of a global legally binding agreement to address plastic pollution by the end of 2024, and a recognition across the Administration and Congress that plastic pollution and marine debris results in significant impacts to coastal communities, economies, wildlife and its habitat, marine debris is a problem with solutions that require sustained Federal leadership.

**Schedule and Milestones:
FY 2024 – FY 2028**

- Complete a framework for cooperation between NOAA and the new Marine Debris Foundation established in Save Our Seas 2.0 Act to coordinate activities of mutual interest (FY 2024)
- Award a non-competitive grant to the Marine Debris Foundation for the Genius Prize for Save Our Seas Innovation (FY 2024)
- Partner to fund at least two research projects biennially that address priority research questions (FY 2024 – FY 2028)

Deliverables:

- Genius Prizes awarded biennially
- New science generated to better understand the long-term impacts of marine debris to the economy, ecosystem services, and society

Performance Measures	2024	2025	2026	2027	2028
Number of research projects and innovation awards undertaken to answer critical Marine Debris Science questions (cumulative)					
With Increase	2	6	8	12	14
Without Increase	0	0	0	0	0

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Outyear Costs:					
Direct Obligations	1,094	1,094	1,094	1,094	1,094
Capitalized	0	0	0	0	0
Uncapitalized	1,094	1,094	1,094	1,094	1,094
Budget Authority	1,094	1,094	1,094	1,094	1,094
Outlays	678	678	678	678	678
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Coastal Science and Assessment
Subactivity: Coastal Science, Assessment, Response and Restoration

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1 Full-time permanent compensation	34,431	36,153	38,185	38,185	0
11.3 Other than full-time permanent	307	322	322	322	0
11.5 Other personnel compensation	912	958	958	958	0
11.7 Military personnel compensation	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	35,650	37,433	39,465	39,465	0
12 Civilian personnel benefits	12,854	13,497	14,085	14,085	0
13 Benefits for former personnel	13	13	13	13	0
21 Travel and transportation of persons	734	734	742	742	0
22 Transportation of things	140	140	143	143	0
23 Rent, communications, and utilities	3,172	3,172	3,232	3,232	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental Payments to others	0	0	0	0	0
23.3 Communications, utilities and misc charges	0	750	750	750	0
24 Printing and reproduction	45	45	46	46	0
25.1 Advisory and assistance services	0	0	0	0	0
25.2 Other services from non-Federal sources	28,353	24,895	25,179	25,379	200
25.3 Other goods and services from Federal sources	0	0	0	0	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	1,241	1,241	1,264	1,264	0
31 Equipment	2,054	2,054	2,088	2,088	0
32 Lands and structures	1,257	1,257	1,257	1,257	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	11,267	11,267	11,267	12,161	894
42 Insurance claims and indemnities	2	2	2	2	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total obligations	96,782	96,500	99,533	100,627	1,094

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PROGRAM DECREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Coastal Science, Assessment, Response and Restoration	Pos./BA	298	99,533	298	97,930	0	(1,603)
	FTE/OBL	279	99,533	279	97,930	0	(1,603)

Decrease Disaster Preparedness Program Funding (-\$1,603, 0 FTE/0 Positions) – NOAA requests a decrease to the DPP to address other programmatic priorities. Activities that will be impacted include the Disaster Preparedness for Coastal Communities grants, the annual Lagniappe Funding that enhances internal NOAA preparedness posture, and ongoing collaborations with the Coastal Response Research Center, which delivers preparedness-focused workshops and research. Despite these impacts, existing tools and technology will sustain current readiness levels over the short term.

Further, NOAA will reduce the planning and execution of staff training and preparedness exercises. Despite these reductions, NOAA will still prioritize the continuity of operations and disaster response in coastal areas, to the greatest extent possible, to address the frequency and severity of natural disasters, that continue to increase each year.

Schedule and Milestones:

- Terminate the Disaster Preparedness for Coastal Communities grants (FY 2024)
- Plan and execute trainings and preparedness exercises on a reduced schedule for NOAA staff and partners in the response community (FY 2024 – FY 2028)

Deliverables:

- 750 internal and external partners trained annually
- One exercise per year to build response capacity and improve overall response posture to natural and human-caused disasters

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(Dollar amounts in thousands)

Performance Measures	2024	2025	2026	2027	2028
Number of Disaster Preparedness for Coastal Communities grants awarded					
With Decrease	0	0	0	0	0
Without Decrease	5	5	5	5	5
Number of responders trained in technical and scientific elements and tools of incident response					
With Decrease	750	750	750	750	750
Without Decrease	1,000	1,000	1,000	1,000	1,000
Outyear Costs:					
Direct Obligations	(1,603)	(1,603)	(1,603)	(1,603)	(1,603)
Capitalized	0	0	0	0	0
Uncapitalized	(1,603)	(1,603)	(1,603)	(1,603)	(1,603)
Budget Authority	(1,603)	(1,603)	(1,603)	(1,603)	(1,603)
Outlays	(994)	(994)	(994)	(994)	(994)
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Coastal Science and Assessment
Subactivity: Coastal Science, Assessment, Response and Restoration

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base	
11.1	Full-time permanent compensation	34,431	36,153	38,185	38,185	0
11.3	Other than full-time permanent	307	322	322	322	0
11.5	Other personnel compensation	912	958	958	958	0
11.7	Military personnel compensation	0	0	0	0	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	35,650	37,433	39,465	39,465	0
12	Civilian personnel benefits	12,854	13,497	14,085	14,085	0
13	Benefits for former personnel	13	13	13	13	0
21	Travel and transportation of persons	734	734	742	742	0
22	Transportation of things	140	140	143	143	0
23	Rent, communications, and utilities	3,172	3,172	3,232	3,232	0
23.1	Rental payments to GSA	0	0	0	0	0
23.2	Rental Payments to others	0	0	0	0	0
23.3	Communications, utilities and misc charges	0	750	750	750	0
24	Printing and reproduction	45	45	46	46	0
25.1	Advisory and assistance services	0	0	0	0	0
25.2	Other services from non-Federal sources	28,353	24,895	25,179	23,576	(1,603)
25.3	Other goods and services from Federal sources	0	0	0	0	0
25.4	Operation and maintenance of facilities	0	0	0	0	0
25.5	Research and development contracts	0	0	0	0	0
25.6	Medical care	0	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0	0
26	Supplies and materials	1,241	1,241	1,264	1,264	0
31	Equipment	2,054	2,054	2,088	2,088	0
32	Lands and structures	1,257	1,257	1,257	1,257	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	11,267	11,267	11,267	11,267	0
42	Insurance claims and indemnities	2	2	2	2	0
43	Interest and dividends	0	0	0	0	0
44	Refunds	0	0	0	0	0
99	Total obligations	96,782	96,500	99,533	97,930	(1,603)

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PROGRAM DECREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Coastal Science, Assessment, Response and Restoration	Pos./BA	279	99,533	279	98,513	0	(1,020)
	FTE/OBL	298	99,533	298	98,513	0	(1,020)

Terminate NCCOS Support to NOAA’s Cooperative Institute for Research to Operations in Hydrology (-\$1,020, 0 FTE/0 Positions) – NOAA requests a termination of the additional resources provided in the FY 2023 enacted bill in support of NOAA’s Cooperative Institute for Research to Operations in Hydrology. NOS will continue to be engaged in the work of the Cooperative Institute and with NWS to ensure their work furthers the missions of programs across NOAA, but will no longer be providing additional financial support.

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Coastal Science and Assessment
Subactivity: Coastal Science, Assessment, Response and Restoration

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1 Full-time permanent compensation	34,431	36,153	38,185	38,185	0
11.3 Other than full-time permanent	307	322	322	322	0
11.5 Other personnel compensation	912	958	958	958	0
11.7 Military personnel compensation	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	35,650	37,433	39,465	39,465	0
12 Civilian personnel benefits	12,854	13,497	14,085	14,085	0
13 Benefits for former personnel	13	13	13	13	0
21 Travel and transportation of persons	734	734	742	742	0
22 Transportation of things	140	140	143	143	0
23 Rent, communications, and utilities	3,172	3,172	3,232	3,232	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental Payments to others	0	0	0	0	0
23.3 Communications, utilities and misc charges	0	750	750	750	0
24 Printing and reproduction	45	45	46	46	0
25.1 Advisory and assistance services	0	0	0	0	0
25.2 Other services from non-Federal sources	28,353	24,895	25,179	24,159	(1,020)
25.3 Other goods and services from Federal sources	0	0	0	0	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	1,241	1,241	1,264	1,264	0
31 Equipment	2,054	2,054	2,088	2,088	0
32 Lands and structures	1,257	1,257	1,257	1,257	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	11,267	11,267	11,267	11,267	0
42 Insurance claims and indemnities	2	2	2	2	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total obligations	96,782	96,500	99,533	98,513	(1,020)

**Department of Commerce
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PROGRAM DECREASE FOR 2024**
(Dollar amounts in thousands)

		2024 Base		2024 Estimate		Decrease from	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Coastal Science, Assessment, Response and Restoration	Pos./BA	279	99,533	279	98,633	0	(900)
	FTE/OBL	298	99,533	298	98,633	0	(900)

Enterprise Infrastructure Solutions (EIS) Decrease (-\$900, 0 FTE/0 Positions) – NOAA requests a reduction for EIS. Funds provided to NOS through FY 2023 were sufficient to complete the transition of telecommunications services to GSA's EIS contract vehicle.

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Coastal Science and Assessment
Subactivity: Coastal Science, Assessment, Response and Restoration

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1 Full-time permanent compensation	34,431	36,153	38,185	38,185	0
11.3 Other than full-time permanent	307	322	322	322	0
11.5 Other personnel compensation	912	958	958	958	0
11.7 Military personnel compensation	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	35,650	37,433	39,465	39,465	0
12 Civilian personnel benefits	12,854	13,497	14,085	14,085	0
13 Benefits for former personnel	13	13	13	13	0
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22 Transportation of things	140	140	143	143	0
23 Rent, communications, and utilities	3,172	3,172	3,232	3,232	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental Payments to others	0	0	0	0	0
23.3 Communications, utilities and misc charges	0	750	750	0	(750)
24 Printing and reproduction	45	45	46	46	0
25.1 Advisory and assistance services	0	0	0	0	0
25.2 Other services from non-Federal sources	28,353	24,895	25,179	25,029	(150)
25.3 Other goods and services from Federal sources	0	0	0	0	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	1,241	1,241	1,264	1,264	0
31 Equipment	2,054	2,054	2,088	2,088	0
32 Lands and structures	1,257	1,257	1,257	1,257	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	11,267	11,267	11,267	11,267	0
42 Insurance claims and indemnities	2	2	2	2	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total obligations	96,782	96,500	99,533	98,633	(900)

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Activity: Ocean and Coastal Management and Services

Goal Statement

Use place-based, community, and regional approaches to effectively manage coastal and marine resources. Manage our special resources, and empower coastal states and communities with actionable information and resources needed to understand risk and increase resilience of coastal ecosystems and communities. Emphasize collaboration and partnerships across multiple levels of public and private organizations.

Base Program

NOS manages National Marine Sanctuaries and other Marine Protected Areas (MPAs) that conserve and facilitate sustainable use of special places along our coasts, oceans, and Great Lakes. NOS also equips coastal planners with the scientific tools and skills to better manage the Nation's coastal resources and communities. This includes the interactive Digital Coast web platform, which provides data, tools, and training to inform coastal decisions by both resource managers and local leaders. NOS also works in partnership with and provides funding to local governments, states, non-profit organizations, and other partners to advance coastal management, research, and education and engagement through the national Coastal Zone Management (CZM) Program, the Coral Reef Conservation Program (CRCP), the National Estuarine Research Reserves (NERRs), the National Coastal Resilience Fund (NCRF), and Regional Ocean Partnerships (ROPs)²³.

The following program offices carry out the activities within the Ocean and Coastal Management and Services activity:

- **Office for Coastal Management (OCM)** – Enables and guides implementation of the CZM Program and the NERRs System authorized under the Coastal Zone Management Act (CZMA). It delivers useful tools, training, and technical assistance through NOAA's Digital Coast, as defined in the Digital Coast Act. The office also administers the CRCP, and supports ROPs of coastal states. In partnership with the National Fish and Wildlife Foundation (NFWF), OCM administers the NCRF, which provides grants that increase natural infrastructure to protect coastal communities, while enhancing habitats for fish and wildlife. These activities and programs connect NOAA data and expertise to actions that advance the Executive Order on

²³ The CZM Program and Grants, NERRS, NCRF and ROPs all received additional funding through the FY 2022 Bipartisan Infrastructure Law (BIL), which will provide them with dedicated funding through FY 2026.

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Tackling the Climate Crisis at Home and Abroad²⁴. The office also supports activities under the Ocean Thermal Energy Conversion Act and the Deep Seabed Hard Mineral Resources Act (<https://coast.noaa.gov/>)

- **Office of National Marine Sanctuaries (ONMS)** – Responsible for the stewardship and management of a network of underwater parks encompassing more than 620,000 square miles of marine and Great Lakes waters from Washington state to the Florida Keys, and from Lake Huron to American Samoa. The network includes a system of 15 National Marine Sanctuaries and Papahānaumokuākea and Rose Atoll marine national monuments. Within ONMS, the national MPAs Center is responsible for developing and coordinating a national system of MPAs to advance national conservation goals and to identify additional areas in need of protection (<https://sanctuaries.noaa.gov/>)

Statement of Operating Objectives

Schedule and Milestones:

- Collect and deliver additional economic data in the U.S. territories to build out the Economics: National Ocean Watch product (FY 2024)
- Support designation of new NERR sites in Wisconsin and Louisiana (FY 2024)
- Fund additional Digital Coast Partnership projects with a focus on inundation and equity (FY 2024)
- Train CRCP jurisdiction partners to use the Manager’s Guide to Coral Restoration Planning and Design to create coral restoration plans for each of the seven states and territories (FY 2024)
- Input final rule for zoning in Florida Keys National Marine Sanctuaries (FY 2024)
- Form Chumash Heritage National Marine Sanctuaries Advisory Council (FY 2024)
- Initiate increased management structures to allow for staffing increases and Sanctuary Advisory Councils at proposed Lake Ontario and Chumash Heritage National Marine Sanctuaries (FY 2024 - FY 2026)
- Initiate a new NERR designation process in the US Virgin Islands (FY 2024 – FY 2026)
- Conduct valuation studies for ecosystem services provided by U.S. coral reefs (FY 2024 – FY 2026)
- Conduct research and data collection on Stony Coral Tissue Loss Disease and build capacity for disease detection, prevention and response efforts (FY 2024 - FY 2027)

²⁴ <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/executive-order-on-tackling-the-climate-crisis-at-home-and-abroad/>

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- Lead the development of state- and local-level policies and plans that enhance coastal community resilience; provide improved access to the public; protect or restore coastal habitat, through the national CZM Program (FY 2024 – FY 2028)
- Conduct research and monitoring of climate change impacts and provide management and adaptation training and technical assistance to local and state officials at 30 NERR nationwide (FY 2024 – FY 2028)
- Continue efforts to uncover and address barriers and constraints to serving underserved and minority communities and implement specific and systemic changes to OCM engagement, service delivery, and training (FY 2024 - FY 2028)
- Deliver decision-support tools, training, and technical assistance that enable coastal communities to understand inundation risk and sea level rise scenarios for state and local resilience planning (FY 2024 - FY 2028)
- Develop and disseminate products that translate natural and social science data to inform climate adaptation strategies and related management decisions (FY 2024 – FY 2028)
- Implement the Coastal Management Fellowship, the Margaret A. Davidson Fellowship, the Digital Coast Fellowship, and National Coral Reef Management Fellowship programs to grow the next generation of coastal leaders (FY 2024 – FY 2028)
- Support projects that restore or expand natural ecosystems to increase protection for communities from coastal hazards while enhancing fish and wildlife habitats through the NCRF, in partnership with NFWF (FY 2024 – FY 2028)
- Implement best practices to reduce pollutant loadings in U.S. Coral Reef Task Force priority watershed sites and NOAA Habitat Focus Areas and NOAA CRCP key watersheds (FY 2024 - FY 2028)
- Conduct coral reef assessment and monitoring cruises in the Pacific and Atlantic/Caribbean (FY 2024 – FY 2028)
- Assess the type, distribution, and intensity of uses in National Marine Sanctuaries (FY 2024 - FY 2028)
- Assess and document status and trends of natural and cultural resources in conjunction with management plan review processes (FY 2024 – FY 2028)
- Assess and document status and trends of natural and cultural resources in conjunction with management plan review processes (FY 2024 – FY 2028)
- Invest in meaningful engagement with Tribal and Indigenous communities that rely on the ocean and Great Lakes as an integral part of their identity, culture, and well-being (FY 2024 – FY 2028)
- Implement recommendations from a national two-year Working Toward Racial Equity program to emphasize diversity, inclusion, and representation as central to the ONMS as an organization and to be representative of the communities that national marine sanctuaries serve (FY 2024 - FY 2025)

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- Increase educational resources and engagement opportunities in underserved communities (FY 2024 – FY 2028)

Deliverables:

- Updated Economics: National Ocean Watch data product, including new data for each of the U.S. Territories, characterize the economic and job impacts of ocean and coastal activity
- Two additional Digital Coast Partnership projects, with a focus on inundation and equity, for a total of four partnerships
- Final rule for zoning in Florida Keys National Marine Sanctuary
- Established Chumash Sanctuary Advisory Council
- Lake Ontario and Chumash Heritage National Marine Sanctuaries management structure in place, with increased capacity
- Improved local decision-making from applied research results covering habitat conserved and restored, training and tools developed, and science standards for education
- Improved coastal resiliency through a collaborative process that engages stakeholders by funding projects on: impacts of climate change on estuaries and coastal communities; mitigation of land use change, ecosystem valuation; and shoreline stabilization
- Priority data and mapping gaps filled, and tools and training resources delivered that are more inclusive and accessible through Digital Coast to help state and local communities, including underserved communities, plan for the effects of coastal flooding, sea level rise, and climate change
- Training or job aids that advance approaches and best practices to understand risk, increase resilience, and adapt to current and future risks from a changing climate
- Improved coral bleaching forecasts and ocean acidification models
- Management strategies for coral reef protection to understand the impacts of stressors to coral reefs
- Publications on visitation and uses of various national marine sanctuaries
- Site Condition Reports, Climate Vulnerability Assessments and Updated Management Plans
- Native and indigenous community knowledge and needs integrated into sanctuary management plans
- Improved, sustained engagement with Tribes and indigenous peoples across the National Marine Sanctuary system

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Explanation and Justification

Comparison by subactivity		2022		2023		2024	
		Actual		Enacted		Base Program	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Coastal Zone Management and Services	Pos/BA	138	66,364	128	51,220	128	52,642
	FTE/OBL	108	51,790	126	51,220	126	52,642
Coastal Zone Management Grants	Pos/BA	0	120,131	0	81,500	0	81,500
	FTE/OBL	0	79,127	0	81,500	0	81,500
National Oceans and Coastal Security Fund	Pos/BA	0	156,165	0	34,000	0	34,000
	FTE/OBL	0	154,586	0	34,000	0	34,000
Coral Reef Program	Pos/BA	33	32,471	33	33,500	33	33,699
	FTE/OBL	32	32,770	31	33,500	31	33,699
National Estaurine Research Reserves	Pos/BA	0	44,912	0	32,500	0	32,500
	FTE/OBL	0	29,677	0	32,500	0	32,500
Sanctuaries and Marine Protected Areas	Pos/BA	187	60,580	188	68,000	188	70,167
	FTE/OBL	169	59,635	184	68,000	184	70,167
Total Activity	Pos/BA	358	480,623	349	300,720	349	304,508
	FTE/OBL	309	407,585	341	300,720	341	304,508

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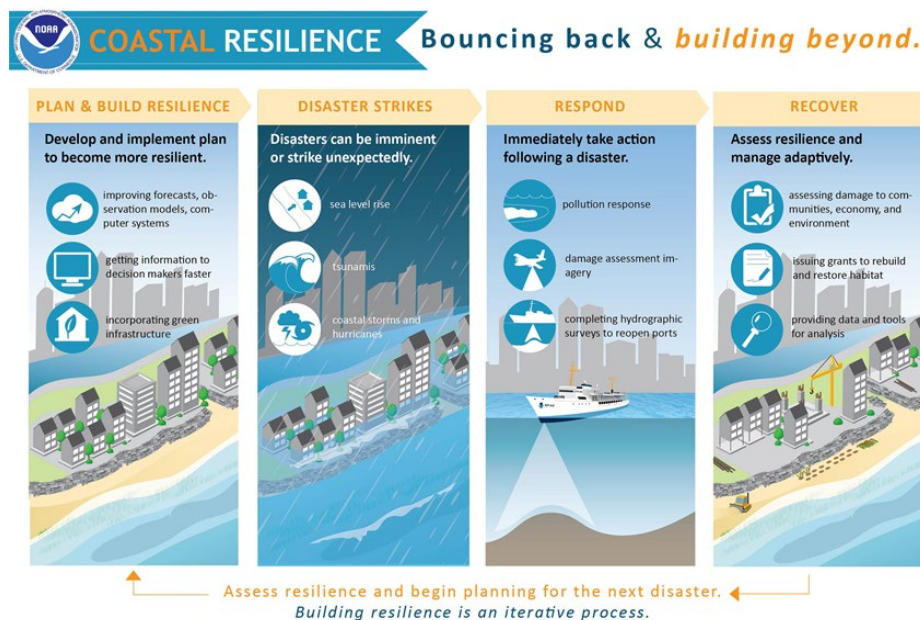
Coastal Zone Management and Services

NOAA and other agencies possess significant science and data capabilities to support coastal resource management; most decisions that affect the resilience of coastal communities occur at state and local levels. NOAA provides national leadership for the CZM Program, NERRS, the CRCP, and the National Oceans and Coastal Security Fund; and makes significant scientific expertise, data capabilities, tools, and training available to decision-makers to support state and local decision-making.

National Coastal Zone Management Program

The Nation’s coasts are managed through coastal and Great Lakes states’ and territories’ voluntary partnerships with NOAA. Authorized by the CZMA of 1972, the national CZM Program provides the basis for protecting, restoring, responsibly developing, and managing the use of the Nation’s diverse coastal zone. The 34 participating states’ comprehensive programs balance competing demands of resource use, economic development, and conservation for approximately 62,000 miles of coastline. This includes developing and implementing strategies to increase coastal community resilience to coastal hazards and climate impacts, managing and conserving valuable coastal ecosystems and their services, and planning and developing coastal access to support community recreation and tourism.

State coastal management programs consider current and future uses in coastal areas, weighing economic, environmental and social considerations. NOAA provides data policy guidance and technical assistance to help states, businesses, and stakeholders navigate complex and interwoven sets of laws and regulations that govern our coastal areas. NOAA also routinely assesses the performance of each state program, measuring progress toward individual state and national program goals and recommending or requiring improvements to those programs. Under CZMA, participating states have the authority to review all



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Federal activities that have reasonably foreseeable effects on any coastal use or natural resource of their coastal zone towards ensuring that they are consistent with enforceable policies of their state programs.

The Digital Coast Act enables NOAA to provide the training, geospatial resources and decision support tools which provide actionable information and skills needed by the CZM Program and coastal communities to ensure that they continue to thrive and serve as engines for economic growth. The Digital Coast provides easy access to data, information, tools, and training to help communities address coastal issues, including 5.5 trillion points of lidar, 37 terabytes of imagery, 800,000 square miles of land cover, over 70 tools with over 140 use examples, and 226 learning products²⁵. OCM trained more than 3,387 coastal professionals in 2021 and has continued to meet the unique needs of users during throughout the pandemic, with a 28 percent increase in the number of online instructor-led training deliveries and a 31 percent increase in the number of online instructor-led training participants²⁶.

A 2015 NOAA study estimated a cost-benefit ratio of 1:3 for Digital Coast, with net benefits of \$25 million²⁷. Tools like the Coastal County Snapshots²⁸ that depict flood risk and economic impact of the ocean economy contribute to this benefit. A 2019 study by the Congressional Budget Office estimates that losses to the U.S. economy caused by hurricane winds and storm-related flooding, result in annual costs of \$54 billion²⁹. In February 2021, non-governmental organization, Resources for the Future, documented the “Societal Value of NOAA’s Digital Coast,” estimating the value of the Digital Coast Academy at \$1.8 to \$9.7 million annually³⁰. One of the tools evaluated in this study was the Sea Level Rise Viewer³¹, which integrates flood projection maps, digital elevation models, and realistic visualizations to show planners and engineers how flooding affects landmarks and infrastructure. The study estimated the economic value of using the Sea Level Rise Viewer and Coastal Flood Exposure Mapper in Jackson, Mississippi, to relocate wastewater treatment plants, treating 13 millions of gallons of wastewater daily and serving five cities including 80 percent of Jackson County’s population, and move them to higher ground to avoid the impacts of future flood risks. The estimated one-time benefit of using the Sea Level Rise Viewer and Coastal Flood Exposure Mapper in this case was \$1.1 million to \$2.2 million in 2014 dollars. Given that these products are used thousands of times annually for a range of uses across the country, it is safe to extrapolate that the overall cost benefits of these products exceeds several billion dollars.

²⁵ <https://coast.noaa.gov/data/docs/digitalcoast/digitalcoast.pdf>; <https://coast.noaa.gov/data/digitalcoast/pdf/benefits-costs.pdf>; <https://coast.noaa.gov/digitalcoast/>

²⁶ 2021 Digital Coast Academy Annual Report (Summary: <https://coast.noaa.gov/data/digitalcoast/pdf/dca-annual-report.pdf>)

²⁷ <https://coast.noaa.gov/data/digitalcoast/pdf/benefits-costs.pdf>

²⁸ <https://coast.noaa.gov/digitalcoast/tools/snapshots.html>

²⁹ <https://www.cbo.gov/system/files/2019-04/55019-ExpectedCostsFromWindStorm.pdf>

³⁰ https://media.rff.org/documents/RFF_WP_21-03.pdf

³¹ <https://coast.noaa.gov/digitalcoast/tools/slr.html>

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Digital Coast resources are also instrumental in understanding risk to Federal facilities. In 2022, the Office of Management and Budget used NOAA's Sea Level Rise Viewer to identify 10,250 individual Federal buildings and structures, with a combined replacement cost of \$32.3 billion that would be inundated or severely affected by typical high tide under an eight-foot sea level rise scenario³². In coordination with other Federal agencies, NOAA is now supporting interagency efforts to reduce the risk of flooding to federally funded facilities through implementation of the Federal Flood Risk Management Standard.

NOAA's technical assistance resources help states to protect economically significant infrastructure, which is increasingly at risk. In California, the CZM Program worked with NOAA to assess flood and seismic vulnerabilities of transportation assets in Alameda and Contra Costa counties. A similar plan developed by Texas coastal management agencies with NOAA assistance will protect critical energy infrastructure and waterborne commerce passing through the Gulf Intracoastal Waterway valued at \$25 billion annually³³. The Georgia CZM program raised a causeway — the only road to Tybee Island — to mitigate flood risks that it identified using NOAA tools. The road is essential to recreation and tourism in the area.

To ensure equitable delivery of its products and services, OCM assesses its own engagement, service delivery, and training efforts to ensure they enable all coastal communities, especially those with underserved populations, to have the capacity to address coastal hazards. These improvement efforts lead to changes and enhancements that increase the capacity of a wider swath of coastal communities and decision-makers to assess risk, reduce vulnerabilities, and adapt to change with easily accessible coastal data, mapping and visualization, education, and practitioner training.

NOAA's regional efforts complement its state focused partnership programs. Facilitating regional networks of technical experts, decision-makers, and community stakeholders accelerates the development and implementation of science-based climate adaptation strategies. These regional efforts build the skills and capacity needed to address coastal resilience and promote innovation in areas such as resilience finance, risk communication, and the development of equitable resilience solutions that meet local needs.

NOAA's support for regional data sharing and integration will continue to provide ocean-related Federal data and information to the public to inform regional, coastal, and ocean management decision making across the U.S.

³² https://www.whitehouse.gov/wp-content/uploads/2022/04/OMB_Climate_Risk_Exposure_2022.pdf

³³ https://www.whitehouse.gov/wp-content/uploads/2022/04/OMB_Climate_Risk_Exposure_2022.pdf

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Coastal Zone Management Grants

U.S. coastal communities are home to over 128 million people, support 58.3 million jobs, and contribute more than \$9.5 trillion to the U.S. economy, accounting for 46 percent of the Nation's economic output³⁴. CZM Grants assist states with planning and managing uses in coastal areas, including preparing for and responding to coastal hazards. Over the history of the Program, participating states and territories have partnered to enhance coastal community resilience, support vibrant coastal economies, and address the multiple uses of coastal areas in a way that maximizes benefits for all. Since FY 2011, States participating in the national CZM Program have completed over 2,800 projects that enhance resilience to coastal hazards; worked with over 3,000 communities to grow in a balanced way that protects coastal community character; protected over 63,000 acres of habitat and restored an additional 62,000 acres; created almost 900 new sites for the public to access coastal areas; and enhanced over 2,400 additional access sites to improve the visitor experience³⁵. State accomplishments in FY 2023 will add to these totals, involve management and administration of large restoration or conservation projects funded under the Bipartisan Infrastructure Law, and continue to expand the positive impact of the National CZM Program on the Nation.

National Oceans and Coastal Security Fund

The National Oceans and Coastal Security Fund PPA supports the National Coastal Resilience Fund (NCRF), which is a partnership between the NFWF and NOAA that enhances the resilience of coastal communities to flooding and inundation by restoring or expanding natural ecosystems, while enhancing fish and wildlife habitats and increasing protection for communities from coastal hazards. These investments will lead to the restoration of hundreds to thousands of acres of habitat, protection of critical infrastructure from flooding, and job creation in communities across the country. The NCRF provides a means to address the climate crisis and chronic environmental changes such as sea level rise by investing in natural solutions that are in many cases able to adapt to those changes. Hard structural solutions, in contrast, have a finite life and an increasing susceptibility to the risks of the climate crisis.

³⁴ <https://coast.noaa.gov/states/fast-facts/economics-and-demographics.html>

³⁵ <https://coast.noaa.gov/data/czm/media/funding-summary.pdf>

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Coral Reef Conservation Program

NOAA's CRCP brings together multidisciplinary expertise from across NOAA to conserve and restore coral reefs. The program has partnerships with state, jurisdictional and international coastal resource managers. Coral reefs are among the most biologically diverse ecosystems in the world, providing a range of economic benefits and vital ecosystem services such as food, recreation, marine habitat, medicines, coastal protection, climate regulation, and biodiversity. Tropical coral reefs occur in more than 100 countries and contribute an estimated \$2.7 trillion per year in goods and services³⁶. It is estimated that U.S. coral reefs annually prevent flooding to more than 33 critical infrastructure facilities, including utilities and transportation systems, and avoid direct flood damages of more than \$825 million to more than 5,694 buildings. In addition, U.S. coral reefs avoid indirect damages of more than \$699 million in economic activity of individuals and more than \$272 million in avoided business interruption annually³⁷. Rapid declines in coral reefs have dire consequences for approximately one billion people who depend on coral reefs for their food and livelihoods. Climate change is the main global threat to coral reefs and exacerbates more locally-based threats including water quality decline and unsustainable fishing practices that make corals more susceptible to becoming diseased. No matter how remote, climate change threatens every U.S. coral reef.

CRCP integrates coral protection efforts across NOAA and other agencies to address overfishing, harmful fishing practices, ocean temperature changes, ocean acidification, land-based sources of pollution, and other threats. The CRCP strategic plan is predicated on resilience-based management and the following three concepts: an understanding of past, present, and projected future impacts to coral reefs caused by a changing climate; likely social and ecological responses to climate change; and identification and prioritization of management actions to support ecosystem resilience and human well-being. The program's approaches include ecosystem-based management initiatives to build MPA management capacity; monitoring and forecasting of threats to coral reefs; advancing coral restoration research and ecosystem-scale restoration implementation; and partnerships to address and reduce impacts of land-based sources of pollution. Land-based sources of pollution are major threats to coral reef ecosystems. NOAA works with jurisdictions that are upstream of coral reefs to develop 'ridge-to-reef' watershed management plans. These plans ensure that coral reef ecosystems are integrated into watershed planning processes.

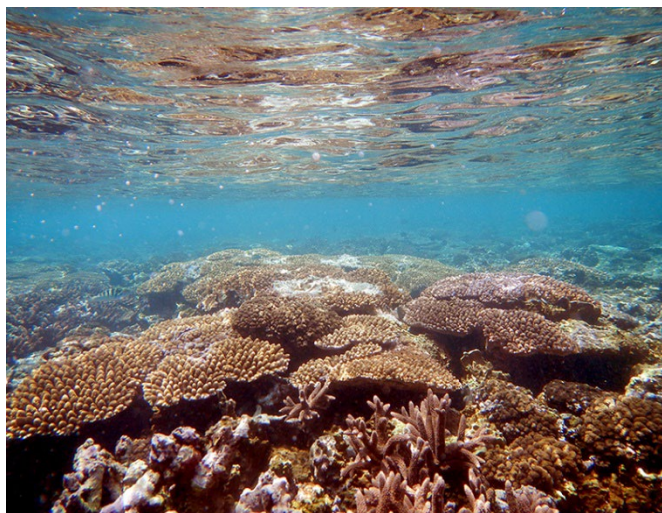
In FY 2022, the United States Coral Reef Task Force graduated the Faga'alu watershed in American Samoa as the first watershed to graduate from the Watershed Partnership Initiative³⁸. CRCP also awarded over \$18 million in grants in FY 2022, which strongly

³⁶ <https://gcrmn.net/2020-report/>

³⁷ <https://pubs.er.usgs.gov/publication/ofr20191027>

³⁸ <https://www.coralreef.noaa.gov/aboutcrp/news/featuredstories/dec22/fagaalu-watershed.html>

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The coral reef along the shore of the Faga'alu Watershed in American Samoa is recovering after years of polluted runoff from the watershed. NOAA, 2014.

supported work of academic partners and of non-governmental organizations. NOAA further released the report, An Implementation Plan for Response and Prevention to Stony Coral Tissue Loss Disease in FY 2022, which aims to build on goals and agency priorities identified in the NOAA Strategy for Stony Coral Tissue Loss Disease Response and Prevention. The implementation plan joins a growing number of publications that represent useful tools and information for the public, Congress, managers, and researchers about stony coral tissue loss disease³⁹.

In December 2022, the Coral Reef Conservation Act was reauthorized as part of the National Defense Authorization Act. In response to this reauthorization, investments will be made to continue to manage watersheds, support sustainable fishing practices, research climate change effects and management responses, and restore coral reefs, including building capacity for Stony Coral Tissue Loss Disease detection, prevention, and response and advance partnerships to prevent spread to the Pacific Ocean.

National Estuarine Research Reserve System (NERRS)

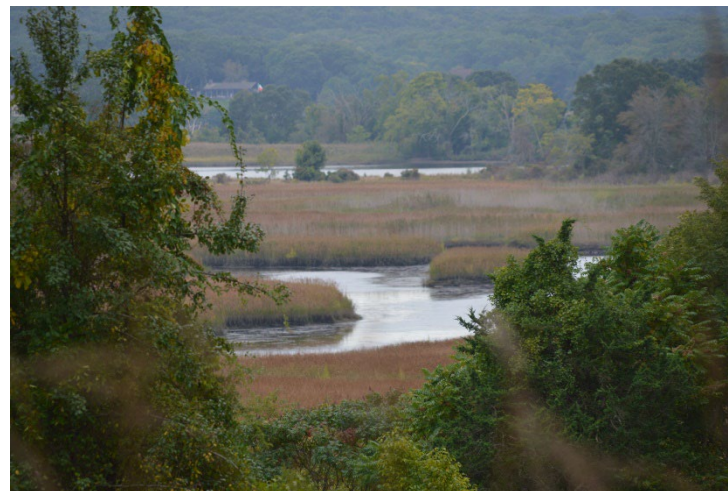
The NERRS is a national network of state-managed protected areas established under the CZMA, and in partnership with participating states. Per program regulations, NOAA provides 70 percent of the funding and states provide the remaining 30 percent of the funding for reserve operations, research, monitoring, training and education. NOAA provides national guidance, program oversight, and technical assistance while state agencies and universities perform day-to-day operations and management of individual reserves with input from local partners.

³⁹ https://www.coris.noaa.gov/activities/stony_coral_tissue_loss_disease/

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The network of 30 reserves, representative of the variety of estuaries across the country, protects over 1.4 million acres of state-owned estuarine lands and waters. Currently, reserves are located in 24 states and territories. They are economically significant areas that attract recreation and tourism activity, support commercial and recreational fisheries, and provide natural infrastructure for coastal protection and water quality. The NERRS have contributed billions of dollars to the shellfish and seafood industry in participating states and tens of billions of dollars in ocean-dependent industries. Coastal wetlands, such as those protected by the NERRS, provide \$447 billion in global storm protection each year⁴⁰. Additionally, the reserves help communities plan for current and future hazards, ultimately protecting life, property and economy. According to a study by the National Institute of Building Sciences, for each dollar spent on mitigation activities and planning, communities can save six dollars in future recovery costs⁴¹.

The NERRS conducts research and monitoring of coastal habitats through the Davidson Fellowship Program, the NERRS Science Collaborative Program, and the System-Wide Monitoring Program. The System-Wide Monitoring Program generates long-term datasets on water quality, weather, and habitat conditions and extent to support local and state decision-makers and Federal agencies. The NERRS Science Collaborative and the Davidson Fellowship Program are competitive grant programs supporting projects that contribute to improving coastal resilience to natural and man-made changes. NOAA awards an average of \$4.0 million each year in competitive grants that fund user-driven collaborative research, assessment, and transfer activities that address coastal management needs identified by the reserves. Additionally, the NERRS brings the scientific and technical capacity to local and state decision-makers through training, tools, and technical assistance to address management challenges, as well as to teachers and students through instructional and experiential education programs that engage them in their local communities' coastal challenges.



This estuary photo, which depicts the Lord Cove Wildlife Area, features a section of the newest addition to the National Estuarine Research Reserve System - the Connecticut Research Reserve.

⁴⁰ Robert Costanza, Sharolyn J. Anderson, Paul Sutton, Kenneth Mulder, Obadiah Mulder, Ida Kubiszewski, Xuantong Wang, Xin Liu, Octavio Pérez-Maqueo, M. Luisa Martinez, Diane Jarvis, Greg Dee, The global value of coastal wetlands for storm protection, *Global Environmental Change*, Volume 70, 2021, 102328, ISSN 0959-3780

⁴¹ https://www.nibs.org/files/pdfs/NIBS_MMC_MitigationSaves_2019.pdf

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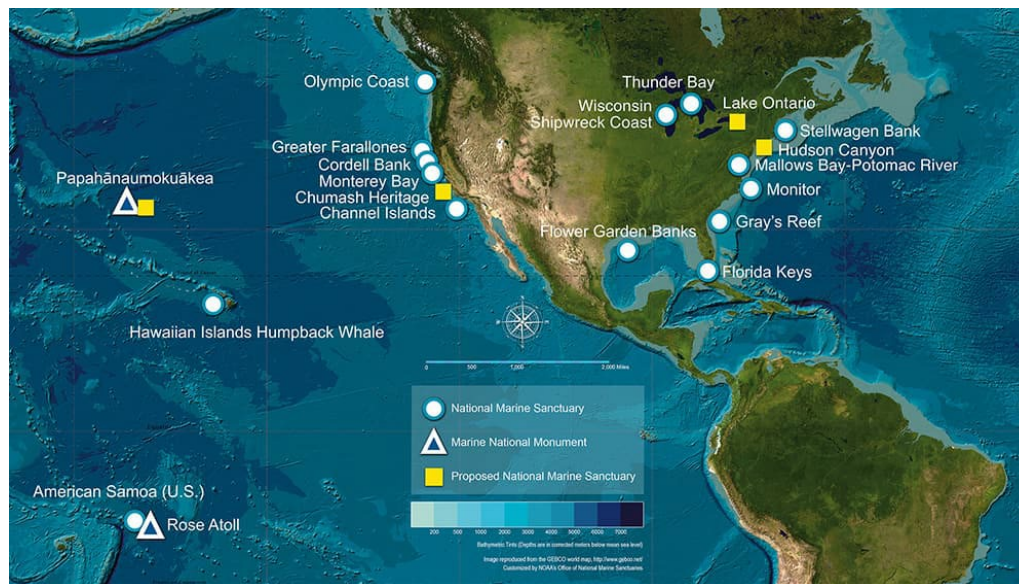
Sanctuaries and Marine Protected Areas

National Marine Sanctuaries

On October 23, 2022, the National Marine Sanctuaries System turned 50. NOAA’s Sanctuaries and Marine Protected Areas program was born with the passage of the Marine Protection, Research, and Sanctuaries Act of 1972 (MPRSA), and has grown into a vibrant network of 15 National Marine Sanctuaries and two Marine National Monuments that protect some of our Nation’s most treasured seascapes, wildlife, and maritime heritage resources. Since then, science has been central to the creation and management of National Marine Sanctuaries, and in 1984 Congress added a mandate to the MPRSA for NOAA to conduct research as necessary to meet the purposes of the act. From these beginnings, the sanctuary system has developed an outstanding science legacy. One measure of its achievements is the half-century of new discoveries – such as shipwrecks, artifacts, species, habitats, and natural processes – that inspire, amaze, and awe. (www.sanctuaries.noaa.gov/50/)

The underwater parks that make up the system of sanctuaries range in size from the one square mile Monitor National Marine Sanctuary near Cape Hatteras, North Carolina, to the 582,000 square mile Papahānaumokuākea Marine National Monument along the northwestern portion of the Hawaiian Archipelago.

Together these areas encompass over 622,000 square miles of ecologically significant marine habitats and maritime heritage assets (such as shipwrecks and cultural landscapes). National marine sanctuaries support local coastal and ocean dependent economic activities such as commercial fishing, research and recreation/tourism-related activities.



Map of the National Marine Sanctuary System

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Wisconsin Shipwreck Coast National Marine Sanctuary: Built in 1843, the schooner Home, is one of the oldest shipwrecks discovered in Wisconsin. (Photo Credit: Tamara Thomsen, Wisconsin Historical Society)

In 2021, NOAA designated the Wisconsin Shipwreck Coast National Marine Sanctuary, which spans 962 square miles, and includes 36 known shipwrecks, 21 of which are on the National Register of Historic Places, and nearly 60 potentially undiscovered shipwrecks. This new sanctuary quickly follows the 2019 designation of the Malloes Bay-Potomac River National Marine Sanctuary, which was the first national marine sanctuary designated since 2000. NOAA continues to work with interested local communities on several other potential sanctuaries, including the proposed sanctuary in Lake Ontario, the proposed Chumash Heritage Sanctuary, and the proposed Hudson Canyon National Marine Sanctuary.

NOAA is also working on the sanctuary designation of Papahānaumokuākea Marine National Monument, as directed by Congress. NOAA published its Notice of Intent in November 2021 and received approximately 75 public comments through January 2022. Since the public comment period closed, NOAA has been working on developing the draft environmental impact statement, draft regulations, and draft management plan. As part of the development of these

documents, NOAA has been coordinating with the Western Pacific Fishery Management Council on the development of fishing regulations for the proposed sanctuary as part of the process defined in section 304(a)(5) of the National Marine Sanctuaries Act. These efforts and our next steps, such as the development of an environmental impact statement, management plan, and regulations, and further public comment on these documents, play a vital role in completing this designation in the next several years pending available funding, staffing, and Congress' review period once final documents are prepared. Though this area is already protected as a monument, through a sanctuary designation, management activities in Papahānaumokuākea would expand. New sanctuaries designated with program funds will have broad-based community support, protect and celebrate the Nation's maritime cultural heritage and natural resources, and expand economic development, recreation and tourism, and educational opportunities.

Additionally, in FY 2021 NOAA expanded the Flower Garden Banks National Marine Sanctuary from 56 square miles to 160 square miles, protecting additional critical habitat in the Gulf of Mexico. That year, NOAA and partners also announced a decades-long coral reef restoration effort, Mission: Iconic Reefs to restore seven iconic reefs in Florida Keys National Marine Sanctuary. The groundbreaking approach aims to revitalize the Florida Keys' highly diverse and economically valuable marine ecosystem on an

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unprecedented scale, and represents one of the largest ever investments in coral restoration. This effort is collaborative across Federal, state, and local entities and complements NOAA's ongoing Florida Keys Restoration Blueprint and management plan review.

NOAA protects these ecological and cultural assets through community engagement, applied resource protection and management, research and monitoring, education, and public outreach activities. It develops and implements comprehensive management plans to ensure the protection and sustainable use of resources. NOAA tailors each plan to the specific goals of each national marine sanctuary, which in turn reflect the unique resources and needs of each sanctuary's respective community. NOAA's partnerships facilitate research and monitoring and enforce the laws and regulations that protect sanctuary resources. Community engagement is a cornerstone of a site's management. Sites build and rely on volunteer participation and community input to manage the resource. An example of this are the Ocean Guardian Schools in eight states, which receive grants to work with students on local conservation projects.

NOAA has recently introduced Sanctuaries 360°, a virtual reality experience into the National Marine Sanctuaries (<https://sanctuaries.noaa.gov/vr/>). Since its launch in June of 2020, the experience continues to grow and includes six video tours and eight photo galleries. These "virtual dives" provide the public with the ability to view a spot within a sanctuary from every angle; to be able to explore the surrounding environment as though they were there. These sanctuary views can be seen on a personal computer or a smartphone. The virtual reality experience is made possible through technology that produces 360-degree images which are "stitched" together from a series of six underwater photos taken by trained divers with special cameras, and are the product of an exciting collaboration between the Office of National Marine Sanctuaries and the Ocean Agency.

NOAA is using technology in new ways to deepen understanding of sanctuaries and share that knowledge broadly and more equitably. In order to better track and predict conditions and trends within national marine sanctuaries, NOAA recently developed Condition Reports for Channel Islands, Stellwagen Bank, and Olympic Coast national marine sanctuaries that documented the status and trends of natural and cultural resources in conjunction with management plan review processes. Along with the traditional publications, NOAA launched web-enabled versions of the report (<https://sanctuarywatch.ioos.us/>), which pairs artwork with data to make it easy to explore the changing conditions within National Marine Sanctuaries. Low resolution versions of the site allow for communities with bandwidth challenges to be able to access the data as well. In early 2022, the Office of National Marine Sanctuaries and partners launched a new web portal (<https://sanctuaries.noaa.gov/news/apr22/new-sanctsound-portal.html>) that allows users to learn about and listen to underwater sounds throughout the National Marine Sanctuary System. Understanding underwater sounds helps NOAA track and predict conditions within National Marine Sanctuaries to better protect these special places.

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MPA Coordination

NOAA's MPA Center develops science, policy, and management tools to advance the effective use of MPAs for national conservation and management objectives. It coordinates various Federal, state, and Tribal MPA programs to better integrate the Nation's system of MPAs, including NERR and National Marine Sanctuaries. This coordination focuses on developing curricula, training, and virtual tools to improve management capacity of MPA programs in the U.S. and around the world. MPAs are being increasingly recognized as a key tool for maintaining and restoring ecosystem resilience in a changing climate. They can also provide long-term protection for "blue carbon" - coastal habitats including salt marshes, seagrasses, mangroves, and kelp forests that provide long-term storage for atmospheric carbon and coastal protection. The MPA Center also coordinates internationally with agencies that manage sites, which share migratory species with the U.S. or have similar habitat and management challenges. It coordinates the ONMS Climate Team to implement the ONMS Climate Resilience Plan, integrating climate into all aspects of sanctuary management. The MPA Center also focuses on partnerships with Indigenous Peoples, recognizing their stewardship, homelands, and holistic approaches. The MPA Center serves as the hub for international MPA partnerships and as the authoritative source for geospatial information on U.S. MPAs.

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		2024 Base		2024 Estimate		Increase from 2024 Base	
		<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>
Coastal Zone	Pos./BA	128	52,642	128	52,995	0	353
Management and Services	FTE/OBL	126	52,642	126	52,995	0	353

Meeting NOAA’s Mission in the Arctic (+\$353, 0 FTE/0 Positions) – NOAA requests an increase in order to bolster NOAA’s expanding Arctic mission to provide fundamental science, critical national and international services, and responsible management of marine resources in Alaska, the Arctic, and the Central Arctic Ocean.

Over the past several decades, Arctic air temperatures have increased at a rate more than twice the global average since 2000. Arctic communities are grappling with a large number of issues including climate change-related impacts on subsistence livelihoods and food security, infrastructure, and transportation due to retreating sea ice, shorter winters, and a fragile ecosystem. If NOAA’s existing, limited level of service remains the status quo, the resilience of Arctic communities and their supporting ecosystems will decline, and potential economic improvements will remain unrealized amidst environmental changes.

With these funds, NOAA will address the ongoing needs identified by the NOAA-Alaska Tribal Health Consortium (ANTHC) to further develop their Tribal climate program, and increase support in service to Alaska Natives. This funding will enable NOAA’s work Advancing Racial Equity and Support for Underserved Communities Through the Federal Government (Executive Order 13985) and Tackling the Climate Crises at Home and Abroad (Executive Order 14008⁴²) through implementation of fundamental principles outlined in Executive Order 13175, Consultation and Coordination with Indian Tribal Governments⁴³.

The ANTHC is the largest non-profit Tribal Health Organization in the United States and is uniquely positioned to conduct this work through its governance structure, which legally holds it responsible and accountable to all 228 Federally recognized Tribes in Alaska. NOAA funding will leverage ANTHC’s deep community connections as a service provider to all Tribes in Alaska, including

⁴² <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/executive-order-on-tackling-the-climate-crisis-at-home-and-abroad/>

⁴³ <https://www.federalregister.gov/documents/2000/11/09/00-29003/consultation-and-coordination-with-indian-tribal-governments>

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through its leadership and technical assistance provided through the ANTHC's Functional Divisions and the Center for Environmentally Threatened Communities. Continued support for this partnership will enable NOAA to better understand and address underserved community needs for climate research, data and services in ways that are holistic, community-centered and result in improved community resilience to climate change impacts across the Arctic.

This request is complementary to the request of the same name found in the Navigation, Observations and Positioning subactivity (NOS-20).

Schedule and Milestones:
FY 2024 – FY 2028

- Convene a Tribal Climate Advisory Group to advise on Tribal priorities for climate science and services at local and regional scales; grow relationships with state-based and national Tribal organizations working on Tribal community climate change adaptation (FY 2024 – FY 2028)
- Initiate projects to address Alaska Native community needs for technical assistance to develop project plans, access and manage climate change and adaptation grants; develop longer term Alaska Native community capacity through leadership development, mentoring and other community support structures that improve community access to climate change research and adaptation resources, and yield successful project outcomes (FY 2024 – FY 2028)
- Engage with NOAA partner offices and expertise in Alaska to ensure products and services are meeting underserved needs in Alaska (FY 2024 – FY 2028)
- Share lessons learned and best practices through the Advisory Group and national-scale Tribal community networks, and develop and extend training relevant to Tribal communities across Alaska and beyond the Arctic (FY 2025 – FY 2028)

Deliverables:

- Annual summary of Tribal service and product needs that is distributed and communicated to appropriate NOAA offices and other Federal entities
- Two NOAA products and services modified to better address resilience needs of underserved Arctic coastal communities and Tribes
- Four technical assistance projects each year benefiting underserved Tribal communities to improve community capacity to identify and implement community adaptation solutions to climate change

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Performance Measures	2024	2025	2026	2027	2028
Number of Arctic Tribes with increased capacity to address climate change risks through direct technical assistance (cumulative)					
With Increase	4	8	11	18	25
Without Increase	0	0	0	0	0
Outyear Costs:					
Direct Obligations	353	353	353	353	353
Capitalized	0	0	0	0	0
Uncapitalized	353	353	353	353	353
Budget Authority	353	353	353	353	353
Outlays	219	219	219	219	219
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Ocean and Coastal Management and Services
Subactivity: Coastal Zone Management and Services

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1 Full-time permanent compensation	14,633	15,365	16,230	16,230	0
11.3 Other than full-time permanent	105	110	110	110	0
11.5 Other personnel compensation	328	344	344	344	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	15,066	15,819	16,684	16,684	0
12 Civilian personnel benefits	5,601	5,881	6,137	6,137	0
13 Benefits for former personnel	11	11	11	11	0
21 Travel and transportation of persons	135	135	136	136	0
22 Transportation of things	13	13	13	13	0
23 Rent, communications, and utilities	1,256	1,256	1,280	1,280	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental Payments to others	0	0	0	0	0
23.3 Communications, utilities and misc charges	0	300	300	300	0
24 Printing and reproduction	0	0	0	0	0
25.1 Advisory and assistance services	0	0	0	0	0
25.2 Other services from non-Federal sources	26,248	24,345	24,607	24,607	0
25.3 Other goods and services from Federal sources	0	0	0	0	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	395	395	402	402	0
31 Equipment	445	445	452	452	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	2,620	2,620	2,620	2,973	353
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total obligations	51,790	51,220	52,642	52,995	353

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		2024 Base		2024 Estimate		Decrease from 2024 Base	
		<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>
Coastal Zone	Pos./BA	128	52,642	128	52,342	0	(300)
Management and Services	FTE/OBL	126	52,642	126	52,342	0	(300)

Enterprise Infrastructure Solutions (EIS) Decrease (-\$300, 0 FTE/0 Positions) – NOAA requests a reduction for EIS. Funds provided to NOS through FY 2023 were sufficient to complete the transition of telecommunications services to GSA's EIS contract vehicle.

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Activity: Ocean and Coastal Management and Services
Subactivity: Coastal Zone Management and Services

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1 Full-time permanent compensation	14,633	15,365	16,229	16,229	0
11.3 Other than full-time permanent	105	110	110	110	0
11.5 Other personnel compensation	328	344	344	344	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	15,066	15,819	16,683	16,683	0
12 Civilian personnel benefits	5,601	5,881	6,137	6,137	0
13 Benefits for former personnel	11	11	11	11	0
21 Travel and transportation of persons	135	135	136	136	0
22 Transportation of things	13	13	13	13	0
23 Rent, communications, and utilities	1,256	1,256	1,280	1,280	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental Payments to others	0	0	0	0	0
23.3 Communications, utilities and misc charges	0	300	300	0	(300)
24 Printing and reproduction	0	0	0	0	0
25.1 Advisory and assistance services	0	0	0	0	0
25.2 Other services from non-Federal sources	26,248	24,345	24,608	24,608	0
25.3 Other goods and services from Federal sources	0	0	0	0	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	395	395	402	402	0
31 Equipment	445	445	452	452	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	2,620	2,620	2,620	2,101	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total obligations	51,790	51,220	52,642	51,823	(300)

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		2024 Base		2024 Estimate		Decrease from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Coastal Zone Management Grants	Pos./BA	0	81,500	0	78,500	0	(3,000)
	FTE/OBL	0	81,500	0	78,500	0	(3,000)

Reduce Coastal Zone Management Grants (-\$3,000, 0 FTE/ 0 Positions) – NOAA requests to decrease additional resources provided in the FY 2023 enacted bill to support CZM Grants. NOAA received significant support for the protection and restoration of coastal habitat through the Bipartisan Infrastructure Law (BIL), which will support these activities robustly through FY 2026. While this modest decrease will reduce the funding available for the protection and restoration of coastal habitat through annual appropriations, NOAA will continue to support the National CZM Program, and continue to provide state and territorial coastal management programs with resources to ensure public access to coastal areas and reduce future damage from coastal hazards.

**Schedule and Milestones:
FY 2024 – FY 2028**

- Provide CZM grant funding to states and territorial coastal management programs, at a slightly reduced amount (FY 2024 – FY 2028)
- Continue efforts to conserve and restore coastal habitat at a slightly reduced rate (FY 2024 – FY 2028)

Deliverables:

- 5,100 acres of habitat protected or under restoration, a reduction of 900 acres per year (annual)

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Performance Measures	2024	2025	2026	2027	2028
Number of acres of habitat under restoration, with assistance from the CZM program (cumulative)					
With Increase	5,100	10,200	15,300	20,400	25,500
Without Increase	6,000	12,000	18,000	24,000	30,000
Outyear Costs:					
Direct Obligations	(3,000)	(3,000)	(3,000)	(3,000)	(3,000)
Capitalized	0	0	0	0	0
Uncapitalized	(3,000)	(3,000)	(3,000)	(3,000)	(3,000)
Budget Authority	(3,000)	(3,000)	(3,000)	(3,000)	(3,000)
Outlays	(1,860)	(1,860)	(1,860)	(1,860)	(1,860)
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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(Direct Obligations amounts in thousands)

Activity: Ocean and Coastal Management and Services
Subactivity: Coastal Zone Management Grants

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1	Full-time permanent compensation	0	0	0	0
11.3	Other than full-time permanent	0	0	0	0
11.5	Other personnel compensation	0	0	0	0
11.8	Special personnel services payments	0	0	0	0
11.9	Total personnel compensation	0	0	0	0
12	Civilian personnel benefits	0	0	0	0
13	Benefits for former personnel	0	0	0	0
21	Travel and transportation of persons	0	0	0	0
22	Transportation of things	0	0	0	0
23	Rent, communications, and utilities	0	0	0	0
23.1	Rental payments to GSA	0	0	0	0
23.2	Rental Payments to others	0	0	0	0
23.3	Communications, utilities and misc charges	0	0	0	0
24	Printing and reproduction	0	0	0	0
25.1	Advisory and assistance services	0	0	0	0
25.2	Other services from non-Federal sources	0	0	0	0
25.3	Other goods and services from Federal sources	0	0	0	0
25.4	Operation and maintenance of facilities	0	0	0	0
25.5	Research and development contracts	0	0	0	0
25.6	Medical care	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0
26	Supplies and materials	0	0	0	0
31	Equipment	0	0	0	0
32	Lands and structures	0	0	0	0
33	Investments and loans	0	0	0	0
41	Grants, subsidies and contributions	79,127	81,500	81,500	78,500 (3,000)
42	Insurance claims and indemnities	0	0	0	0
43	Interest and dividends	0	0	0	0
44	Refunds	0	0	0	0
99	Total obligations	79,127	81,500	81,500	78,500 (3,000)

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		2024 Base		2024 Estimate		Decrease from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
National Oceans and Coastal Security Fund	Pos./BA	0	34,000	0	0	0	(34,000)
	FTE/OBL	0	34,000	0	0	0	(34,000)

Terminate Base Funding for the National Coastal Resilience Fund (-\$34,000, 0 FTE/0 Positions) – NOAA requests the termination of NOAA funding for the NCRF, a partnership with NFWF, which will allow NOAA to sustain other key priorities across the agency. NOAA will continue to maintain its partnership with NFWF using the \$492 million NCRF funding received under the FY 2022 BIL. This will allow NOAA to continue administering new and existing cooperative agreements to support restoration, increase and strengthen nature-based infrastructure projects to protect coastal communities from flooding and related hazards while also enhancing habitats for fish and wildlife through FY 2026. The NCRF will continue to provide support for communities most vulnerable to climate impacts, including those who have historically been underserved and often lack access to resources.

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Ocean and Coastal Management and Services
Subactivity: National Oceans and Coastal Security Fund

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1	Full-time permanent compensation	0	0	0	0
11.3	Other than full-time permanent	0	0	0	0
11.5	Other personnel compensation	0	0	0	0
11.7	Military personnel compensation	0	0	0	0
11.8	Special personnel services payments	0	0	0	0
11.9	Total personnel compensation	0	0	0	0
12	Civilian personnel benefits	0	0	0	0
13	Benefits for former personnel	0	0	0	0
21	Travel and transportation of persons	0	0	0	0
22	Transportation of things	0	0	0	0
23	Rent, communications, and utilities	0	0	0	0
23.1	Rental payments to GSA	0	0	0	0
23.2	Rental Payments to others	0	0	0	0
23.3	Communications, utilities and misc charges	0	0	0	0
24	Printing and reproduction	0	0	0	0
25.1	Advisory and assistance services	0	0	0	0
25.2	Other services from non-Federal sources	0	0	0	0
25.3	Other goods and services from Federal sources	0	0	0	0
25.4	Operation and maintenance of facilities	0	0	0	0
25.5	Research and development contracts	0	0	0	0
25.6	Medical care	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0
26	Supplies and materials	0	0	0	0
31	Equipment	0	0	0	0
32	Lands and structures	0	0	0	0
33	Investments and loans	0	0	0	0
41	Grants, subsidies and contributions	154,586	34,000	34,000	(34,000)
42	Insurance claims and indemnities	0	0	0	0
43	Interest and dividends	0	0	0	0
44	Refunds	0	0	0	0
99	Total obligations	154,586	34,000	34,000	(34,000)

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Sanctuaries and Marine Protected Areas	Pos./BA	188	70,167	203	87,925	15	17,758
	FTE/OBL	184	70,167	195	87,925	11	17,758

Increasing Conservation and Protection Across the National Marine Sanctuary System (+17,758, 11 FTE/ 15 Positions) –

NOAA requests an increase to expand the conservation and management of an expanded National Marine Sanctuary System. Funds will allow NOAA to strengthen its research, monitoring, restoration, permitting, community engagement, and interagency partnerships, all for informing NOAA’s locally-driven management decisions. NOAA will increase engagement with communities of color, underrepresented groups, and indigenous and native peoples, in conservation, planning, and outreach across the system, work to identify gaps in marine protection, and train the next generation of MPA professionals. NOAA will also be able to expand technology use in sanctuaries to support management priorities, including conservation and research activities, and increased active restoration of natural habitats in national marine sanctuaries and marine national monuments.

Resources will be allocated as follows:

- \$7.3 million to enhance NOAA’s management capacity across an expanded National Marine Sanctuary System, including sanctuaries currently proposed for designation. NOAA’s efforts in advancing conservation and protection across the National Marine Sanctuary System supports the national goal of conserving at least 30 percent of U.S. lands and waters by 2030, as outlined in the America the Beautiful Initiative (E.O. 14008⁴⁴)
- \$10.5 million to increase NOAA’s capacity for large-scale restoration and conservation inside existing national marine sanctuaries and other MPAs, focusing on measurable and long-term conservation and restoration of key habitats that support wildlife populations, key ecosystem parameters, and preservation of key cultural or heritage assets

⁴⁴ <https://www.whitehouse.gov/ceq/news-updates/2021/05/06/biden-harris-administration-outlines-america-the-beautiful-initiative/>

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)

Schedule and Milestones:**FY 2024 – FY 2028**

- Increase capacity for conservation, restoration, education, diversity and inclusion initiatives, Indigenous community engagement, and designations (FY 2024)
- Conduct spatial analysis of gaps in marine protection (FY 2024 – FY 2028)
- Complete National Environmental Protection Act reviews, rulemaking, stakeholder engagement, and community meetings as part of designation process (FY 2026)
- Provide grants or paid internships for underrepresented students to work with the Sanctuaries (FY 2024 – FY 2028)
- Provide ocean literacy grants to local schools (FY 2024 – FY 2028)
- Expand, plan, and test technology use in sanctuaries for enforcement, monitoring, research, disentanglement, and other management priorities (FY 2024 – FY 2028)
- Increase direct restoration of key habitats and species across the National Marine Sanctuary system (FY 2024 – FY 2028)
- Expand enforcement through agreements and new technology (FY 2024 – FY 2028)

Deliverables:

- Updated site management plans, integrating practices to include undeserved communities, traditional knowledge and Indigenous community needs
- Improved user compliance with regulations within sanctuary boundaries via education
- Improved sustained engagement with tribes and Indigenous people across the National Marine Sanctuary System
- GIS analysis of U.S. marine waters for various possible protections
- Increased testing and operation of innovative technology to meet National Marine Sanctuary needs

**Department of Commerce
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Operations, Research, and Facilities
PROGRAM INCREASE FOR 2024**
(Dollar amounts in thousands)

Performance Measures	2024	2025	2026	2027	2028
Cumulative annual growth rate of system-wide sanctuaries observing and reporting capabilities over five years					
With Increase	15%	25%	32%	38%	43%
Without Increase	0%	0%	0%	0%	0%
Number of formal community- and Indigenous-led partnerships that inform locally-driven management decisions necessary to improve conservation and sustainability of sanctuary resources					
With Increase	10	12	14	16	18
Without Increase	8	8	8	8	8
Outyear Costs:					
Direct Obligations	17,758	17,758	17,758	17,758	17,758
Capitalized	750	750	750	750	750
Uncapitalized	17,008	17,008	17,008	17,008	17,008
Budget Authority	17,758	17,758	17,758	17,758	17,758
Outlays	11,010	11,010	11,010	11,010	11,010
FTE	11	15	15	15	15
Positions	15	15	15	15	15

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE PERSONNEL DETAIL**

Activity: Ocean and Coastal Management and Services

Subactivity: Sanctuaries and Marine Protected Areas

Program Change: Increasing Conservation and Protection Across the National Marine Sanctuary System

Title	Grade	Number	Annual Salary	Total Salaries
Management and Program Analyst	ZA-03	2	78,592	157,184
Program Operations Coordinator	ZA-03	2	85,508	171,016
Cultural Resources Coordinator	ZP-03	2	85,508	171,016
Sanctuaries Resource Specialist	ZP-03	3	85,508	256,524
Management and Program Analyst	ZA-04	2	112,015	224,030
Program Analyst	ZA-04	1	112,015	112,015
Data Officer	ZA-04	1	112,015	112,015
Maritime Heritage Specialist	ZP-04	2	121,873	243,746
Total		15		1,447,546
Less lapse	25.00%	(4)		(361,887)
Total full-time permanent (FTE)		11		1,085,660
2024 Pay Adjustment (5.2%)				56,454
				1,142,114
Personnel Data Summary				
Full-time Equivalent Employment (FTE)				
Full-time permanent		11		
Total FTE		11		
Authorized Positions:				
Full-time permanent		15		
Total Positions		15		

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Ocean and Coastal Management and Services
Subactivity: Sanctuaries and Marine Protected Areas

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1 Full-time permanent compensation	23,438	24,909	26,402	27,544	1,142
11.3 Other than full-time permanent	30	32	32	32	0
11.5 Other personnel compensation	640	672	672	672	0
11.7 Military personnel compensation	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	24,108	25,613	27,106	28,248	1,142
12 Civilian personnel benefits	9,001	9,451	9,888	10,322	434
13 Benefits for former personnel	1	1	1	1	0
21 Travel and transportation of persons	483	483	488	638	150
22 Transportation of things	204	204	209	229	20
23 Rent, communications, and utilities	3,690	3,690	3,760	3,760	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental Payments to others	0	0	0	0	0
23.3 Communications, utilities and misc charges	0	800	800	800	0
24 Printing and reproduction	37	37	38	38	0
25.1 Advisory and assistance services	0	0	0	0	0
25.2 Other services from non-Federal sources	13,373	15,573	15,707	25,641	9,934
25.3 Other goods and services from Federal sources	0	0	0	0	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	1,031	1,031	1,050	1,800	750
31 Equipment	162	162	165	915	750
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	3,410	3,410	3,410	0
41 Grants, subsidies and contributions	7,545	7,545	7,545	12,123	4,578
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total obligations	59,635	68,000	70,167	87,925	17,758

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM DECREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Decrease from	
		<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>
Sanctuaries and Marine Protected Areas	Pos./BA	188	70,167	188	69,367	0	(800)
	FTE/OBL	184	70,167	184	69,367	0	(800)

Enterprise Infrastructure Solutions (EIS) Decrease (-\$800, 0 FTE/0 Positions) – NOAA requests a reduction for EIS. Funds provided to NOS through FY 2023 were sufficient to complete the transition of telecommunications services to GSA's EIS contract vehicle.

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Procurement, Acquisition, and Construction
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Ocean and Coastal Management and Services

Subactivity: Sanctuaries and Marine Protected Areas

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1 Full-time permanent compensation	23,438	24,910	26,402	26,402	0
11.3 Other than full-time permanent	30	32	32	32	0
11.5 Other personnel compensation	640	672	672	672	0
11.7 Military personnel compensation	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	24,108	25,614	27,106	27,106	0
12 Civilian personnel benefits	9,001	9,451	9,888	9,888	0
13 Benefits for former personnel	1	1	1	1	0
21 Travel and transportation of persons	483	483	488	488	0
22 Transportation of things	204	204	209	209	0
23 Rent, communications, and utilities	3,690	3,690	3,760	3,760	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental Payments to others	0	0	0	0	0
23.3 Communications, utilities and misc charges	0	800	800	0	(800)
24 Printing and reproduction	37	37	38	38	0
25.1 Advisory and assistance services	0	0	0	0	0
25.2 Other services from non-Federal sources	13,373	15,572	15,707	15,707	0
25.3 Other goods and services from Federal sources	0	0	0	0	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	1,031	1,031	1,050	1,050	0
31 Equipment	162	162	165	165	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	3,410	3,410	3,410	0
41 Grants, subsidies and contributions	7,545	7,545	7,545	7,545	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total obligations	59,635	68,000	70,167	69,367	(800)

Department of Commerce
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JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Activity: Construction

Goal Statement

The NOS Construction activity provides construction and acquisition in the National Estuarine Research Reserve System (NERRS) and the National Marine Sanctuaries System.

Base Program

The NERRS is a Federal-state partnership established under the Coastal Zone Management Act designed to protect and understand valuable estuarine resources through research and education. NOAA funds NERRS construction and land acquisition projects on a competitive basis. Facilities investments at the reserves align with system-wide construction plans that consider requirements for implementing core NERRS programs and external opportunities for partnerships. Construction projects are funded that enhance or sustain opportunities for public access and to increase public understanding of estuarine ecosystems, as well as fund infrastructure that supports reserve programs and staff. States also use these grants to acquire critical habitat within, or adjacent to, reserve boundaries to increase protection, connect habitats to allow for species or habitat migration, maintain system diversity, and provide places for conducting long-term science, education, and demonstration programs. NERRS PAC funds have been matched 70:30 (Federal: state) for facilities construction, and 1:1 for land acquisition. By providing funding to conduct land acquisition and construction projects that support the NERRS mission, NOAA strengthens the protection of key land and water areas, enhances long-term protection of Reserve areas for research and education, and provides funding for facilities and exhibit construction that meet sustainable design standards.

NOS also administers the Nation's system of 15 Marine Sanctuaries and two Marine National Monuments. PAC funding supports capital costs of maintaining the Sanctuary System's facilities and small boat fleet. Vessels for research, monitoring, enforcement and emergency response are essential to site management, especially in areas such as Florida Keys National Marine Sanctuary. Capital funding is critical to ensure these assets are safe, remain mission effective and to keep their life cycle costs under control and operationally effective.

NOS maintains and repairs a fleet of small boats to access sanctuaries and protected areas for research, monitoring, outreach, and emergency support. Periodic assessments help to determine whether any repairs, refurbishments or upgrades are needed to

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JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

maintain boat safety and legal compliance, mission effectiveness, or extend boats' service life. Projects include hull form modification, propulsion system revision and replacement, and upgrades of scientific, navigational, load handling, and auxiliary systems. NOS periodically performs large-scale maintenance, refurbishments, replacements or upgrades to maintain fleet safety, longevity, and mission effectiveness.

The National Marine Sanctuary System's comprehensive facilities plan prioritizes capital investment in facilities, exhibits and collaborative education and visibility projects. In order to establish better understanding and appreciation for sanctuary and other ocean resources by the public, the program develops and maintains a network of exhibits and signage. Whenever possible NOAA develops facilities partnerships with existing aquaria, museums and other entities to engage the public and environmental decision-makers on conservation issues. Capital requirements for sanctuary facilities include safety improvements, Americans with Disabilities Act upgrades, and capital maintenance.

Statement of Operating Objectives

Schedule and Milestones:

- Fund approximately 10-15 projects for construction and land acquisition projects (e.g., visitor center and laboratories, dormitories, green upgrades, public access, and critical habitats) across the NERRS (FY 2024 – FY 2028)
- Conduct major construction and repair activities for owned and leased facilities across the National Marine Sanctuary system (FY 2024 – FY 2028)
- Conduct critical capital construction and acquisition activities for the sanctuary fleet, as well as emergency and required major small boat repairs (FY 2024 – FY 2028)
- Conduct construction of exhibits and signage across sanctuary system, including with partners (FY 2024 – FY 2028)

Deliverables:

- Construction of NERRS projects and facilities enhancements
- Construction of priority projects at sites across the National Marine Sanctuary system
- Increased public awareness as to the value of National Marine Sanctuaries through construction of exhibits and signage
- Prioritized maintenance and service life extensions for NOAA's sanctuary vessel fleet

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JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)**

Out-year Funding Estimates (\$ in Thousands):

National Estuarine Research Reserve Construction	2023 & Prior	2024	2025	2026	2027	2028	CTC*	Total
Change from 2024 Base	N/A	(4,000)	TBD	TBD	TBD	TBD	N/A	TBD
Total Request	26,600	4,500	TBD	TBD	TBD	TBD	N/A	TBD

* NERR Construction funding is an ongoing activity.

Marine Sanctuaries Construction	2023 & Prior	2024	2025	2026	2027	2028	CTC*	Total
Change from 2024 Base	N/A	(1,500)	TBD	TBD	TBD	TBD	N/A	TBD
Total Request	26,500	4,000	TBD	TBD	TBD	TBD	N/A	TBD

* Marine Sanctuaries Construction funding is an ongoing activity.

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(Dollar amounts in thousands)

Explanation and Justification

Comparison by subactivity		2022		2023		2024	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
National Estuarine Research Reserve	Pos/BA	0	6,551	0	8,500	0	8,500
Construction	FTE/OBL	0	6,310	0	8,500	0	8,500
Marine Sanctuaries	Pos/BA	1	4,958	1	5,500	1	5,500
Construction	FTE/OBL	1	5,066	1	5,500	1	5,500
Total Activity	Pos/BA	1	11,509	1	14,000	1	14,000
	FTE/OBL	1	11,376	1	14,000	1	14,000

National Estuarine Research Reserve Construction

NERRSs are state-owned lands and onsite facilities operated and managed by the states. They provide opportunities for researchers as well as the public to better understand these estuarine areas. As the reserve system continues to grow, with a 30th reserve in Connecticut and two additional reserve designations pending in Louisiana and Wisconsin, NOAA has been focusing on how to plan for additional facilities to ensure these reserves have visitors centers, dormitories, laboratories, and other resources. Facilities investments at the reserves are aligned with system-wide construction plans that consider requirements for implementing core NERRS programs and external opportunities for partnerships, including dorm and facilities investments, recapitalizing infrastructure like boardwalks that ensure public access, and increasing resilience of existing infrastructure



The Goodland Field Station at the Rookery Bay NERR provides dormitory space for students and visiting scientists

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(Dollar amounts in thousands)

to reduce future storm losses. States also use these grants to acquire critical habitat within, or adjacent to, reserve boundaries to increase protection and conduct long-term science, education, and demonstration programs.



The Fulmar, a 67-foot NOAA class II boat, is home ported at Monterey Bay and serves the Monterey Bay, the Greater Farallones and the Cordell Bank National Marine Sanctuaries

Marine Sanctuaries Construction

Boats for research, monitoring, and emergency response are essential to site management, especially in areas such as the Florida Keys National Marine Sanctuary (FKNMS). NOS maintains and repairs a fleet of small boats to access protected areas for research, monitoring, outreach, and emergency support. Periodic assessments help to determine whether any refurbishments or upgrades are needed to maintain boat safety and legal compliance, mission effectiveness, or extend a boat's service life. Upgrades can include hull form modification, propulsion system revision and replacement, and upgrades of scientific, navigational, load handling, and auxiliary systems. NOS periodically performs large-scale maintenance, refurbishments, or upgrades to maintain craft safety, mission effectiveness, or to extend a boat's service life. In FY 2022, the Office of National Marine Sanctuaries continued the ongoing efforts to recapitalize the aging fleet by funding the acquisition of a new vessel for Gray's Reef National Marine Sanctuary ensuring mission operations can continue as planned.

In order to establish better understanding and appreciation for sanctuary and other ocean resources by the public, NOAA develops and maintains a network of exhibits and signage. Whenever possible, NOAA develops content and exhibits as cooperative centers at existing aquaria, museums and other entities to engage the public and environmental decision makers on conservation issues. These visitor centers and exhibits are the gateways to the National Marine Sanctuaries, allowing visitors to explore hands-on exhibits, attend an educational and engaging program, and investigate the science and history of these special places. NOAA also maintains a network of administration building and facilities at the sanctuary sites.

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National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM DECREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		<u>Personnel</u> <u>Amount</u>		<u>Personnel</u> <u>Amount</u>		<u>Personnel</u>	<u>Amount</u>
National Estuarine	Pos./BA	0	8,500	0	4,500	0	(4,000)
Research Reserve	FTE/OBL	0	8,500	0	4,500	0	(4,000)
Construction							

Reduce National Estuarine Research Reserve Construction (-\$4,000, 0 FTE/0 Positions) – NOAA requests a decrease to NERR Construction funding. NOAA will continue to fund small scale construction projects, site planning and building design, land acquisition, and construction of new facilities, including dormitories, laboratories, and visitor centers, at a reduced rate, to support the expanding system of 30 NERRS.

Outyear Funding Estimates:

Observing Systems	2023 & Prior	2024	2025	2026	2027	2028	CTC	Total
Change from 2024 Base	N/A	(4,000)	TBD	TBD	TBD	TBD	N/A	TBD
Total Request	26,600	4,500	TBD	TBD	TBD	TBD	N/A	TBD

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: NOS Construction
Subactivity: National Estuarine Research Reserve Construction

	2022	2023	2024	2024	Decrease
Object Class	Actual	Enacted	Base	Estimate	from 2024 Base
11.1	0	0	0	0	0
11.3	0	0	0	0	0
11.5	0	0	0	0	0
11.8	0	0	0	0	0
11.9	0	0	0	0	0
12	0	0	0	0	0
13	0	0	0	0	0
21	0	0	0	0	0
22	0	0	0	0	0
23	0	0	0	0	0
23.1	0	0	0	0	0
23.2	0	0	0	0	0
23.3	0	0	0	0	0
24	0	0	0	0	0
25.1	0	0	0	0	0
25.2	0	0	0	0	0
25.3	0	0	0	0	0
25.4	0	0	0	0	0
25.5	0	0	0	0	0
25.6	0	0	0	0	0
25.7	0	0	0	0	0
25.8	0	0	0	0	0
26	0	0	0	0	0
31	0	0	0	0	0
32	0	0	0	0	0
33	0	0	0	0	0
41	6,310	8,500	8,500	4,500	(4,000)
42	0	0	0	0	0
43	0	0	0	0	0
44	0	0	0	0	0
99	6,310	8,500	8,500	4,500	(4,000)

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM DECREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		<u>Personnel</u> <u>Amount</u>		<u>Personnel</u> <u>Amount</u>		<u>Personnel</u>	<u>Amount</u>
Marine Sanctuaries	Pos./BA	1	5,500	1	4,000	0	(1,500)
Construction	FTE/OBL	1	5,500	1	4,000	0	(1,500)

Reduce Marine Sanctuaries Construction (-\$1,500, 0 FTE/0 Positions) – NOAA requests a decrease to Marine Sanctuaries Construction funding. NOAA will continue to fund existing vessel maintenance, exhibits and educational displays, and visitor centers and offices for the sanctuaries, at a reduced rate. NOAA is strategically addressing sanctuaries’ infrastructure needs to provide a solid platform for the current sanctuary system and new sites coming on line. The Inflation Reduction Act provided \$50 million for Marine Sanctuaries facilities that will help ensure the highest priority construction needs are addressed.

Outyear Funding Estimates:

Marine Sanctuaries Construction	2023 & Prior	2024	2025	2026	2027	2028	CTC	Total
Change from 2024 Base	N/A	(1,500)	TBD	TBD	TBD	TBD	N/A	TBD
Total Request	26,500	4,000	TBD	TBD	TBD	TBD	N/A	TBD

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Procurement, Acquisition, and Construction
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: NOS Construction
Subactivity: Marine Sanctuaries Construction

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1 Full-time permanent compensation	110	110	110	110	0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	110	110	110	110	0
12 Civilian personnel benefits	42	42	42	42	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	4	0	0	0	0
22 Transportation of things	0	0	0	0	0
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental Payments to others	0	0	0	0	0
23.3 Communications, utilities and misc charges	0	0	0	0	0
24 Printing and reproduction	0	0	0	0	0
25.1 Advisory and assistance services	0	0	0	0	0
25.2 Other services from non-Federal sources	901	992	992	992	0
25.3 Other goods and services from Federal sources	0	0	0	0	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	4	0	0	0	0
31 Equipment	3,757	3,883	3,883	2,383	(1,500)
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	248	473	473	473	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total obligations	5,066	5,500	5,500	4,000	(1,500)

**Department of Commerce
National Oceanic and Atmospheric Administration
Damage Assessment and Restoration Revolving Fund
SUMMARY OF RESOURCE REQUIREMENTS**
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
2023 Enacted	30	30	5,996	83,060
2024 Adjustments to base:				
less: Obligations from prior year balances	0	0	0	0
plus: Technical ATBs	0	0	4	(4,144)
2024 Base	30	30	6,000	78,915
plus: program changes	0	0	0	0
2024 Estimate	30	30	6,000	78,915

		2022 Actual		2023 Enacted		2024 Base		2024 Estimate		Increase/Decrease from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Damage Assessment and Restoration Revolving Fund	Pos/BA	30	5,842	30	5,996	30	6,000	30	6,000	0	0
	FTE/OBL	53	94,954	30	83,060	30	78,915	30	78,915	0	0
Total: Damage Assessment and Restoration Revolving Fund	Pos/BA	30	5,842	30	5,996	30	6,000	30	6,000	0	0
	FTE/OBL	53	94,954	30	83,060	30	78,915	30	78,915	0	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Damage Assessment and Restoration Revolving Fund
SUMMARY OF RESOURCE REQUIREMENTS**
(Dollar amounts in thousands)

	2022 Actual		2023 Enacted		2024 Base		2024 Estimate		Increase/Decrease from 2024 Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Mandatory Obligation	53	94,954	30	83,060	30	78,915	30	78,915	0	0
Total Obligations	53	94,954	30	83,060	30	78,915	30	78,915	0	0
Adjustments to Obligations:										
Federal funds	0	0	0	0	0	0	0	0	0	0
Offsetting collections, mandatory	0	(13,861)	0	(82,300)	0	(10,000)	0	(10,000)	0	0
Change in uncollected payments, Fed Recoveries	0	0	0	0	0	0	0	0	0	0
Unobligated balance, adj. SOY	0	(239,460)	0	(202,833)	0	(278,069)	0	(278,069)	0	0
Unobligated balance transferred (from DOI)	0	(35,352)	0	(50,000)	0	(50,000)	0	(50,000)	0	0
Unobligated balance, transferred (to ORF)	0	0	0	0	0	0	0	0	0	0
Unobligated balance, unapportioned	0	0	0	0	0	0	0	0	0	0
Unobligated balance, EOY	0	202,833	0	278,069	0	285,154	0	285,154	0	0
Total Budget Authority	53	5,842	30	5,996	30	6,000	30	6,000	0	0
Financing from Transfers:										
Appropriation (previously unavailable)	0	(242)	0	(338)	0	(342)	0	(342)	0	0
Transfer from DOI	0	(5,938)	0	(6,000)	0	(6,000)	0	(6,000)	0	0
Appropriation temporarily reduced	0	338	0	342	0	342	0	342	0	0
Net Appropriation	53	0	30	0	30	0	30	0	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Damage Assessment and Restoration Revolving Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Activity: Damage Assessment and Restoration Revolving Fund

Goal Statement

The Damage Assessment and Restoration Revolving Fund facilitates the spill response, damage assessment, and natural resource restoration activities of the National Oceanic and Atmospheric Administration.

Base Program

A National Oceanic and Atmospheric Administration (NOAA) Damage Assessment and Restoration Revolving Fund was established under Section 1012(a) of the Oil Pollution Act for the deposit of sums provided by any party or governmental entity for response to discharges of oil or releases of hazardous substances, for assessment of damages to NOAA trust resources resulting from those discharges and releases, and for the restoration of the injured natural resources.

Through the Revolving Fund, NOAA does the following:

- Retains funds that are recovered through settlement or awarded by a court for restoration of injured natural resources and retains reasonable costs of conducting spill response and damage assessments that are recovered by NOAA through negotiated settlement, court award, or other reimbursement
- Ensures funds deposited shall remain available to the trustee, without further appropriation, until expended to pay costs associated with response, damage assessment, and restoration of natural resources

The NOAA Damage Assessment and Restoration Revolving Fund facilitates and sustains: (1) natural resource damage assessment while the Departments of Commerce and Justice seek full reimbursement from potentially responsible parties; and (2) restoration, replacement, or acquisition of the equivalent of injured or lost natural resources, including resources of National Marine Sanctuaries and National Estuarine Research Reserves, tidal wetlands and other habitats, for which NOAA is trustee. These program functions are conducted jointly within NOAA by the Office of General Counsel, NOS, and NMFS.

Department of Commerce
National Oceanic and Atmospheric Administration
Damage Assessment and Restoration Revolving Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/Decrease from 2024 Base
11.1 Full-time permanent	6,460	3,657	3,657	3,657	0
11.3 Other than full time permanent	34	20	20	20	0
11.5 Other personnel compensation	202	114	114	114	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	6,697	3,791	3,791	3,791	0
12.1 Civilian personnel benefits	2,483	1,405	1,405	1,405	0
12.2 Military personnel benefits	0	0	0	0	0
21 Travel and transportation of persons	344	344	344	344	0
22 Transportation of things	34	34	34	34	0
23.1 Rental payments to GSA	39	39	38	39	0
23.2 Rental payments to others	0	0	0	0	0
23.3 Comm., util., misc. charges	40	40	40	40	0
24 Printing and reproduction	16	16	16	16	0
25.1 Advisory and assistance services	3,362	3,362	3,362	3,362	0
25.2 Other services from non-Federal sources	36,146	35,161	34,702	34,702	0
25.3 Other goods and services from Federal sources	12,239	12,239	11,000	11,000	0
26 Supplies and materials	1,948	1,948	1,948	1,948	0
31 Equipment	444	444	444	444	0
41 Grants, subsidies and contributions	24,236	24,236	22,235	22,235	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	1	1	1	1	0
44 Refunds	6,925	0	0	0	0
99.9 Total Obligations	94,954	83,060	78,915	78,915	0

Department of Commerce
National Oceanic and Atmospheric Administration
Damage Assessment and Restoration Revolving Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	2022 Actual	2023 Enacted	2024 Base Program	2024 Estimate	Increase/ Decrease from 2024 Base
Federal Funds	0	0	0	0	0
Offsetting Collections Mandatory	(13,861)	(82,300)	(10,000)	(10,000)	0
Recoveries	(3,272)	(20,000)	(20,000)	(20,000)	0
Change in uncollected payments, Fed	0	0	0	0	
Less unobligated balance, SOY	(239,460)	(202,832)	(278,069)	(278,069)	0
Plus unobligated balance transferred	(35,352)	(50,000)	(50,000)	(50,000)	0
Plus unobligated balance, EOY	202,832	278,069	285,154	285,154	0
Total Budget Authority	5,842	5,996	6,000	6,000	0
Transfers:					
Appropriation previously unavailable	(242)	(338)	(342)	(342)	
Transfer from DOI	(5,938)	(6,000)	(6,000)	(6,000)	0
Appropriation temporarily reduced	338	342	342	342	0
Net Appropriation	0	0	0	0	0
Personnel Data					
Full-Time equivalent Employment:					
Full-time permanent	53	30	30	30	0
Other than full time permanent	0	0	0	0	0
Total	53	30	30	30	0
Authorized Positions:					
Full-time permanent	30	30	30	30	0
Other than full time permanent	0	0	0	0	0
Total	30	30	30	30	0

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DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Sanctuaries Enforcement Asset Forfeiture Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
2023 Enacted	0	0	591	1,216
2024 Adjustments to base:				
less: Obligations from prior year balances	0	0	0	0
plus: Technical ATBs	0	0	9	(556)
2024 Base	0	0	600	660
plus: program changes	0	0	0	0
2024 Estimate	0	0	600	660

		2022 Actual	2023 Enacted		2024 Base		2024 Estimate		Increase/Decrease from 2024 Base		
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Sanctuaries											
Enforcement Asset	Pos/BA	0	423	0	591	0	600	0	600	0	0
Forfeiture Fund	FTE/OBL	0	231	0	1,216	0	660	0	660	0	0
Total: Sanctuaries	Pos/BA	0	423	0	591	0	600	0	600	0	0
Enforcement Asset	FTE/OBL	0	231	0	1,216	0	660	0	660	0	0
Forfeiture Fund											

DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Sanctuaries Enforcement Asset Forfeiture Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	2022 Actual		2023 Enacted		2024 Base		2024 Estimate		Increase/ Decrease from 2024 Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FT E	Amount
Direct Mandatory Obligation	0	231	0	1,216	0	660	0	660	0	0
Total Obligations	0	231	0	1,216	0	660	0	660	0	0
Adjustments to Obligations:										
New offsetting collections	0	0	0	0	0	0	0	0	0	0
Recoveries	0	(3)	0	(10)	0	(10)	0	(10)	0	0
Unobligated balance, SOY	0	(370)	0	(565)	0	0	0	0	0	0
Unobligated balance, adj. SOY	0	0	0	0	0	0	0	0	0	0
Unobligated balance, transferred	0	0	0	0	0	0	0	0	0	0
Unobligated balance, EOY	0	565	0	0	0	0	0	0	0	0
Unobligated balance, unapportioned	0	0	0	0	0	0	0	0	0	0
Collections	0	0	0	(50)	0	(50)	0	(50)	0	0
Total Budget Authority	0	423	0	591	0	600	0	600	0	0
Financing from Transfers:										
Appropriation previously unavailable	0	(7)	0	(25)	0	(34)	0	(34)	0	0
Appropriation temporarily reduced	0	25	0	34	0	34	0	34	0	0
Net Appropriation	0	441	0	600	0	600	0	600	0	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Sanctuaries Enforcement Asset Forfeiture Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE**
(Dollar amounts in thousands)

Activity: Sanctuaries Enforcement Asset Forfeiture Fund

Goal Statement

The Sanctuaries Enforcement Asset Forfeiture Fund receives proceeds from civil penalties and forfeiture claims against responsible parties, as determined through court settlements or agreements, for violations of NOAA sanctuary regulations.

Base Program

Penalties received are held in sanctuary site-specific accounts from year to year, as the funds are spent on resource protection within the sanctuary site where the penalty or forfeiture occurred. Funds are expended for resource protection purposes which may include all aspects of law enforcement (from equipment to labor), community oriented policing programs, and other resource protection and management measures such as the installation of mooring buoys or restoration of injured resources.

DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Sanctuaries Enforcement Asset Forfeiture Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024Base
11.1 Full-time permanent	0	0	0	0	0
11.3 Other than full time permanent	0	0	0	0	0
11.5 Other personnel compensation	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	0	0	0	0	0
12.1 Civilian personnel Benefits	0	0	0	0	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	0	0	0	0	0
22 Transportation of things	1	0	0	0	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental payments to others	0	0	0	0	0
24 Printing and reproduction	0	0	0	0	0
25.1 Advisory and assistance services	40	40	40	40	0
25.2 Other services from non-Federal sources	175	1,160	604	604	0
25.3 Other goods and services from Federal sources	0	0	0	0	0
26 Supplies and materials	16	16	16	16	0
31 Equipment	0	0	0	0	0
41 Grants, subsidies and contributions	0	0	0	0	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
99.9 Total Obligations	231	1,216	660	660	0

DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Sanctuaries Enforcement Asset Forfeiture Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	2022 Actual	2023 Enacted	2024 Base Program	2024 Estimate	Increase/ Decrease from 2024 Base
Less recoveries	(3)	(10)	(10)	(10)	0
Less unobligated balance, SOY	(370)	(565)	0	0	0
Less unobligated balance, adj SOY	0	0	0	0	0
New offsetting collections	0	(50)	(50)	(50)	0
Plus unobligated balance, EOY	565	0	0	0	0
Plus unobligated balance, transferred	0	0	0	0	0
Total Budget Authority	423	591	600	600	0
Transfers:					
Appropriation previously unavailable	(7)	(25)	(34)	(34)	0
Appropriation temporarily reduced	25	34	34	34	0
Mandatory Appropriation	441	600	600	600	0

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DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Gulf Coast Ecosystem Restoration Science, Observation, Monitoring and Technology Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
2023 Enacted	2	3	0	8,982
2024 Adjustments to base:				
less: Obligations from prior year balances	0	0	0	0
plus: Technical ATBs	0	(1)	0	485
2024 Base	2	2	0	9,467
plus: program changes	0	0	0	0
2024 Estimate	2	2	0	9,467

		2022 Actual		2023 Enacted		2024 Base		2024 Estimate		Increase/Decrease from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Gulf Coast	Pos/BA	2	0	2	0	2	0	2	0	0	0
Restoration Fund	FTE/OBL	3	5,705	2	8,982	2	9,467	2	9,467	0	0
Total: Gulf Coast	Pos/BA	2	0	2	0	2	0	2	0	0	0
Restoration Fund	FTE/OBL	3	5,705	2	8,982	2	9,467	2	9,467	0	0

DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Gulf Coast Ecosystem Restoration Science, Observation, Monitoring and Technology Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	2022		2023		2024		2024		Increase/ Decrease from	
	Actual		Enacted		Base		Estimate		2024 Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Mandatory Obligation	2	5,705	2	8,982	2	9,467	2	9,467	0	0
Total Obligations	3	5,705	2	8,982	2	9,467	2	9,467	0	0
Adjustments to Obligations:										
New offsetting collections	0	(6,429)	0	(7,066)	0	(9,317)	0	(9,317)	0	0
Change in Uncollected Payments	0	0	0	0	0	0	0	0	0	0
Recoveries	0	(2)	0	(150)	0	(150)	0	(150)	0	0
Unobligated balance, adj. SOY	0	(1,040)	0	(1,766)	0	0	0	0	0	0
Unobligated balance, EOY	0	1,766	0	0	0	0	0	0	0	0
Total Budget Authority	2	0	2	0	2	0	2	0	0	0
Financing from Transfers:										
Transfer from Other Accounts	0	0	0	0	0	0	0	0	0	0
Appropriation temporarily reduced	0	0	0	0	0	0	0	0	0	0
Net Appropriation	2	0	2	0	2	0	2	0	0	0

DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Gulf Coast Ecosystem Restoration Science, Observation, Monitoring and Technology Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Activity: Gulf Coast Ecosystem Restoration Science, Observation, Monitoring and Technology Fund

Goal Statement

The Gulf Coast Ecosystem Restoration Science, Observation, Monitoring and Technology Fund provides funding for the NOAA RESTORE Act Science Program. The purpose of this program is to initiate and sustain an integrative, holistic understanding of the Gulf of Mexico ecosystem and support, to the maximum extent practicable, restoration efforts and the long-term sustainability of the ecosystem, including its fish stocks, fishing industries, habitat, and wildlife through ecosystem research, observation, monitoring, and technology development.

Base Program

To ensure the best use of resources the Program will coordinate with existing Federal and state science and technology programs, including other activities funded under the RESTORE Act. Section 1604 of the RESTORE Act authorized funding for the Program using 2.5 percent of the Gulf Coast Restoration Trust Fund.

DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Gulf Coast Ecosystem Restoration Science, Observation, Monitoring and Technology Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
11.1 Full-time permanent	346	346	346	346	0
11.3 Other than full time permanent	0	0	0	0	0
11.5 Other personnel compensation	26	26	26	26	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	372	372	372	372	0
12.1 Civilian personnel Benefits	130	130	130	130	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	36	36	36	36	0
22 Transportation of things	1	1	1	1	0
23.1 Rental payments to GSA	0	0	0	0	0
Communications, utilities, and					
23.3 miscellaneous charges	0	0	0	0	0
24 Printing and reproduction	3	3	3	3	0
25.1 Advisory and assistance services	1	1	1	1	0
25.2 Other services from non-Federal sources	448	3,725	4,210	4,210	0
25.3 Other goods and services from Federal sources	363	363	363	363	0
26 Supplies and materials	69	69	69	69	0
31 Equipment	12	12	12	12	0
41 Grants, subsidies and contributions	4,270	4,270	4,270	4,270	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
99.9 Total Obligations	5,705	8,982	9,467	9,467	0

DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Gulf Coast Ecosystem Restoration Science, Observation, Monitoring and Technology Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
Federal Funds	0	0	0	0	0
Less offsetting collections	(6,429)	(7,066)	(9,317)	(9,317)	0
Change in uncollected payments	0	0	0	0	0
Recoveries	(2)	(150)	(150)	(150)	0
Less unobligated balance, SOY	(1,040)	(1,766)	0	0	0
Plus unobligated balance, EOY	0	0	0	0	0
Plus unobligated balance transferred	0	0	0	0	0
Total Budget Authority	0	0	0	0	0
Transfers:					
Transfers from Other Accounts	0	0	0	0	0
Appropriation temporarily reduced	0	0	0	0	0
Mandatory Budget Authority	0	0	0	0	0

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**Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Budget Estimates, Fiscal Year 2024**

Executive Summary

For FY 2024, NOAA requests a total of \$1,286,653,000 and 3,175 FTE/ 3,613 positions for National Marine Fisheries Service, including a net decrease of \$6,851,000 and a net increase of 104 FTE/139 positions in program changes.

NOAA's National Marine Fisheries Service (NMFS) is responsible for the management and conservation of living marine resources within the U.S. Exclusive Economic Zone (EEZ) – the area extending from three to 200 nautical miles offshore. NMFS provides critical support to commercial and recreational marine fisheries, which generate \$253 billion in sales impact, and support 1.7 million jobs economy-wide¹, and aquaculture industries, which contribute \$1.5 billion worth of seafood or 24 percent of total U.S. seafood production by value.² NMFS also provides scientific and policy leadership in the international arena, and plays a key role in the management of living marine resources in coastal areas under state jurisdiction.

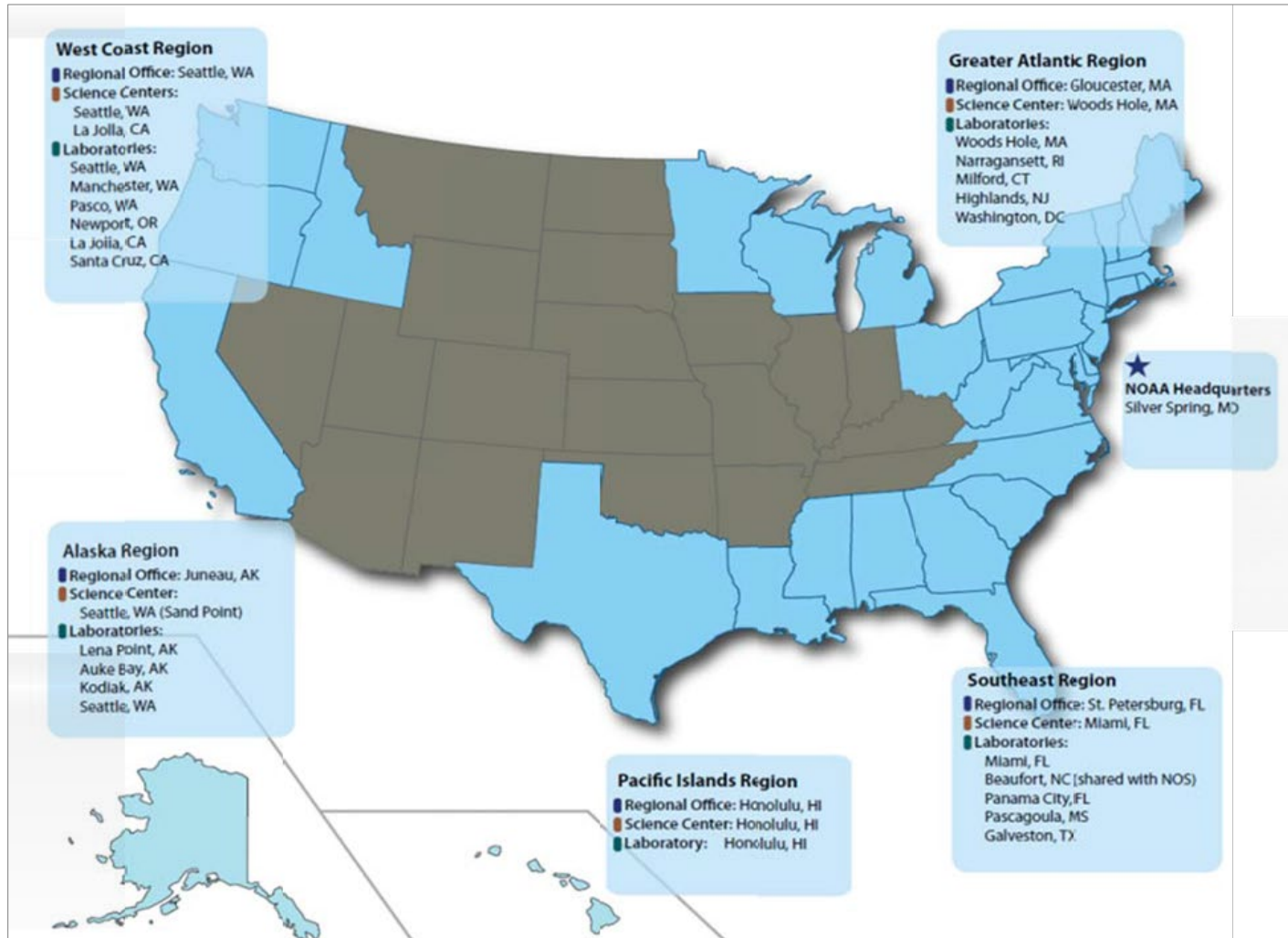
NMFS implements science-based conservation and management actions aimed at sustaining long-term use and promoting the health of coastal and marine ecosystems for the Nation's benefit. Programmatic authority for fisheries management, species protection, and habitat conservation activities is derived primarily from the Magnuson-Stevens Fishery Conservation and Management Act (MSA), Marine Mammal Protection Act (MMPA), and Endangered Species Act (ESA). Other acts provide additional authority for enforcement, seafood safety, habitat restoration, and cooperative efforts with states, Tribes, interstate fishery commissions, and other countries. All of these activities rely on strong scientific and research capabilities to support the challenging public policy decision process associated with NMFS' stewardship responsibilities.

NMFS consists of Headquarters offices in Silver Spring, MD and five Regional Offices as well as six Science Centers in significant coastal areas around the country. Major NMFS facilities and laboratories are located at the following sites:

¹ National Marine Fisheries Service. 2023. Fisheries Economics of the United States, 2020. U.S. Dept. of Commerce, NOAA Tech. Memo. NMFS-F/SPO-236, 231 p. Available at: <https://www.fisheries.noaa.gov/national/sustainable-fisheries/fisheries-economics-united-states>.

² National Marine Fisheries Service (2022) Fisheries of the United States, 2020. U.S. Department of Commerce, NOAA Current Fishery Statistics No. 2020. Available at: <https://www.fisheries.noaa.gov/national/sustainable-fisheries/fisheries-united-states>

Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Budget Estimates, Fiscal Year 2024



**Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Budget Estimates, Fiscal Year 2024**

Significant Adjustments:

Inflationary Adjustments

NOAA's FY 2024 Base includes a net increase of \$29,892,000 and 0 FTE/ 0 positions to account for the full funding requirement for certain inflationary adjustments to current programs for NMFS activities. This includes inflationary increases for labor and non-labor activities including benefits and rent charges from the General Services Administration (GSA).

Department of Commerce
National Oceanic and Atmospheric Administration
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

		2022 Actual		2023 Enacted		2024 Base		2024 Estimate		Increase/Decrease from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
NATIONAL MARINE FISHERIES SERVICE (NMFS)											
Protected Resources Science and Management	Pos/BA	867	230,472	916	261,255	916	268,711	946	256,806	30	(11,905)
	FTE/OBL	717	225,356	775	261,255	775	268,711	795	256,806	20	(11,905)
Fisheries Science and Management	Pos/BA	1,854	651,022	1,940	693,408	1,940	711,239	2,044	754,765	104	43,526
	FTE/OBL	1,652	657,938	1,747	693,408	1,747	711,239	1,827	754,765	80	43,526
Enforcement	Pos/BA	258	76,631	259	82,000	259	84,623	264	84,637	5	14
	FTE/OBL	222	79,909	226	82,000	226	84,623	230	84,637	4	14
Habitat Conservation & Restoration	Pos/BA	191	232,477	191	56,684	191	58,666	191	58,666	0	0
	FTE/OBL	186	55,647	183	56,684	183	58,666	183	58,666	0	0
NOAA Community Project Funding/NOAA Special Projects	Pos/BA	0	30,570	0	38,486	0	38,486	0	0	0	(38,486)
	FTE/OBL	0	30,568	0	38,486	0	38,486	0	0	0	(38,486)
TOTAL NMFS - ORF	Pos/BA	3,170	1,221,172	3,306	1,131,833	3,306	1,161,725	3,445	1,154,874	139	(6,851)
	FTE/OBL	2,777	1,049,418	2,931	1,131,833	2,931	1,161,725	3,035	1,154,874	104	(6,851)
TOTAL NMFS - PAC	Pos/BA	0	0	0	0	0	0	0	0	0	0
	FTE/OBL	0	509	0	0	0	0	0	0	0	0
Pacific Coastal Salmon Recovery Fund	Pos/BA	2	96,101	2	65,000	2	65,000	2	65,000	0	0
	FTE/OBL	2	96,046	2	65,068	2	65,000	2	65,000	0	0
Fisheries Disaster Assistance Fund	Pos/BA	0	199,800	1	307,527	1	300	1	300	0	0
	FTE/OBL	0	7,720	1	307,527	1	300	1	300	0	0
Fishermen's Contingency Fund	Pos/BA	0	4	0	349	0	349	0	349	0	0
	FTE/OBL	0	54	0	349	0	349	0	349	0	0
Foreign Fishing Observer Fund	Pos/BA	0	0	0	0	0	0	0	0	0	0
	FTE/OBL	0	0	0	0	0	0	0	0	0	0

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PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)**

		2022 Actual		2023 Enacted		2024 Base		2024 Estimate		Increase/Decrease from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Fisheries Finance Program	Pos/BA	0	17,293	0	5,722	0	0	0	0	0	0
Account	FTE/OBL	0	17,293	0	5,722	0	0	0	0	0	0
Federal Ship Financing	Pos/BA	0	0	0	0	0	0	0	0	0	0
	FTE/OBL	0	0	0	0	0	0	0	0	0	0
Promote and Develop Fisheries Products	Pos/BA	0	10,628	0	11,500	0	7,530	0	7,530	0	0
	FTE/OBL	0	12,223	0	12,229	0	7,530	0	7,530	0	0
Environmental Improvement and Restoration Fund	Pos/BA	0	6,215	0	6,557	0	14,101	0	14,101	0	0
	FTE/OBL	0	6,215	0	6,557	0	14,101	0	14,101	0	0
Limited Access System Administration Fund	Pos/BA	40	11,399	40	12,877	40	13,435	40	13,435	0	0
	FTE/OBL	27	13,232	27	17,550	27	14,322	27	14,322	0	0
Marine Mammal Unusual Mortality Event Fund	Pos/BA	0	0	0	0	0	0	0	0	0	0
	FTE/OBL	0	0	0	0	0	34	0	34	0	0
Western Pacific Sustainable Fisheries Fund	Pos/BA	0	482	0	734	0	750	0	750	0	0
	FTE/OBL	0	561	0	789	0	750	0	750	0	0
Fisheries Enforcement Asset Forfeiture Fund	Pos/BA	0	2,350	0	2,132	0	2,118	0	2,118	0	0
	FTE/OBL	0	3,292	0	3,500	0	3,500	0	3,500	0	0
North Pacific Observer Fund	Pos/BA	0	3,098	0	4,451	0	4,596	0	4,596	0	0
	FTE/OBL	0	1,660	0	6,060	0	4,596	0	4,596	0	0
Seafood Inspection Program Trust Fund	Pos/BA	0	0	125	0	125	0	125	0	0	0
	FTE/OBL	0	0	100	19,500	110	23,600	110	23,600	0	0
TOTAL NMFS	Pos/BA	3,212	1,568,542	3,474	1,548,682	3,474	1,269,904	3,613	1,263,053	139	(6,851)
	FTE/OBL	2,806	1,208,223	3,061	1,576,684	3,071	1,295,807	3,175	1,288,956	104	(6,851)

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PROGRAM DECREASE FOR 2024**
(Dollar amounts in thousands)

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>
NOAA Community Project Funding/	Pos./BA	0	38,486	0	0	0	(38,486)
NOAA Special Projects	FTE/OBL	0	38,486	0	0	0	(38,486)

Terminate NOAA Community Project Funding/NOAA Special Projects (-\$38,486, 0 FTE/0 Positions) - This program change removes funding for one-time congressionally directed projects provided in the FY 2023 enacted bill.

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Activity: Protected Resources Science and Management

Goal Statement

The mission of the Protected Resources Science and Management activity is to assess, understand, and protect the health of protected species, the ecosystems that sustain them, and the communities that value and depend on them.

Base Program

NMFS, in partnership with internal and external stakeholders, uses best available science to develop and implement best practices and conservation actions to reduce threats to protected species and their marine and coastal ecosystems. Protected species include those listed under the Endangered Species Act (ESA) and marine mammals covered by the Marine Mammal Protection Act (MMPA). NMFS Programs funded within this activity operate under the legislative authority of the ESA and MMPA. NMFS implements the ESA and MMPA with the U.S. Fish and Wildlife Service (USFWS). In general, USFWS is responsible for the conservation of terrestrial and freshwater aquatic organisms, some marine mammals, and marine turtles on their nesting beaches. NMFS is responsible for the conservation of most marine mammals, most marine and anadromous fish (i.e., fish that migrate from the sea to freshwater to spawn), marine turtles at sea, marine invertebrates (including corals), and marine plants. In addition, the Marine Mammal Commission provides oversight and makes recommendations to NMFS on priority marine mammal issues, and three regional Scientific Review Groups provide independent review of our marine mammal stock assessments.

Statement of Operating Objectives

Schedule and Milestones:

FY 2024 – FY 2028:

- Review listing petitions and issue 90-day findings, conduct ESA status reviews and issue 12-month findings, and promulgate ESA protective regulations
- Prepare recovery plans and implement recovery actions identified in the plans to improve the status of ESA-listed species
- Designate critical habitat
- Provide technical assistance, consultation, and authorization services for all Federal agencies' proposed actions (ESA Section 7)

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- Work with Take Reduction Teams (TRTs) to achieve MMPA goals through increased compliance monitoring and bycatch assessments
- Evaluate effectiveness and recommend enforcement measures, modify existing regulations, and add protective measures to reduce marine mammal bycatch in fisheries
- Research the effects of human activities on the conservation and recovery of protected species
- Analyze protected species survey data to determine population trends
- Solicit proposals and award Species Recovery Grants to states and Tribes for conservation and recovery activities with a focus on Species in the Spotlight
- Participate in international and regional agreements to further the U.S. policy on protected species conservation

Deliverables:

FY 2024 – FY 2028:

- ESA proposed and final listing regulations, Section 4(d) rules, and critical habitat regulations
- Formal and informal consultation with other Federal agencies
- New and updated recovery plans for recently listed species with specific actions to prevent species extinction
- Timely issuance of MMPA and ESA permits, including scientific research permits and incidental harassment authorizations
- Improved or newly developed abundance and fishery mortality estimates for stocks
- MMPA List of Fisheries classifying U.S. commercial fisheries into one of three Categories according to the level of incidental mortality or serious injury of marine mammals
- Marine Mammal Stock Assessment Reports

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Explanation and Justification

Comparison by subactivity		2022		2023		2024	
		Actual		Enacted		Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Marine Mammals, Sea Turtles, and Other Species	Pos/BA	501	150,410	549	175,255	549	179,618
	FTE/OBL	422	146,370	465	175,255	465	179,618
Species Recovery Grants	Pos/BA	4	6,988	4	7,250	4	7,262
	FTE/OBL	2	7,310	2	7,250	2	7,262
Atlantic Salmon	Pos/BA	23	6,412	23	6,750	23	6,948
	FTE/OBL	21	6,419	19	6,750	19	6,948
Pacific Salmon	Pos/BA	339	66,662	340	72,000	340	74,883
	FTE/OBL	272	65,257	289	72,000	289	74,883
Total Protected Resources	Pos/BA	867	230,472	916	261,255	916	268,711
Science and Management	FTE/OBL	717	225,356	775	261,255	775	268,711

Marine Mammals, Sea Turtles, and Other Species

Under the legislative authority of the ESA and MMPA, this budget line supports activities that conserve and recover species threatened or endangered with extinction, as well as most marine mammals. The programs under this budget line aim to sustain marine and anadromous species and the ecosystems on which they depend, and to enable economic development in a manner compatible with species conservation and recovery.

In addition to work supporting all ESA-listed species, NOAA continues to focus on the “Species in the Spotlight: Survive to Thrive” initiative, an innovative approach to marshal public and private support to slow, halt, and reverse the population decline of nine of our most endangered species—Hawaiian monk seals, Southern Resident killer whales, white abalone, Cook Inlet beluga whales,

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North Atlantic right whales, Atlantic salmon, Pacific leatherback turtles, Sacramento River winter-run Chinook, and Central California Coast coho. (<https://www.fisheries.noaa.gov/topic/endangered-species-conservation#species-in-the-spotlight>)

Major components of this budget line include:

Listing (ESA Section 4): Any U.S. citizen or organization may petition NMFS to list a species as threatened or endangered, reclassify an already listed species, or revise designated critical habitat under the ESA. Once a petition is received, NMFS has 90 days to make an initial determination and 12 months for determining whether the listing or reclassification is warranted. Details of the Listing process can be found at <https://www.fisheries.noaa.gov/national/endangered-species-conservation/listing-species-under-endangered-species-act>.

Recovery (ESA Section 4): The ESA requires NMFS to use all methods and procedures to bring listed species to the point where the protections of the ESA are no longer necessary. NMFS oversees and conducts these methods and procedures to allow the species and its ecosystems to recover, as well as to ensure that listed species remain functioning members of the ecosystems we all depend upon. Details on the recovery actions can be found at <https://www.fisheries.noaa.gov/national/endangered-species-conservation/recovery-species-under-endangered-species-act>. These actions are important to provide communities with healthier ecosystems, cleaner water, greater opportunities for recreation, and the opportunity for current and future generations to share the benefits of diverse and healthy natural resources.

Species Stock Assessment and Monitoring (ESA Section 4, MMPA Sections 115 and 117): This program supports protected species stock assessment and monitoring activities using a variety of observation and survey methods, including use of marine acoustics, unmanned systems, surveys (ship, aerial, and shore-based), and telemetry. To adequately support management decisions, assessments are comprehensive and include estimates of abundance and distribution, as well as analysis of historical trends, serious injury and mortality levels, life history and demographics, and impacts of human activities (e.g., noise, climate, habitat, and ecosystem change). NMFS collects this basic assessment data so it can be as targeted as possible in prescribing mitigation measures that affect commercial and recreational activities. Details on marine mammal stock assessments can be found at <https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments>.

Research (ESA Section 4, MMPA Sections 115 and 117): NMFS conducts research to inform conservation and management actions, focusing on the biology, behavior, and health of marine mammal species; genetic differentiation; ecosystem interactions; and effects of human activities on the recovery and conservation of protected species. Effective conservation requires understanding how human and natural factors influence the viability of marine species and their ecosystems.

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Interagency Consultation (ESA Section 7): ESA Section 7 requires Federal agencies to ensure that any action they fund, authorize, or undertake is not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat that has been designated for these species. This consultation with Federal action agencies enables authorization for lawful activities—such as construction of roads and bridges, commercial fishing, or defense readiness training—in a manner that is compatible with species conservation and recovery.

Permits and Authorizations (ESA Section 10 and MMPA Sections 101 and 104): Under the ESA and MMPA, NMFS issues permits and authorizations (often with required mitigation measures) to allow activities that may result in the direct and indirect take of a protected species. Permits and take authorizations cover scientific research and the incidental take and harassment of marine mammals by otherwise lawful activities such as seismic surveys, construction activities, or military readiness training exercises when those activities are deemed to have negligible impact on the species. Details on permits and authorizations of protected species can be found at <https://www.fisheries.noaa.gov/insight/understanding-permits-and-authorizations-protected-species>.

Conservation Planning (ESA Section 10): When non-Federal entities—such as states, counties, local governments, and private landowners—wish to conduct an otherwise lawful activity that might incidentally, but not intentionally, “take” a listed species, an incidental take permit must first be obtained from NMFS. NMFS reviews the Conservation Plans submitted by permit applicants that are designed to offset harmful effects that a proposed activity might have on listed species and issues permits accordingly.

Bycatch Reduction (ESA Section 4, MMPA Section 118): Fishing gear can accidentally capture protected species, such as marine mammals, seabirds, and sea turtles. NMFS works with the fishing industry and others through Take Reduction Teams or other means to modify fishing gear or practices to minimize bycatch and its impact.

Co-Management with Alaska Native Organizations (MMPA Section 119): Co-management promotes full and equal participation by Alaska Natives in decisions affecting the subsistence management of marine mammals (to the maximum extent allowed by law) as a tool for conserving marine mammal populations in Alaska. NMFS has entered into agreements with Alaska Native groups to manage harvested marine mammal stocks, and will continue to actively engage in activities to support the cooperative management of these stocks under the agreements.

Marine Mammal Health and Stranding Response Program (MMPA Title IV): NMFS is the lead Federal agency to coordinate marine mammal stranding networks, responses, and investigations of marine mammal mortality events. The Marine Mammal Health and Stranding Response Program (MMHSRP) has also been highly successful in developing public-private partnerships that provide emergency response to live or dead marine mammals and investigate the health of marine mammal populations in the wild. The

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more than 100 stranding network partners are volunteers and trained professionals from nonprofit organizations; aquaria; universities; and coastal state, local, and Tribal governments. Each member plays an important role in helping NMFS meet our congressional mandates. Data collected from stranded animals are valuable for informing marine mammal stock assessment reports, identifying key species recovery activities, monitoring ocean health, and identifying natural and manmade causes of stranding, illness, and death in marine mammals around the United States. Details on the MMHSRP can be found at <https://www.fisheries.noaa.gov/national/marine-life-distress/marine-mammal-health-and-stranding-response-program>.

The Prescott Grants Program provides competitive grants to stranding network organizations to rescue, rehabilitate, or investigate sick, injured, or distressed live marine mammals and to determine the cause of death or disease of dead marine mammals. To date the program has led to significant improvements within the stranding network, enabling members to expand response coverage over wider geographic areas; enhance capabilities and data collection; upgrade rehabilitation facilities; evaluate rehabilitation success; increase understanding of the causes of disease and mortality, and provide safer operations for both animals and people.

Species Recovery Grants (ESA Section 6, Fish and Wildlife Coordination Act)

Recovery and conservation actions for listed species under NMFS jurisdiction are implemented through Species Recovery Grants, which are awarded to states and Tribes. Details on Species Recovery Grants can be found at <https://www.fisheries.noaa.gov/grant/species-recovery-grants-states> and <https://www.fisheries.noaa.gov/grant/species-recovery-grants-tribes>. For listed species, funding supports activities such as reducing or removing significant sources of mortality and injury, assessing and monitoring species status and trends, developing conservation plans, conserving habitat, and engaging the public in conservation efforts. Funding may also support monitoring of candidate species and recently delisted species.

Atlantic Salmon (ESA Sections 4, 7, 10)

These programs provide funding for the conservation and recovery of ESA-listed Atlantic salmon in the Northeast. Gulf of Maine Atlantic salmon are co-managed by NMFS, USFWS, the Maine Department of Marine Resources, and the Penobscot Indian Nation. Under the ESA, the Essential Fish Habitat provisions under Magnuson-Stevens Act, and a joint Statement of Cooperation with the co-managers, NMFS is responsible for marine stock assessments, designating critical habitat, estuary and marine interagency Section 7 consultations and habitat conservation planning, and minimizing dam impacts.

Pacific Salmon (ESA, All Sections)

Under the legislative authority of the ESA, NMFS conducts interagency Section 7 consultations, habitat conservation planning, and listing and recovery actions to protect and recover threatened and endangered Pacific salmon and steelhead. NMFS also conducts research, monitoring, and analysis to provide managers and regional stakeholders the tools and information necessary to advance

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salmonid recovery to ensure biological sustainability of Pacific salmonids and the ecosystems on which they depend. Partnerships among Federal, state, local, and Tribal entities, together with non-governmental and private organizations, are key to restoring healthy salmon runs and securing the economic and cultural benefits they provide.

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PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Marine Mammals, Sea Turtles, and Other Species	Pos./BA	549	179,618	562	186,377	13	6,759
	FTE/OBL	465	179,618	475	186,377	10	6,759

Wind Energy: Protected Species Environmental Reviews and Science (+\$6,759, 10 FTE/ 13 Positions) – This request will allow NMFS to assess the effects of planned offshore energy activities on Endangered Species Act (ESA) listed species and critical habitat; coordinate Marine Mammal Protection Act (MMPA) incidental take authorizations; and conduct review of environmental impact statements (EIS) analyzing the impacts to living marine resources and affected communities under the National Environmental Policy Act (NEPA). These funds support the Administration’s priority of deploying 30 gigawatts of offshore wind by 2030, by facilitating responsible renewable energy development while protecting ecosystems and ensuring co-ocean use.

Offshore wind development continues to rapidly expand in the Northeast and Mid-Atlantic, including 10 projects currently under environmental review, and over 21 expected to commence between 2023 and 2026 in the Northwest, Mid-Atlantic, off the coasts of the Carolinas, and north and central California. By 2026, the Bureau of Ocean Energy Management (BOEM) is planning to hold at least four more commercial auctions in the Gulf of Mexico, Gulf of Maine, and off the coast of the Central Atlantic and Oregon, with over 14 potential lease sales between 2023 and 2025. Offshore wind represents a significant use of our marine waters requiring substantial scientific and regulatory review. NMFS will work with the Bureau of Ocean Energy Management (BOEM) to minimize the effects of offshore energy projects on protected resources, fisheries, and important habitats in the region; reduce delays and minimize adverse economic impacts to the fishing industry and related coastal communities; and mitigate impacts to fisheries surveys. NMFS is requesting a total of \$51.7 million in four complementary areas to address the rapid expansion and the impacts of offshore energy projects. The other components can be found in Fisheries Ecosystem Science Programs and Services (NMFS-59); Fisheries Data Collections, Surveys, and Assessments (NMFS-78); and Fisheries Management Programs and Services (NMFS-85).

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This effort complements the \$8.7 million total requested in the NOS proposal, Foundational Information for Expansion of Offshore Wind Energy (NOS-53).

NMFS requests an additional \$6.8 million increase for offshore energy assessment related to protected resources. Funds will allow NMFS to efficiently and effectively carry out increased ESA section 7 consultation and MMPA authorization work associated with new BOEM activities, and support early engagement with BOEM and project proponents. The increase will also enable NMFS to minimize impacts and delays to existing workload carried by existing consultation biologists and authorization analysts. In addition, this funding supports the review of comprehensive and complex EIS's to ensure that NMFS can provide BOEM reasonable alternatives with sufficient analysis to assess the impacts to protected resources and their habitats. These tasks routinely require dedicated engagement with BOEM staff and contractors to allow NMFS to conduct sufficient assessments and consultation as a cooperating agency and as an adopting agency for NMFS-issued MMPA Incidental Take Authorizations. Funds will also allow NMFS to research interactions of protected species and their habitats with offshore wind energy. These funds will focus on the operational needs associated with offshore wind projects in the Northeast and Mid-Atlantic region, and also include initial investments in the West Coast, Gulf of Mexico, and South Atlantic. These funds will position NMFS to meet current and future challenges of regulatory and scientific review.

Schedule and Milestones:

FY 2024 – FY 2028:

- Provide information, expert advice, and guidance to BOEM to implement offshore wind development for approximately 25 to 35 projects over a four to five year period beginning in FY 2023 that considers impacts to protected species and their habitats, with a particular focus on the critically endangered North Atlantic right whale
- As a Cooperating Agency and Adopting Agency under NEPA, identify and share living marine resources expertise and make recommendations upon potential environmental, biological, and socio-economic impacts on trust resources for approximately 25 to 35 projects over a four to five year period by 2027. This will allow regulators and developers to consider the full scope of impacts
- Complete thorough and timely ESA consultations and MMPA authorizations for project consultation and authorization requests that are based on the best available scientific information while fulfilling FAST-41³ obligations

³ P.L. 114-94 Title 41, Fixing America's Surface Transportation Act

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- Advance management's understanding of and science-based evidence for the interactions of protected species and their habitats with offshore wind energy
- Establish and support regional collaborative ecosystem-scale research and monitoring programs across project/ecosystem scales to develop the necessary understanding of fisheries, habitat, and protected species interactions with wind development. In addition, assess the associated cumulative impacts to these resources and the habitats and ecosystems on which they rely, including potential changes in oceanographic conditions

Deliverables:

FY 2024 - FY 2028:

- NEPA reviews of the direct, indirect, short-term, long-term, and cumulative impacts to marine mammals, threatened and endangered species, ESA critical habitat, and resource users and associated communities
- Input on planning and analysis and leasing documents and notices during BOEM's initial phases of offshore wind develop and on project milestones and timelines, Draft EIS, Final EIS, and Records of Decision structure, content, and appropriate methodology for impact analysis to BOEM to improve document quality
- Scientific manuscripts for publication in peer-reviewed journals to aid in establishing NMFS as a global leader on topics related to offshore wind and protected species science
- Regional scientific frameworks for protected species and wildlife research and monitoring, developed with regional partners
- State of the Science Symposia, in partnership with scientific and industry collaborators, on the status of protected species interactions with offshore wind energy (FY 2024, FY 2026)

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(Dollar amounts in thousands)**

Performance Measures	2024	2025	2026	2027	2028
The number of wind energy projects where early and comprehensive coordination with BOEM and industry yields sufficient information and analysis to inform NMFS consultations and reviews, resulting in improved protection of NOAA Trust Resources					
With Increase	25	27	27	29	29
Without Increase	17	16	18	18	18
Outyear Costs:					
Direct Obligations	6,759	6,759	6,759	6,759	6,759
Capitalized	0	0	0	0	0
Uncapitalized	6,759	6,759	6,759	6,759	6,759
Budget Authority	6,759	6,759	6,759	6,759	6,759
Outlays	5,407	5,407	5,407	5,407	5,407
FTE	10	13	13	13	13
Positions	13	13	13	13	13

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PROGRAM CHANGE PERSONNEL DETAIL**

Activity: Protected Resources Science and Management

Subactivity: Marine Mammals, Sea Turtles, and Other Species

Program Change: Wind Energy: Protected Species Environmental Reviews and Science

<u>Title</u>	<u>Grade</u>	<u>Number</u>	<u>Annual Salary</u>	<u>Total Salaries</u>
Fisheries Biologist (GARFO)	ZPIV	1	110,798	110,798
Fisheries Biologist (WCRO)	ZPIV	1	109,546	109,546
Fisheries Biologist (OPR)	ZPIV	1	112,015	112,015
Fisheries Biologist (SWFSC)	ZPIV	1	111,609	111,609
Fisheries Biologist (GARFO)	ZPIII	2	77,738	155,476
Fisheries Biologist (WCRO)	ZPIII	3	76,860	230,580
Fisheries Biologist (OPR)	ZPIII	2	78,592	157,184
Fisheries Biologist (NEFSC)	ZPIII	1	77,738	77,738
Fisheries Biologist (SERO)	ZPIII	1	69,107	69,107
Total		13		1,134,053
Less lapse	25.00%	(3)		(283,513)
Total full-time permanent (FTE)		10		850,540
2024 Pay Adjustment (5.2%)				44,228
				894,768
<u>Personnel Data Summary</u>				
Full-time Equivalent Employment (FTE)				
Full-time permanent		10		
Total FTE		10		
Authorized Positions:				
Full-time permanent		13		
Total Positions		13		

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)**

Activity: Protected Resources Research and Management
Subactivity: Marine Mammals, Sea Turtles, and Other Species

	2022	2023	2024	2024	Increase
Object Class	Actual	Enacted	Base	Estimate	from 2024 Base
11.1 Full-time permanent compensation	52,713	63,112	66,152	67,047	895
11.3 Other than full-time permanent	732	876	918	918	0
11.5 Other personnel compensation	1,122	1,343	1,408	1,408	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	54,567	65,331	68,478	69,373	895
12 Civilian personnel benefits	21,076	25,235	26,451	26,797	346
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	1,351	1,618	1,618	1,927	309
22 Transportation of things	233	280	280	333	53
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	1,207	1,446	1,446	1,446	0
23.2 Rental Payments to others	421	504	504	504	0
23.3 Communications, utilities and misc charges	272	326	326	326	0
24 Printing and reproduction	192	230	230	230	0
25.1 Advisory and assistance services	6,775	8,112	8,112	8,112	0
25.2 Other services from non-Federal sources	16,928	20,269	20,269	24,139	3,870
25.3 Other goods and services from Federal sources	1,909	2,286	2,286	2,286	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	4,343	5,201	5,201	6,196	995
31 Equipment	1,270	1,521	1,521	1,812	291
32 Lands and structures	102	123	123	123	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	35,722	42,771	42,771	42,771	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	2	2	2	2	0
44 Refunds	0	0	0	0	0
99 Total obligations	146,370	175,255	179,618	186,377	6,759

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PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Increase from 2024 Base	
		<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>
Marine							
Mammals, Sea	Pos./BA	549	179,618	566	182,618	17	3,000
Turtles, and Other Species	FTE/OBL	465	179,618	475	182,618	10	3,000

Endangered Species Act (ESA) Consultations and Marine Mammal Protection Act (MMPA) Permitting (+\$3,000, 10 FTE/17 Positions) – The Endangered Species Act requires Federal action agencies/applicants to consult with NMFS when an action they take might affect an ESA-listed species and also allows NMFS to issue permits for the incidental take of an ESA-listed species by non-Federal entities. The Marine Mammal Protection Act requires that NMFS process requests for incidental take authorization for the unintentional “take” of marine mammals incidental to activities such as construction projects and military exercises. NMFS needs additional staff to reduce its consultation backlog and to keep up with the increasing number of incoming consultation, permitting, and authorization requests

NMFS completed 866 consultations in FY 2021 and 771 consultations in FY 2022. As of January 2023, there were 124 open consultations, 52 of which were past statutory deadlines. In recent years, NMFS has actively pursued efficiencies in the ESA section 7 consultation and MMPA authorization processes. One of our main efforts to streamline formal consultations is the expanded use of programmatic consultations. Our efforts have substantially reduced the total number of individual consultations while providing consistent mitigation across similar activities. Tracking and monitoring of informal consultation requests and processes show that, we have reduced our processing time of ESA regulatory processes by ~50 percent and of MMPA processes by ~25 percent (both since baseline in 2016). The requested funds will further support our progress through an additional 15 percent reduction in days to complete formal ESA consultations.

While programmatic consultations increase efficiency, many of the new consultations coming in the door tend to be more complex, requiring more time and experienced staff to complete them. It is essential that new staff are sufficiently trained to work on consultations, permits and authorizations which takes additional time and resources. This investment will support increased staff capacity and create a flexible and resilient section 7 team that can shift focus and be assigned to a Region for a two-year period, or

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PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)

as appropriate, to address priority consultation actions. As consultation workload shifts, these staff can follow that workload surge and work on consultations for a new region.

Schedule and Milestones:

FY 2024 – FY 2028:

- Conduct five-10 additional formal ESA section 7 consultations per year
- Conduct 20-30 additional informal ESA section 7 consultations per year
- Conduct three to five additional ESA section 10(a)(1)(B) permits per year
- Provide incidental take coverage for five-10 additional activities per year
- Issue 30-40 additional direct take permits per year

Deliverables:

FY 2024 – FY 2028:

- Technical assistance, consultation, and authorization services for all Federal agencies' proposed actions
- Programmatic consultation mechanisms
- Take coverage under ESA section 10(a)(1)(B)
- Incidental take coverage under the MMPA
- Post-project implementation monitoring and adaptive management issue MMPA direct take permits

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	2024	2025	2026	2027	2028
Performance Measures					
Average number of days to complete formal ESA					
Section 7 consultations					
With Increase	N/A	200	190	180	180
Without Increase	205	205	205	205	205
Average number of days to complete Incidental Harassment Authorizatoin					
With Increase	N/A	5	4.5	4.5	4.5
Without Increase	5	5	5	5	5
Outyear Costs:					
Direct Obligations	3,000	3,000	3,000	3,000	3,000
Capitalized	0	0	0	0	0
Uncapitalized	3,000	3,000	3,000	3,000	3,000
Budget Authority	3,000	3,000	3,000	3,000	3,000
Outlays	2,400	2,400	2,400	2,400	2,400
FTE	10	17	17	17	17
Positions	17	17	17	17	17

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE PERSONNEL DETAIL**

Activity: Protected Resources Science and Management
 Subactivity: Marine Mammals, Sea Turtles and Other Species
 Program Change: Endangered Species Act (ESA) Consultations and Marine Mammal Protection Act (MMPA) Permitting

<u>Title</u>	<u>Grade</u>	<u>Number</u>	<u>Annual Salary</u>	<u>Total Salaries</u>
Fisheries Biologist - Silver Spring, MD	ZP-III	7	78,592	550,144
Fisheries Biologist - Gloucester, MA	ZP-III	2	77,738	155,476
Fisheries Biologist - St. Petersburg, FL	ZP-III	2	69,107	138,214
Fisheries Biologist - Seattle, WA	ZP-III	2	76,860	153,720
Fisheries Biologist - Juneau, AK	ZP-III	2	77,898	155,796
Fisheries Biologist - Honolulu, HI	ZP-III	2	71,877	143,754
Total		17		1,297,104
Less lapse	25.00%	(7)		(324,276)
Total full-time permanent (FTE)		10		972,828
2024 Pay Adjustment (5.2%)				50,587
				1,023,415
<u>Personnel Data Summary</u>				
Full-time Equivalent Employment (FTE)				
Full-time permanent		10		
Total FTE		10		
Authorized Positions:				
Full-time permanent		17		
Total Positions		17		

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Operations, Research, and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Protected Resources Science and Management
Subactivity: Marine Mammals, Sea Turtles, and Other Species

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1 Full-time permanent compensation	52,713	63,112	66,152	67,175	1,023
11.3 Other than full-time permanent	732	876	918	918	0
11.5 Other personnel compensation	1,122	1,343	1,408	1,408	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	54,567	65,331	68,478	69,501	1,023
12 Civilian personnel benefits	21,076	25,235	26,451	26,834	383
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	1,351	1,618	1,618	1,680	62
22 Transportation of things	233	280	280	330	50
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	1,207	1,446	1,446	1,446	0
23.2 Rental Payments to others	421	504	504	504	0
23.3 Communications, utilities and misc charges	272	326	326	326	0
24 Printing and reproduction	192	230	230	230	0
25.1 Advisory and assistance services	6,775	8,112	8,112	9,564	1,452
25.2 Other services from non-Federal sources	16,928	20,269	20,269	20,269	0
25.3 Other goods and services from Federal sources	1,909	2,286	2,286	2,286	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	4,343	5,201	5,201	5,221	20
31 Equipment	1,270	1,521	1,521	1,531	10
32 Lands and structures	102	123	123	123	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	35,722	42,771	42,771	42,771	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	2	2	2	2	0
44 Refunds	0	0	0	0	0
99 Total obligations	146,370	175,255	179,618	182,618	3,000

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM DECREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>
Marine							
Mammals, Sea	Pos./BA	549	179,618	549	159,739	0	(19,879)
Turtles, and	FTE/OBL	465	179,618	465	159,739	0	(19,879)
Other Species							

North Atlantic Right Whale Industry Grants (-\$19,879, 0 FTE/0Positions) – This decrease reduces most of the congressionally directed increases for the Atlantic States Marine Fisheries Commission (ASMFC) grants that support industry costs to comply with the final 2021 rule to modify the Atlantic Large Whale Take Reduction Plan. NMFS provided \$14.0 million in FY 2022 and anticipates awarding \$26.0 million in awards in FY 2023 for a total of approximately \$40.0 million that has been made available to industry for this purpose since the grant was established in 2022. The FY 2024 request retains \$6.1 million to continue grant support through ASMFC, and will be used by the relevant States to support innovative efforts to address gear modification, configuration, and marking within the Northeast lobster and Jonah crab fisheries, both in Federal and State waters.

The North Atlantic right whale is one of the world’s most endangered large whale species; the latest preliminary estimate suggests there are fewer than 350 remaining. NMFS and our partners are dedicated to conserving and rebuilding the North Atlantic right whale population. NMFS uses a variety of innovative techniques to study, protect, and recover these endangered whales. In addition, NMFS engages with partners, including the fishing and shipping industries, to develop regulations and management plans that foster healthy fisheries and reduce the risk of entanglements, slow down vessel traffic, and reduce ocean noise.

Schedule and Milestones:

FY 2024 – FY 2028:

- Continue to award eligible states allocation
- Implement recovery actions to halt the current population decline and recover the species
- Collaborate with fishermen to develop and test innovative fishing gear
- Monitor the population through aerial and vessel surveys, and passive acoustic monitoring.

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PROGRAM DECREASE FOR 2024
(Dollar amounts in thousands)

Deliverables:

FY 2024 – FY 2028:

- Grants awards to state to implement NMFS approved Statements of Work
- Conduct annual aerial surveys and publish survey reports

	2024	2025	2026	2027	2028
Outyear Costs:					
Direct Obligations	(19,879)	(19,879)	(19,879)	(19,879)	(19,879)
Capitalized	0	0	0	0	0
Uncapitalized	(19,879)	(19,879)	(19,879)	(19,879)	(19,879)
Budget Authority	(19,879)	(19,879)	(19,879)	(19,879)	(19,879)
Outlays	(12,325)	(12,325)	(12,325)	(12,325)	(12,325)
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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Operations, Research, and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar Obligations amounts in thousands)

Activity: Protected Resources Science and Management

Subactivity: Marine Mammals, Sea Turtles, and Other Species

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1 Full-time permanent compensation	52,713	63,112	66,152	66,152	0
11.3 Other than full-time permanent	732	876	918	918	0
11.5 Other personnel compensation	1,122	1,343	1,408	1,408	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	54,567	65,331	68,478	68,478	0
12 Civilian personnel benefits	21,076	25,235	26,451	26,451	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	1,351	1,618	1,618	1,618	0
22 Transportation of things	233	280	280	280	0
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	1,207	1,446	1,446	1,446	0
23.2 Rental Payments to others	421	504	504	504	0
23.3 Communications, utilities and misc charges	272	326	326	326	0
24 Printing and reproduction	192	230	230	230	0
25.1 Advisory and assistance services	6,775	8,112	8,112	8,112	0
25.2 Other services from non-Federal sources	16,928	20,269	20,269	20,269	0
25.3 Other goods and services from Federal sources	1,909	2,286	2,286	2,286	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	4,343	5,201	5,201	5,201	0
31 Equipment	1,270	1,521	1,521	1,521	0
32 Lands and structures	102	123	123	123	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	35,722	42,771	42,771	22,892	(19,879)
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	2	2	2	2	0
44 Refunds	0	0	0	0	0
99 Total obligations	146,370	175,255	179,618	159,739	(19,879)

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National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM DECREASE FOR 2024**
(Dollar amounts in thousands)

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Marine							
Mammals, Sea	Pos./BA	549	179,618	549	176,428	0	(3,190)
Turtles, and	FTE/OBL	465	179,618	465	176,428	0	(3,190)
Other Species							

Marine Mammal Projects Reductions (-\$3,190, 0 FTE/0 Positions) – This request reduces the additional resources provided in FY 2023 appropriations for specific projects, including Prescott Grants (-\$0.5 million) Southern Resident Killer Whales (-\$0.7 million), Sea Turtles (-\$0.5 million), Hawaiian Monk Seals, Hawaiian Sea Turtles, and False Killer Whales (-\$0.8 million), and Foreign Fisheries (-\$0.8 million). NMFS will implement these projects as directed in FY 2023. With the reduction, NMFS will continue these programs: Prescott Grants at \$4.0 million support eligible stranding network participants in the recovery and treatment of stranded mammals, Southern Resident Killer Whales at \$1.7 million, Sea Turtles at \$8.1 million, Hawaiian Monk Seals at \$4.7 million, Hawaiian Sea Turtles at \$5.8 million, False Killer Whales at approximately \$1.4 million, and continued implementation Fish and Fisheries Product Import Provisions of the Marine Mammal Protection Act at \$0.4 million in FY 2024.

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(Dollar amounts in thousands)

	2024	2025	2026	2027	2028
Outyear Costs:					
Direct Obligations	(3,190)	(3,190)	(3,190)	(3,190)	(3,190)
Capitalized	0	0	0	0	0
Uncapitalized	(3,190)	(3,190)	(3,190)	(3,190)	(3,190)
Budget Authority	(3,190)	(3,190)	(3,190)	(3,190)	(3,190)
Outlays	(1,978)	(1,978)	(1,978)	(1,978)	(1,978)
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Protected Resources Science and Management
Subactivity: Marine Mammals, Sea Turtles, and Other Species

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1 Full-time permanent compensation	52,713	63,112	66,152	66,152	0
11.3 Other than full-time permanent	732	876	918	918	0
11.5 Other personnel compensation	1,122	1,343	1,408	1,408	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	54,567	65,331	68,478	68,478	0
12 Civilian personnel benefits	21,076	25,235	26,451	26,451	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	1,351	1,618	1,618	1,618	0
22 Transportation of things	233	280	280	280	0
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	1,207	1,446	1,446	1,446	0
23.2 Rental Payments to others	421	504	504	504	0
23.3 Communications, utilities and misc charges	272	326	326	326	0
24 Printing and reproduction	192	230	230	230	0
25.1 Advisory and assistance services	6,775	8,112	8,112	8,112	0
25.2 Other services from non-Federal sources	16,928	20,269	20,269	17,579	(2,690)
25.3 Other goods and services from Federal sources	1,909	2,286	2,286	2,286	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	4,343	5,201	5,201	5,201	0
31 Equipment	1,270	1,521	1,521	1,521	0
32 Lands and structures	102	123	123	123	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	35,722	42,771	42,771	42,271	(500)
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	2	2	2	2	0
44 Refunds	0	0	0	0	0
99 Total obligations	146,370	175,255	179,618	176,428	(3,190)

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Operations, Research, and Facilities
PROGRAM INCREASE FOR 2024**
(Dollar amounts in thousands)

		2024 Base		2024 Estimate		from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Pacific Salmon	Pos./BA	340	74,883	340	76,288	0	1,405
	FTE/OBL	289	74,883	289	76,288	0	1,405

Pacific Salmon (+\$1,405, 0 FTE/0 Positions) –This request will provide an additional \$1.4 million for ESA listed Pacific Salmon for a total request of \$76.3 million. These funds will ensure that NMFS continues to conduct interagency Section 7 consultations, habitat conservation planning, and listing and recovery actions to protect and recover threatened and endangered Pacific salmon and steelhead at the current level. NMFS will also continue to conduct research, monitoring, and analysis to provide managers and regional stakeholders with the tools and information necessary to advance salmonid recovery to ensure biological sustainability of Pacific salmonids and the ecosystems on which they depend. Partnerships among Federal, state, local, and tribal entities, together with non-governmental and private organizations, are key to restoring healthy salmon runs and securing the economic and cultural benefits they provide.

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(Dollar amounts in thousands)

	2024	2025	2026	2027	2028
Outyear Costs:					
Direct Obligations	1,405	1,405	1,405	1,405	1,405
Capitalized	0	0	0	0	0
Uncapitalized	1,405	1,405	1,405	1,405	1,405
Budget Authority	1,405	1,405	1,405	1,405	1,405
Outlays	871	871	871	871	871
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Protected Resources Science and Management

Subactivity: Pacific Salmon

<u>Object Class</u>	<u>2022 Actual</u>	<u>2023 Enacted</u>	<u>2024 Base</u>	<u>2024 Estimate</u>	<u>Increase from 2024 Base</u>
11.1 Full-time permanent compensation	36,615	40,398	42,430	42,430	0
11.3 Other than full-time permanent	782	863	906	906	0
11.5 Other personnel compensation	401	442	464	464	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	37,798	41,703	43,800	43,800	0
12 Civilian personnel benefits	14,160	15,623	16,409	16,409	
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	252	278	278	278	0
22 Transportation of things	195	215	215	215	
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	909	1,003	1,003	1,003	0
23.2 Rental Payments to others	1	1	1	1	0
23.3 Communications, utilities and misc charges	601	663	663	663	0
24 Printing and reproduction	26	29	29	29	0
25.1 Advisory and assistance services	386	426	426	1,831	1,405
25.2 Other services from non-Federal sources	8,508	9,387	9,387	9,387	0
25.3 Other goods and services from Federal sources	343	379	379	379	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	254	281	281	281	0
31 Equipment	148	163	163	163	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	1,676	1,849	1,849	1,849	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total obligations	65,257	72,000	74,883	76,288	1,405

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JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Activity: Fisheries Science and Management

Goal Statement

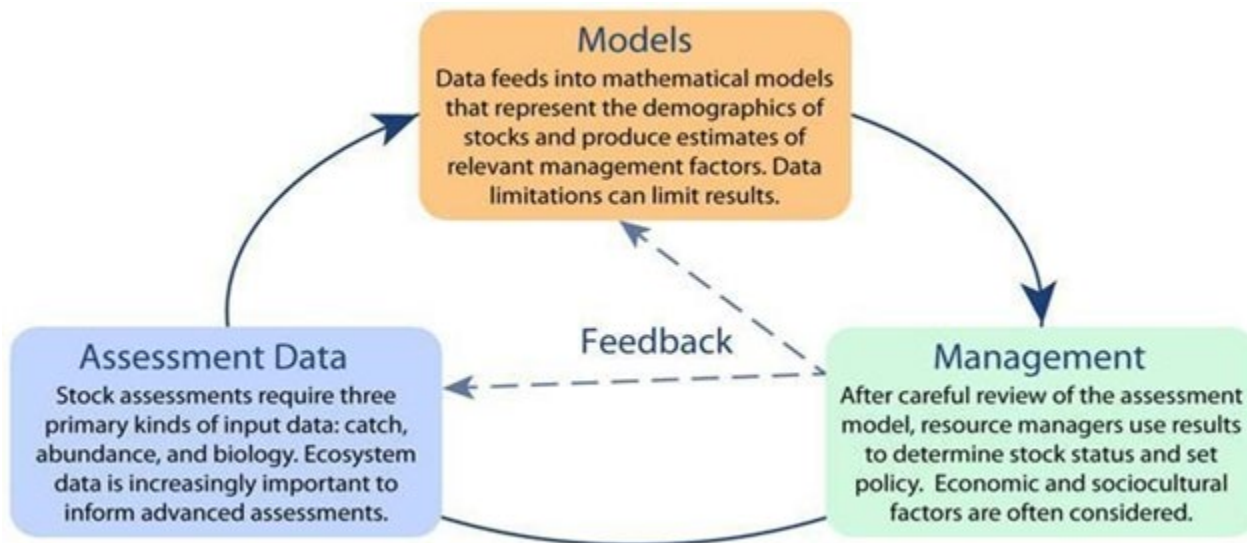
The Fisheries Science and Management activity encompasses scientific and management activities to ensure sustainability of the Nation's marine fishery resources.

Base Program

In partnership with the eight Regional Fishery Management Councils, state and Federal partners, and regional fishery management organizations for international fisheries; NMFS manages marine fisheries, including aquaculture, using the best available science. NMFS actions supported by the Fisheries Science and Management activity result in sustainable fisheries harvest and production, rebuilding of depleted fish stocks, conservation of essential fish habitats, and other support for fishing businesses and communities. NMFS' science, which is rigorously peer-reviewed, ensures management decisions are based on the highest-quality scientific information. NMFS conducts science on species' responses to environmental changes, such as climate change; impacts of fishing and other human activities on fisheries and their habitat; strategies for resilience and adaptation to changing oceans; and social, cultural, and economic behaviors that influence interactions between humans and marine fisheries.

This activity also supports the fisheries management regulatory process, which involves extensive opportunity for public input into management decisions, and thorough analysis of alternatives to meet statutory requirements and agency priorities. This work occurs in close coordination with Regional Fishery Management Councils, Interstate Marine Fisheries Commissions, the Atlantic Highly Migratory Species Advisory Panel, and states. It is a process where science informs management. Managers need high quality science to make important decisions to ensure sustainable fisheries, healthy ecosystems, and productive coastal communities. An example of this process is shown in the graphic below illustrating how data feeds into mathematical models to estimate stock biomass, fishing effort, and other reference points that are used to inform management actions.

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JUSTIFICATION OF PROGRAM AND PERFORMANCE
 (Dollar amounts in thousands)



Statement of Operating Objectives

Schedule and Milestones:

Fisheries and Ecosystem Science Programs and Services (FY 2024 – FY 2028):

- *Economics and Social Science*: Expand implementation of an integrated Bioeconomic Length-structured Angler Simulation Tool, the Social Indicator Toolbox, and FishSET—a spatial economics toolbox; assess the economic performance of fisheries; and predict the cost/benefits of stock rebuilding programs
- *Ecosystem Science*: Continue to work with resource managers to provide ecosystem-based science information and trade-off analyses to inform management decisions for evolving constituent-defined management issues in Integrated Ecosystem Assessment (IEA) regions; continue fisheries oceanography research programs to advance the understanding of climate change and other environmental impacts on living marine resources to improve stock and ecosystem assessments; continue

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JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

to advance understanding of best strategies for fisheries management and fishing-community adaptation with changing ocean conditions; and continue to incorporate long-term observations of climate-related impacts on the Bering Sea ecosystem, and other regions, to help living marine resource managers incorporate climate-related impacts into management decisions

- *Antarctic Research*: Conduct assessments for key stocks managed by the Commission for the Conservation of Antarctic Marine Living Resources
- *Information Analysis and Dissemination*: Improve population dynamics/assessment/ management model development and data analysis tools to support fisheries science programs and improve data dissemination and sharing of integrated data and analyses (climatology, socio-economic, ecosystem, fishery-dependent, and fishery-independent), both internally and externally

Fisheries Data Collections, Surveys, and Assessments (FY 2024 – FY 2028):

- *Fisheries Monitoring, Assessment, and Forecasting*: Conduct and expand fishery-independent surveys; develop advanced sampling technologies to enhance data collection for stock assessments; improve timely delivery of fish stock assessments to fishery managers; and further the implementation of the next-generation stock assessment framework
- *Cooperative Research*: Issue awards for cooperative research from the Northeast Research Set-Aside, and the Southeast CRP competitive grants; and conduct cooperative research surveys nationwide
- *MARMAP*: Perform fishery-independent assessments of reef fish abundance and life history characteristics of economically and ecologically important reef fish species in shelf and upper slope waters from Cape Lookout to Cape Canaveral
- *SEAMAP*: Conduct groundfish and plankton surveys in state and Federal waters, inshore and offshore longline surveys, and reef fish surveys in offshore waters

Observers and Training (FY 2024 – FY 2028):

- Provide safe and high-quality monitoring in fisheries nationwide, with a goal of maintaining high-priority observer programs and, as necessary, expanding observer coverage in existing fisheries and implementing new observer programs for fisheries identified with monitoring needs related to bycatch and protected species interactions
- Maintain monitoring for the fisheries with observer coverage to provide accurate catch and bycatch data
- Coordinate observer program activities at the national level by developing new standards, policies, and procedures to improve regional observer programs

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Fisheries Management Programs and Services (FY 2024 – FY 2028):

- *Regional Fishery Management Councils Support:* Develop fishery management measures, using public input and the best available science and tools such as annual catch limits (ACLs) and accountability measures (AMs)
- *Atlantic Highly Migratory Species (HMS) Management Support:* Develop fishery management measures, using public input and the best available science and tools such as ACLs and AMs
- *Electronic Monitoring and Reporting:* Implement Electronic Monitoring (EM) and Electronic Reporting (ER) options in key fisheries
- *Reducing Bycatch:* Develop technological solutions and investigate changes in fishing practices designed to minimize bycatch of fish and protected species
- *Illegal, Unreported, and Unregulated (IUU) Fishing:* Address Magnuson-Stevens Fishery Conservation and Management Act (MSA) mandates to implement IUU/bycatch identification, monitoring, and certification procedures, and foreign nation capacity building. Submit biennial status reports to Congress. Review shipments of imported fishery products to monitor for IUU shipments and fraudulently labeled seafood
- *National Catch Share Program:* Work with interested Regional Councils to support catch share programs and the use of technology, when appropriate, to improve the cost-effectiveness of these programs
- *Product Quality and Safety:* Help ensure that the Nation's seafood industry is economically sustainable and complies with food regulations through the National Seafood Inspection Laboratory, which provides an analytical laboratory, data management, and regulatory compliance risk analysis.

Aquaculture (FY 2024 – FY 2028):

- Finalize and implement environmental reviews for the Nation's first two Aquaculture Opportunity Areas (AOAs)
- Work with the Western Pacific Fisheries Management Council to consider options for an offshore aquaculture management program, in part through Implementing the 2022 Programmatic Environmental Impact Statement for Aquaculture in the Pacific Islands Region and,
- Continue scientific and other support for coastal shellfish farming, including implementing a 2022 partnership with USDA for a Northeast Oyster Breeding Center.
- Establish and expand regional research and pilot projects (e.g., kelp and seaweed farming, offshore aquaculture, novel shellfish farming practices, integrated multi trophic aquaculture) in collaboration with public private partnerships with industry and other partners

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- Advance Science Center research to support environmentally sound aquaculture practices such as genetics and water quality modeling, and work with NOS to refine and apply aquaculture siting tools (e.g. Ocean Reports)
- Research sustainable finfish aquaculture feeds and genetics
- Work with federal partners to conduct research related to seaweed farming practices, including exploring its potential to sequester carbon.
- Develop science-based tools for management that ensure the efficient review of aquaculture permit applications
- Explore use of Public Private Partnerships (in collaboration with Federal, state, and industry partners) to support sustainable aquaculture development (e.g., to expand hatchery capacity, workforce development and training programs)

Salmon Management Activities (FY 2024 – FY 2028):

- Support the operations and maintenance of Columbia River hatcheries to mitigate the loss of fish production due to hydropower dams
- Conduct a broad range of salmon stock assessment and fishery monitoring programs in the Snake and Columbia Rivers

Regional Councils and Fisheries Commissions (FY 2024 – FY 2028):

- Continue to revise Fishery Management Plans (FMPs) and amendments to prevent overfishing, rebuild overfished fisheries, and promote sustainability of commercial, recreational, and subsistence wild caught fisheries
- Complete socioeconomic analyses for fishery management actions
- Work with Councils to implement electronic technologies for fishery monitoring
- Complete necessary environmental analyses and support Council action to remove regulations determined to be outdated, unnecessary, or ineffective, to reduce the burden on commercial, recreational, and subsistence fishermen

Deliverables:

Fisheries and Ecosystem Science Programs and Services (FY 2024 – FY 2028):

- *Economics and Social Science:* Assessments of the benefits/cost-effectiveness of fisheries rebuilding programs, habitat and protected species recovery programs, and decision support tools; and, improved quantitative models for conducting benefit-cost analyses and predicting how fishery participants will respond to changes in management measures

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- *Ecosystem Science*: Updated ecosystem-status reports and risk and vulnerability assessments delivered to resource managers in the IEA regions; evaluation of best strategies for fisheries management and fishing-community adaptation for changing ocean conditions; and delivery of environmental indicators and predicted impacts on managed species to appropriate stock assessment scientists and Regional FMCs
- *Antarctic Research*: Completed stock assessments for targeted stocks of krill, fishes, and crabs managed by the Commission for the Conservation of Antarctic Marine Living Resources
- *Information Analysis and Dissemination*: Technical expertise and capacity infrastructure for data collection, processing, sharing, and archiving for Integrated Ocean Observing System, NOAA Environmental Data Management Committee, NMFS Enterprise Data Management, NMFS Fisheries Information Systems, NMFS Marine Recreational Information Program, and Data.gov

Fisheries Data Collections, Surveys, and Assessments (FY 2024 – FY 2028):

- *Fisheries Monitoring, Assessment, and Forecasting*: Fishery-independent surveys to provide ongoing data for stock assessments; stock assessment reports based on a next-generation stock assessment framework for key stocks; and more precise estimates of recreational catch through improved surveys
- *Cooperative Research*: Conduct cooperative research projects, in partnership with stakeholders; and document the individual project final reports of the results, with data archived at the Fisheries Science Centers and added to the NMFS InPort Centralized documentation (metadata) repository
- *MARMAP*: Fishery-independent assessments of reef fish abundance and life history characteristics of economically and ecologically important reef fish species in shelf and upper slope waters from Cape Lookout to Cape Canaveral; resulting data provided for use in stock assessments and in support of other research and management needs
- *SEAMAP*: Surveys in inshore and offshore waters conducted and fishery, habitat, biological, and environmental data provided to Regional Councils for incorporation into regional species stock assessments and for development of effective fisheries and habitat management strategies

Observers and Training (FY 2024 – FY 2028):

- Information on catch, bycatch, discards, and biological data necessary for in-season monitoring and stock assessments; also information on fishing effort, fishing gear, and specific fishing techniques that minimize bycatch
- National Observer Program (NOP) reports and biennial updates to the U.S. National Bycatch Report (NBR)

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Fisheries Management Programs and Services (FY 2024 – FY 2028):

- Development of fisheries regulations, FMPs, and amendments in order to maintain and restore productive stocks important to commercial, recreational, Tribal, and subsistence fisheries
- Analysis and research to identify, consult, and certify nations whose vessels engage in IUU fishing, and bycatch of Protected Living Marine Resources (PLMR) and certain shark catches on the high seas. May also result in recommendations to the Secretary of Commerce, after coordination with other Federal agencies, on possible fishery-product trade prohibitions and port restrictions on nations whose vessels engage in the above
- Collection of source data on fishery product imports tracing back to the harvest area and analysis of shipment documentation to verify accuracy and identify trends in import of IUU fishery products and fraudulently labeled seafood
- Improvements in fishing gear and fishing practices to reduce bycatch
- Implementation of cost-effective electronic technology applications that complement observer coverage, improve data collection and analysis, and ensure compliance with recordkeeping and reporting regulations
- Improved timeliness in the administration of fishery disaster relief contingent on available fishery disaster relief appropriations

Aquaculture (FY 2024 – FY 2028):

- Increased domestic aquaculture production and associated jobs
- More efficient aquaculture permitting systems in state and Federal waters
- Communications products to inform the public about sustainable aquaculture science and management topics
- Reports on three complementary, interagency efforts to support sustainable aquaculture development: (1) regulatory efficiency, (2) science collaboration, (3) and economic development.
- Application of science-based tools for management that ensure the efficient review of aquaculture permit applications
- Application of science-based tools and science advice products for management that ensure the efficient review of aquaculture permit applications.

Salmon Management Activities (FY 2024 – FY 2028):

- Maintenance of salmon smolt production as required under the Mitchell Act
- Broad range of salmon stock assessment and fishery monitoring programs in the Snake and Columbia Rivers

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Regional Councils and Commissions (FY 2024 – FY 2028):

- Draft amendments to FMPs
- Collection and analysis of socioeconomic data on the impacts of fishery management actions
- Regulations removed that were determined to be outdated, unnecessary, or ineffective, to increase economic fisheries value or improve recreational activities and reduce burden on commercial and recreational fishermen

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Line Item		<u>Explanation and Justification</u>					
		2022		2023		2024	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Fisheries and Ecosystem Science Programs and Services	Pos/BA	645	152,474	668	161,500	668	166,922
	FTE/OBL	521	153,313	585	161,500	585	166,922
Fisheries Data Collections, Surveys, and Assessments	Pos/BA	473	187,500	511	203,851	511	208,593
	FTE/OBL	462	192,428	466	203,851	466	208,593
Observers and Training	Pos/BA	161	56,008	161	58,383	161	59,474
	FTE/OBL	123	57,060	149	58,383	149	59,474
Fisheries Management Programs and Services	Pos/BA	477	128,260	500	137,750	500	142,074
	FTE/OBL	460	128,754	458	137,750	458	142,074
Aquaculture	Pos/BA	42	17,835	43	19,000	43	19,410
	FTE/OBL	39	17,887	36	19,000	36	19,410
Salmon Management Activities	Pos/BA	41	62,945	42	65,250	42	65,630
	FTE/OBL	39	62,206	41	65,250	41	65,630
Regional Councils and Fisheries Commissions	Pos/BA	13	42,628	13	44,297	13	45,753
	FTE/OBL	7	42,484	11	44,297	11	45,753
Interjurisdictional Fisheries Grants	Pos/BA	2	3,372	2	3,377	2	3,383
	FTE/OBL	1	3,806	1	3,377	1	3,383
Total Fisheries Science and Management	Pos/BA	1,854	651,022	1,940	693,408	1,940	711,239
	FTE/OBL	1,652	657,938	1,747	693,408	1,747	711,239

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Sustainable fisheries play an important role in the Nation's economy by providing opportunities for commercial, recreational and subsistence fishing, and marine aquaculture, to increase our Nation's supply of seafood. In 2020, commercial and recreational saltwater fishing in the U.S. generated over \$253 billion in sales impacts, contributed \$117 billion to gross domestic product, and supported 1.7 million jobs in the U.S. marine fishing sector and across the broader economy⁴. The U.S. aquaculture industry produced \$1.5 billion worth of seafood in 2019, which equals about 24 percent of total U.S. seafood production by value⁵. By ending overfishing, rebuilding stocks, applying an ecosystem-based management approach to the stewardship of fishery resources, and supporting development of marine aquaculture, we strengthen the near and long-term value of U.S. fisheries to commercial and recreational fishing businesses, fishing communities, and the national economy.

Fisheries and Ecosystem Science Programs and Services

This budget supports NMFS science to prevent and eliminate overfishing, rebuild overfished stocks, support sustainable aquaculture, conserve and restore habitats, and support fishing communities. The following are some of the major programs and activities funded within the budget line.

Fisheries Science Base Activities: NMFS conducts science used for the analysis and decision-making needed for ecosystem-based fisheries management, Fishery Management Plans (FMPs) and regulatory implementation, and enforcement to ensure compliance with regulations. Funding supports:

- Regional Science and Operations - core survey and science work in the regional Science Centers (Centers) such as fishery catch monitoring, survey and stock assessments, charters for survey vessels, fuel, supplies, etc. This includes research projects at the Centers, including collaborative research with other institutions on topics such as pelagic fisheries and groundfish.
- Recreational Fisheries Information, such as the Marine Recreational Information Program <https://www.fisheries.noaa.gov/topic/recreational-fishing-data>
- Science and management activities in support of the Marine National Monuments <https://www.fisheries.noaa.gov/pacific-islands/habitat-conservation/marine-national-monuments-pacific>

⁴ National Marine Fisheries Service. 2023. Fisheries Economics of the United States, 2020. U.S. Dept. of Commerce, NOAA Tech. Memo. NMFS-F/SPO-236, 231 p. Available at: <https://www.fisheries.noaa.gov/national/sustainable-fisheries/fisheries-economics-united-states>.

⁵ National Marine Fisheries Service (2022) Fisheries of the United States, 2020. U.S. Department of Commerce, NOAA Current Fishery Statistics No. 2020 p 16. Available at: <https://www.fisheries.noaa.gov/national/sustainable-fisheries/fisheries-united-states> . Note, due to data availability, aquaculture production data lags the rest of the publication by one year.

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- West Coast Groundfish Management and Research - key stock assessment science that supports management of more than 80 fish stocks along the coasts of Washington, Oregon, and California
- Development and implementation of EM and ER; working with industry to integrate technology into data collections and observations to improve the timeliness, quality, integration, cost effectiveness, and accessibility of fishery-dependent data (<https://www.fisheries.noaa.gov/national/fisheries-observers/electronic-technologies>)
- Science to substantially increase sustainable domestic aquaculture; enabling important contributions to the U.S. seafood supply, job creation in coastal communities, and reduced reliance on imported seafood (currently 70 to 85 percent of U.S. seafood is imported⁶). Marine aquaculture is also used to enhance commercial and recreational fisheries and restore habitats

Economics and Social Science Research (<https://www.fisheries.noaa.gov/topic/socioeconomics>)

NMFS economists and social scientists conduct legislatively mandated (e.g., NEPA, MSA) economic and social analysis for almost 300 rulemakings each year. Underpinning these assessments is a broad range of socio-economic data collection, modeling, and, increasingly, a number of commercial and recreational fisheries decision support tools. This work addresses traditional fishery management issues (e.g. effects of rebuilding programs, catch share programs, aquaculture, and fishery allocation decisions on fishermen and communities) and emerging coastal and marine resource management issues such as ecosystem services trade-offs and valuation, and community resilience.

Ecosystem Science (<https://www.fisheries.noaa.gov/topic/ecosystems#science>)

NMFS implements ecosystem-based approaches to management, which rely upon research that integrates biological, socio-economic, environmental, and oceanographic data into predictive models that improve NOAA's ability to manage resources over the long-term. This includes: the Integrated Ecosystem Assessment (IEA) program, which assesses ecosystem status and trends relative to ecosystem management goals, analyze risks and uncertainty, and evaluate trade-offs between management options (<https://www.integratedecosystemassessment.noaa.gov/>); support for the NOAA Climate, Ecosystems and Fisheries Initiative which will deliver the robust projections of future ecosystem conditions, risk assessments and management strategies decision makers need for climate-informed fisheries management and community adaptation; and the Climate Regimes & Ecosystem Productivity (CREP) program, which provides decision-makers with information on how climate variability and change are impacting U.S. marine ecosystems and the communities and economies that depend on them. CREP provides observations, research, assessments, and projections of climate-related impacts on living marine resources of the Bering Sea and Gulf of Alaska. CREP also supports an array of sensors designed to detect changes in nutrients, productivity, and biological abundances and diversity along a latitudinal gradient

⁶National Marine Fisheries Service (2022) Fisheries of the United States, 2020. U.S. Department of Commerce, NOAA Current Fishery Statistics No. 2020, p. 24. Available at: <https://www.fisheries.noaa.gov/resource/document/fisheries-united-states-2020>

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extending from the northern Bering Sea to the Chukchi and Beaufort Seas. This area includes some of the Nation's richest commercial fishing grounds (5. billion pounds of seafood were landed in Alaska with a value of \$1.5 billion in 2020⁷) as well as protected species and other resources that native communities depend on.

Antarctic Research

The U.S. Antarctic Marine Living Resources Convention Act requires that the Department of Commerce conduct directed scientific research to “achieve the United States goal of effective implementation of the objectives of the Convention [on the Conservation of Antarctic Marine Living Resources].” NOAA’s Antarctic Ecosystem Research Program implements the U.S. AMLR program in support of U.S. policy interests related to Antarctic resource management. NMFS scientists operate land-based predator research (e.g., counting seals and penguins and monitoring their reproductive success, body condition, and diet) and ship-based research (e.g., conducting oceanographic, trawl surveys, acoustic surveys, and small boat operations) to describe the fundamental relationships between Antarctic krill, krill's predators, finfish, and key environmental variables under changing sea ice conditions. This program is NOAA’s only dedicated, long-term ecological presence in the Antarctic, with observations dating back to 1986. (<https://swfsc.noaa.gov/aerd/>)

Information Analysis and Dissemination

Requirements and directives for data collection, management, and dissemination are included in the MSA, Marine Mammal Protection Act (MMPA), Endangered Species Act (ESA), Aquaculture Act of 1980, Data Quality Act, and other policies and directives. The information analysis and dissemination program supports the NMFS infrastructure and staff that process, analyze, and produce data and disseminate it to resource managers and other users.

Fisheries Data Collections, Surveys, and Assessments

Funds in this budget line support data collection, data management, and fisheries stock assessment production. Providing accurate and timely assessments of fish and shellfish stocks that support commercial and recreational fisheries is one of NMFS’ core functions. Stock assessments provide the technical basis for fishery management decisions, such as setting annual catch limits (ACLs) to achieve optimum yield from the fishery while avoiding overfishing and ecosystem harm. Stock assessment models estimate a stock’s status over time and forecast future dynamics to advise fishery managers in their development of sustainable

⁷ National Marine Fisheries Service (2022) Fisheries of the United States, 2020. U.S. Department of Commerce, NOAA Current Fishery Statistics No. 2020, p. 10 Available at: <https://www.fisheries.noaa.gov/resource/document/fisheries-united-states-2020>

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harvest levels. They are most reliable when they incorporate high quality data on fishery removals, stock abundance and biology, and ecosystem and environmental variability. (<https://www.fisheries.noaa.gov/topic/population-assessments#fish-stocks>)

The following are some of the major programs and activities funded within the budget line:

Expand Annual Stock Assessments

Activities include: catch monitoring and surveys; data analysis and stock assessment modeling; advanced sampling technologies; habitat, climate and other ecosystem indicators; and stock assessment model improvements. In addition, NMFS addresses critical gaps in stock assessments as identified in program reviews and the implementation of the new stock assessment improvement plan and prioritization process. This process defines target frequency and assessment levels for each stock and facilitates the implementation of a next generation stock assessment framework. This framework includes assessments linked to climate, ecosystem, and habitat dynamics where appropriate, and provides baseline monitoring for all Federally-managed fish stocks. (<https://www.fisheries.noaa.gov/feature-story/stock-assessment-101-series-part-4-future-stock-assessments>)

Fisheries Statistics

NMFS manages and conducts data collection, data processing, statistical analysis, information management, and statistical reporting activities for commercial and recreational fisheries. Accurate data and reliable statistics on fishing effort and catch are essential for assessing fish stocks, as well as for monitoring performance relative to wild fishery management targets and aquaculture objectives.

Fish Information Networks (FINs)

This program supports several state-Federal cooperative programs that coordinate data collection, data management, and information management activities, which are essential for accurate monitoring of commercial and recreational fishing impacts. These programs collect data and manage information on fishing participation, fishing effort, and catch. They also help collect fishery-dependent biological data needed for stock assessments. (<https://www.fisheries.noaa.gov/national/commercial-fishing/fisheries-information-system-program>)

Survey and Monitoring Projects

Projects include support for bluefin tuna tagging research, red snapper monitoring and research, West Coast groundfish surveys, Alaska extended jurisdiction programs, Maine and New Hampshire inshore trawl surveys, Bering Sea Pollock research, and Gulf of Maine groundfish assessment, to name a few. These targeted surveys and biological investigations improve the information available to conduct accurate stock assessments and directly contribute to the *Percentage of FSSI Stocks with Adequate Population Assessments and Forecasts* (performance indicator 3.4).

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American Fisheries Act (AFA)

NMFS collects data to support the following management measures for the AFA: 1) regulations that limit access and allocate Bering Sea and Aleutian Islands (BSAI) pollock to the fishing and processing sectors of the BSAI pollock fishery, 2) regulations governing the formation and operation of fishery cooperatives in the BSAI pollock fishery, 3) regulations to protect other fisheries from spillover effects from the AFA, and 4) regulations governing catch measurement and monitoring in the BSAI pollock fishery.

Cooperative Research

NMFS conducts cooperative research to enable commercial and recreational fishermen to become involved in collecting fundamental fisheries information that supports management options. Through cooperative research, industry and other stakeholders can partner with NMFS and university scientists in all phases of the research program—planning the survey and statistical design, conducting research, analyzing data, and communicating results. (<https://www.fisheries.noaa.gov/sustainable-fisheries/national-cooperative-research-program>)

Marine Resources Monitoring, Assessment, and Prediction Program (MARMAP)

MARMAP is a cooperative fisheries project of NMFS and the South Carolina Marine Resources Research Institute (MRRI). For more than 40 years, the MRRI has conducted fishery-independent surveys and research on groundfish, reef fish, and coastal pelagic fishes between Cape Lookout, North Carolina and Cape Canaveral, Florida.

Southeast Area Monitoring and Assessment Program (SEAMAP)

SEAMAP supports the collection of fishery-independent data through state, Federal, and university partnerships by way of cooperative agreements. (<https://www.fisheries.noaa.gov/southeast/funding-and-financial-services/southeast-area-monitoring-and-assessment-program-seamap>)

Observers and Training

This budget line supports information and analyses on the biological, ecological, economic, and social aspects of the Nation's fisheries resources. The scientific data collected by observer programs provide critical inputs for population assessments of threatened and endangered species such as sea turtles, seabirds, and marine mammals, and for effective management of the Nation's fish stocks. The authority to place observers on commercial fishing and processing vessels is provided by the MSA, MMPA, and ESA. Fisheries observer programs are proven, unbiased, and valuable sources of information on the Nation's fisheries, and are a reliable and cost-effective means to collect fishery-dependent data.

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Observers monitor fishing activities across all five NMFS regions, and collect data for a range of conservation and management issues in various fisheries. This includes information on fishing practices, vessel and gear characteristics, fishing locations and times, environmental conditions within the fishing grounds, catch and bycatch, and socio-economic data.

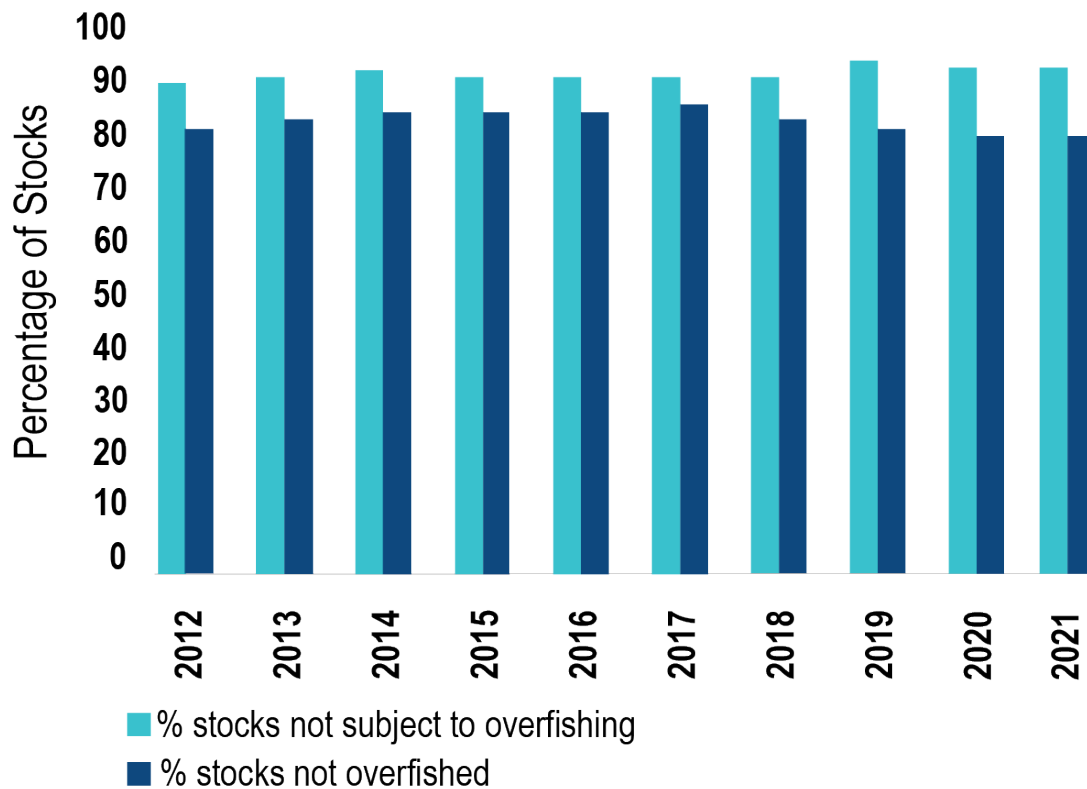
(<https://www.fisheries.noaa.gov/topic/fishery-observers>)

Fisheries Management Programs and Services

Under the MSA and other fisheries legislation, this budget line supports: management actions to effectively prevent and eliminate overfishing, rebuild overfished stocks, support sustainable aquaculture, develop and implement catch share programs, and implement ecosystem-based management to support sustainable fisheries, fishing businesses, and communities. As a result of this work 47 fish stocks since 2000 have been rebuilt and the number of stocks experiencing overfishing, or determined to be overfished are at near all-time lows.

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Percentage of Stocks Not Subject to Overfishing and Not Overfished 2012-2021



(Annual Report to Congress: Status of Stocks 2021.
<https://www.fisheries.noaa.gov/national/sustainable-fisheries/status-stocks-2021>)

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The following are some of the major programs and activities funded within the budget line:

Fisheries Management Base

These funds support NMFS staff efforts to deliver the following services, including analysis and decision-making to support fisheries management and regulatory implementation:

- Develop, implement, monitor and adjust (if required) ACLs and AMs
- Implement international requirements of regional fishery management organizations (RFMOs) consistent with MSA and other laws applicable to respective RFMOs, for example, Atlantic Tunas Convention Act, etc.
- Combat IUU Fishing [Note: Enforcement actions required to prosecute and deter IUU fisheries actions are covered in the NMFS Enforcement Activity]
- Develop and promulgate National Standard Guidance
- Support Regional Fishery Management Councils, Interstate Marine Fishery Commissions, and the Atlantic Highly Migratory Species Program
- Incorporate Electronic Monitoring and Reporting technologies into fishery management

National Catch Share Program

NMFS supports the development, implementation, and improvement of catch share programs where determined appropriate by the regional fishery management councils and for Atlantic highly migratory species. These programs have numerous benefits including increased flexibility for fishermen to determine when and how they fish. "Catch share" programs are a market-based approach to fisheries management that allocate a specific portion of the total allowable fishery catch to individuals, cooperatives, communities, or other entities. Depending on the nature of the fishery, catch share programs can provide significant advantages including ensuring annual catch limits are not exceeded, reducing costs to produce seafood, market gluts, and bycatch, extending fishing seasons, and improving fishermen's safety.

Reducing Bycatch

NMFS supports research on gear technologies that reduce bycatch and bycatch mortality. Reducing bycatch can save fishing jobs by preventing fishery closures due to interactions with endangered species or attainment of strict bycatch quotas. This funding supports the Bycatch Reduction Engineering Program external competitive grants program, which supports innovative gear designs and fishing techniques to minimize bycatch.

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Product Quality and Safety

NMFS helps ensure that the Nation's seafood industry is economically sustainable and complies with food regulations. Funding supports the National Seafood Inspection Laboratory, which provides an analytical laboratory, data management, and regulatory compliance risk analysis. Analytical testing of seafood products and aquatic animal bi-products includes microbiological analysis of biological pathogens, non-pathogenic organisms, and chemical contaminants. Voluntary services are also part of the program, and include sanitation evaluation, product inspection and certification, auditing of food quality and safety programs, and training.

Aquaculture

NMFS is one of three NOAA Line Offices that support NOAA's Marine Aquaculture Program, whose mission is to provide science, services, and policies to support the significant expansion and sustainability of U.S. marine aquaculture. Each NOAA Line Office has distinct and complementary roles:

- NMFS leads the program and focuses on developing policies, regulations, and science-based tools for management to support streamlined permitting systems. (<https://www.fisheries.noaa.gov/topic/aquaculture>)
- The Office of Oceanic and Atmospheric Research's (OAR) National Sea Grant College Program supports industry development and extension with integrated research and technology transfers primarily through competitive grants. (<https://seagrant.noaa.gov/Our-Work/Aquaculture>)
- NOS supports development of coastal planning tools to inform siting decisions (for example: <https://coastalscience.noaa.gov/research/marine-spatial-ecology/aquaculture/>)

This budget line supports efforts to increase aquaculture production as a critical part of a broad Seafood Competitiveness agenda to support NOAA's Blue Economy goals. Benefits include increasing the Nation's seafood supply, improving our trade balance with other nations, and creating jobs. NMFS' aquaculture activities are led by the Office of Aquaculture (OAQ). NMFS' base funding supports the following priority areas, which are guided by NOAA's 2022 Aquaculture Strategic Plan⁸:

- Manage sustainably and efficiently: Improve regulatory processes for sustainable coastal and marine aquaculture through collaboration with state and Federal partners.
- Lead science for sustainability: Use world-class science expertise to meet management and industry needs for a thriving seafood production sector and share this knowledge broadly.

⁸ National Marine Fisheries Service. 2022. Marine Aquaculture Strategic Plan FY 2023-2028. U.S. Department of Commerce. Available at: <https://www.fisheries.noaa.gov/resource/document/noaa-aquaculture-strategic-plan-2023-2028>

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- Educate and exchange information: Build awareness and support for coastal, marine, and Great Lakes aquaculture through two-way communication with diverse stakeholders and partners.
- Support economic viability and growth: Facilitate a robust aquaculture industry that thrives as a key component of a resilient seafood sector.

The U.S. is a major consumer of aquaculture products, yet is a minor producer. The Nation imports 70 to 85 percent of its seafood⁹, over half of which is from foreign-produced aquaculture. This reliance on foreign imports resulted in a near \$17 billion seafood trade deficit in 2020¹⁰, moves potential seafood jobs overseas, and poses a risk to food security. Given wild fish stocks are at or near maximum harvest levels, the single greatest opportunity to increase the seafood supply is through domestic aquaculture.

Salmon Management Activities

This budget line supports NMFS' research and management activities associated with salmon not listed under the ESA. Funding for the Mitchell Act component supports the operations and maintenance of Columbia River hatcheries through grants and contracts to the states of Washington, Oregon, and Idaho, and to the U.S. Fish and Wildlife Service, to mitigate the loss of salmon on the Columbia and Snake Rivers.

The Pacific Salmon Treaty component funds NMFS and the states of Alaska, Washington, Oregon, and Idaho to provide personnel support to the Pacific Salmon Commission's technical committees and conduct a broad range of salmon stock assessment and fishery monitoring programs required to implement the treaty provisions. These programs are carried out in fisheries and rivers located from southeast Alaska to Oregon, including the Columbia River. U.S. and Canadian Parties negotiated amendments to five Pacific Salmon Treaty fishing regimes contained in Annex IV. The current agreement, in force from 2019 through 2028, addresses conservation concerns through recommendations for reduced harvest of Chinook salmon in both United States and Canadian fisheries. NMFS collaborates closely with the state and Tribal representatives to the Pacific Salmon Commission to develop annual spend plans implementing the recommendations. Funds provided to date support these spend plans.

Base funds also support genetic stock identification research which includes the collection, analysis, and testing of methods that rely on genetics-based data to identify and track the location of Federally protected stocks in the wild. Genetic stock identification

⁹ National Marine Fisheries Service (2022) Fisheries of the United States, 2020. U.S. Department of Commerce, NOAA Current Fishery Statistics No. 2020, p. 24. Available at: <https://www.fisheries.noaa.gov/national/sustainable-fisheries/fisheries-united-states>. (Note: due to data availability, aquaculture production data lags the rest of the publication by one year.)

¹⁰ Ibid, p. 20.

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programs improve salmon management and avoid harvest of weak salmon stocks by identifying the movement and location of individual stocks.

Regional Councils and Fisheries Commissions

NOAA is the sole source of funding for the eight Regional Fishery Management Councils. The Councils were established by the MSA to prepare FMPs aimed at preventing and eliminating overfishing and rebuilding overfished stocks for the Nation's fisheries. Funding in this budget line is divided among the eight Councils and is used for their operating costs (e.g., staff, rent, public meetings, Council member salaries, and travel). Funding also supports the activities of the Interstate Marine Fisheries Commissions, and International Fisheries Commissions. Funds provide critical operational support to the commissions and states for development and implementation of sustainable fishery management measures.

Interjurisdictional Fisheries Grants

The Interjurisdictional Fisheries Act of 1986 (IFA) is a formula-based financial assistance program to promote state activities in support of the management of interjurisdictional fisheries resources. Any state, either directly or through an interstate commission, may submit a grant proposal that supports management of fishery resources that: 1) occur in waters under the jurisdiction of one or more states and in the U.S. EEZ; 2) are managed under an interstate FMP; or (3) migrate between the waters under the jurisdiction of two or more states bordering on the Great Lakes. Past examples of projects funded through these grants include research on: blue crab spawning in Florida; American lobster settlement in Maine; and, fishery catch statistics, stock status, and management actions for state of Alaska managed fisheries including sablefish, lingcod, black and blue rockfish, and Pacific cod.

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		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Fisheries and Ecosystem Science Programs and Services	Pos./BA	668	166,922	701	176,922	33	10,000
	FTE/OBL	585	166,922	611	176,922	26	10,000

Climate-Ready Fisheries: Climate-Informed Fisheries Assessments and Management Strategies for Changing Oceans (+\$10,000, 26 FTE/ 33 Positions)

– This request will support the expanded production, delivery, and use of climate science in fisheries assessments and management to address the impacts of climate change on marine resources, fisheries, and the many businesses and communities that depend on them. Warming oceans, rising seas, decreasing sea ice, increasing ocean acidification, and extreme events (e.g., marine heat waves) are affecting the distribution and abundance of marine species. NMFS will establish a nationally and geographically connected operational network that provides decision-makers with climate-informed advice on changing ocean conditions, impacts on marine resources, and best management strategies to reduce impacts and increase economic resilience.

As part of the NOAA Climate, Ecosystems, and Fisheries Initiative (CEFI), this effort will support Fisheries and Climate Decision Support Systems (FACSSs) at each NOAA Fisheries Science Center (Alaska, Northeast, Northwest, Pacific Islands, Southeast, Southwest) to deliver the climate-informed advice needed for effective marine resource management in rapidly changing oceans. These FACSS teams will (1) forecast the impacts of changing oceans on marine ecosystems and fisheries, (2) incorporate this information into stock assessments and other management advice, and (3) work with Fishery Management Councils and other decision-makers to evaluate best management strategies for changing oceans. The FACSS are a critical part of the new CEFI integrated ocean modeling and decision-support system that will provide the end-to-end ocean forecasts, risk assessments, adaptation strategies and other services needed to safeguard the nation’s valuable fisheries, aquaculture and protected resources in a time of rapidly changing oceans.

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Specifically, NMFS will fund the following activities:

- Establishment of interdisciplinary FACSS teams (physical, chemical, biological and socioeconomic experts) at each NOAA Fisheries Science Center dedicated to producing regional ocean, ecosystem and fisheries projections, risk assessments, and management strategy evaluations needed for climate-informed fisheries management. (\$3.0 million)
- IT capacity required for operational modeling of future conditions and evaluation of best management strategies. (\$1.0 million)
- Targeted research to fill critical gaps in our understanding of climate impacts on stock productivity and fisheries adaptations and continuously improve future projections, risk assessments and evaluation of best fishery management strategies for changing conditions. (\$5.0 million)
- Translation and delivery of fisheries projections, risk assessments and best management strategies to decision-makers. (\$1.0 million)

Schedule and Milestones:

FY 2024 – FY 2028:

- Establish fisheries and climate forecast and assessment teams (FY 2024)
- Develop and test forecasts of future ecosystem and fisheries conditions (FY 2025)
- Launch targeted research on climate impacts to improve forecasts and assessments (FY 2025)
- Deliver forecasts of future ecosystems and fisheries for use in assessing risks, stocks, management strategies etc. (FY 2025)
- Assess climate-related risks and evaluate best fishery management strategies over near and longer timeframes working with Regional Fishery Management Councils and stakeholders (FY 2026-2027)
- Deliver robust forecasts and assessments on an annual basis to support climate-informed fisheries management through an operational Fisheries and Climate Decision Support System (FY 2027)

Deliverables:

FY 2024 – FY 2028:

- Fisheries and climate forecast and assessment teams established at each Fisheries Science Center (FY 2024)
- Pilot forecasts of future ecosystem and fishery conditions (FY 2025)
- Operational forecasts of future ecosystem and fisheries conditions (priority stocks) (FY 2025)
- Assessments of risks and best fishery management strategies for future scenarios (priority stocks) (FY 2026-2027)
- Increased information on climate impacts, risks and management strategies to improve forecasts and assessments (FY 2026)
- Operational Fisheries and Climate Decision Support Systems in six regions (FY 2027)

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Performance Measures	2024	2025	2026	2027	2028
Number of NMFS regions with fisheries and climate decision support systems	1	1	5	6	6
With Increase					
Without Increase	0	1	1	1	1
Outyear Costs:					
Direct Obligations	10,000	10,000	10,000	10,000	10,000
Capitalized	0	0	0	0	0
Uncapitalized	10,000	10,000	10,000	10,000	10,000
Budget Authority	10,000	10,000	10,000	10,000	10,000
Outlays	6,200	6200	6200	6200	6200
FTE	26	33	33	33	33
Positions	33	33	33	33	33

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Activity: Fisheries Science and Management

Subactivity: Fisheries and Ecosystem Science Programs and Services

Program Change: Climate-Ready Fisheries: Climate-Informed Fisheries Assessments and Management Strategies for Changing Oceans

Title	Grade	Number	Annual Salary	Total Salaries
Fisheries Biologist (AKFSC)	ZP-IV	5	109,546	547,730
Fisheries Biologist (NEFSC)	ZP-IV	5	110,798	553,990
Fisheries Biologist (NWFSC)	ZP-IV	5	109,546	547,730
Fisheries Biologist (PIFSC)	ZP-IV	5	102,444	512,220
Fisheries Biologist (SEFSC)	ZP-IV	5	100,545	502,725
Fisheries Biologist (SS)	ZP-IV	3	112,015	336,045
Fisheries Biologist (SWFSC)	ZP-IV	5	111,136	555,680
Total		33		3,556,120
Less lapse	25.00%	(7)		(889,030)
Total full-time permanent (FTE)		26		2,667,090
2024 Pay Adjustment (5.2%)	5.20%			138,689
				2,805,779

Personnel Data Summary

Full-time Equivalent Employment (FTE)

Full-time permanent	26
Part-time permanent	0
Full-time temporary	0
Part-time temporary	0
Total FTE	26

Authorized Positions:

Full-time permanent	33
Part-time permanent	0
Full-time temporary	0
Part-time temporary	0
Total Positions	33

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Fisheries Science and Management
Subactivity: Fisheries and Ecosystem Science Programs and Service

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1 Full-time permanent compensation	67,484	71,091	74,888	77,694	2,806
11.3 Other than full-time permanent	597	628	660	660	0
11.5 Other personnel compensation	2,581	2,718	2,856	2,856	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	70,662	74,437	78,404	81,210	2,806
12 Civilian personnel benefits	26,365	27,773	29,228	29,930	702
13 Benefits for former personnel	1	1	1	1	0
21 Travel and transportation of persons	1,251	1,318	1,318	1,318	0
22 Transportation of things	583	614	614	614	0
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	2,676	2,819	2,819	2,819	0
23.2 Rental Payments to others	394	415	415	415	0
23.3 Communications, utilities and misc charges	2,549	2,685	2,685	2,685	0
24 Printing and reproduction	52	55	55	55	0
25.1 Advisory and assistance services	9,850	10,375	10,375	13,085	2,710
25.2 Other services from non-Federal sources	20,014	21,083	21,083	23,595	2,512
25.3 Other goods and services from Federal sources	978	1,030	1,030	1,030	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	3,495	3,681	3,681	4,431	750
31 Equipment	792	835	835	1,355	520
32 Lands and structures	873	919	919	919	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	12,775	13,457	13,457	13,457	0
42 Insurance claims and indemnities	2	2	2	2	0
43 Interest and dividends	1	1	1	1	0
44 Refunds	0	0	0	0	0
99 Total obligations	153,313	161,500	166,922	176,922	10,000

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		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Fisheries and Ecosystem Science Programs and Services	Pos./BA	668	166,922	677	174,556	9	7,634
	FTE/OBL	585	166,922	592	174,556	7	7,634

Wind Energy: Fisheries Science and Technical Reviews (+\$7,634, 7 FTE/ 9 Positions) – This request will assess the effects of planned offshore energy activities on fish, fisheries, and ecosystems. NOAA's expertise in managing and conserving fisheries, ocean species and habitats is critical to supporting the Administration's priority of deploying 30 gigawatts of offshore wind by 2030, by facilitating responsible renewable energy development while protecting ecosystems and ensuring co-ocean use.

Offshore wind development has been and continues to rapidly expand in the Northeast and Mid-Atlantic, including 10 projects currently under environmental review, and over 21 expected to commence between 2023 and 2026 in the Northwest, Mid-Atlantic, off the coasts of the Carolinas, and north and central California. By 2026, the Bureau of Ocean Energy Management (BOEM) is planning to hold at least four more commercial auctions in the Gulf of Mexico, Gulf of Maine, and off the coast of the Central Atlantic and Oregon, with over 14 potential lease sales between 2023 and 2025.

Offshore wind represents a new and significant use of our marine waters requiring substantial scientific and regulatory review. NMFS will work with the BOEM to minimize the effects of offshore energy projects on protected resources, fisheries, and important habitats in the region; reduce delays and minimize adverse economic impacts to the fishing industry and related coastal communities; and mitigate impacts to fisheries surveys in the Northeast, Mid-Atlantic, southeast/Gulf of Mexico, and West coast. NMFS is requesting a total of \$51.7 million in four complementary areas to address the rapid expansion and the impacts of offshore energy projects. The other components can be found in Marine Mammals, Sea Turtles, and Other Species (NMFS-14); Fisheries Data Collections Surveys, and Assessments (NMFS-78); and Fisheries Management Programs and Services (NMFS-85). This effort complements the \$8.7 million in total requested in the NOS proposal, Foundational Information for Expansion of Offshore Wind Energy (NOS-53).

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NMFS requests \$7.6 million to provide additional resources for offshore energy assessment to support the regulatory review process, including technical review, data analysis, and generation of recommendations for Essential Fish Habitat (EFH), Endangered Species Act (ESA), and National Environmental Policy Act (NEPA) consultation processes. This will also fund projects that advance scientific understanding on the interaction of offshore wind on NOAA trust resources. There are significant scientific questions regarding the interaction between wind-development and fisheries. NMFS will address these questions and mitigate impacts to fisheries by providing socio-economic analyses, application of integrated ecosystem assessments, and development of cooperative fisheries research studies. These funds will focus on the operational needs associated with offshore wind projects in the Northeast and Mid-Atlantic region, and also include initial investments in the West Coast, Gulf of Mexico, and South Atlantic. These funds will position NMFS to meet current and future challenges of regulatory and scientific review.

Schedule and Milestones:

FY 2024 – FY 2028:

- Provide scientific information, expert advice, and guidance to BOEM to implement offshore wind development for approximately 25 to 35 projects over a four to five year period that considers impacts to:
 - Protected species and their habitats, with a particular focus on the critically endangered North Atlantic right whale;
 - Socio-economic impacts from offshore wind development; and,
 - Essential fish habitats, with particular focus on vulnerable complex habitats and life stages
- As a Cooperating Agency under NEPA, identify and share living marine resources expertise and make recommendations upon potential environmental, biological, and socio-economic impacts on trust resources on approximately 25 to 35 projects over a four to five year period by 2027. This will allow regulators and developers to consider the full scope of impacts
- Advance management's understanding of science-based evidence for the interactions of fisheries and their habitats with offshore wind energy
- Establish and support regional collaborative ecosystem-scale research and monitoring programs across project/ecosystem scales to develop the necessary understanding of fisheries, habitat, and protected species interactions with wind development. In addition, assess the associated cumulative impacts to these resources and the habitats and ecosystems on which they rely, including potential changes in oceanographic conditions

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Deliverables:FY 2024 - FY 2028:

- Scientific information for NEPA reviews of the direct, indirect, short-term, long-term, and cumulative impacts to marine mammals and their habitats, threatened and endangered species and their critical habitats, fisheries resources and essential fish habitats, and resource users and associated communities
- Input on planning and analysis and leasing documents and notices during BOEM's initial phases of offshore wind development and on Draft Environmental Impact Statements, Final Environmental Impact Statements, and Record of Decisions structure, content, and appropriate methodology for impact analysis to BOEM to improve document quality
- Scientific manuscripts for publication in peer-reviewed journals to aid in establishing NMFS as a global leader on topics related to offshore wind and fisheries science
- Enhanced commercial and recreational fishery and socioeconomic data to improve BOEM decision-making and to improve the consideration of fishing industry considerations in the planning and development process
- Regional scientific frameworks for (1) fisheries research and monitoring and (2) protected species and wildlife research and monitoring, which were developed with regional partners
- Convene State of the Science Symposia, in partnership with scientific and industry collaborators, on the status of fisheries and protected species interactions with offshore wind energy (FY 2024, FY 2026)

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Performance Measures	2024	2025	2026	2027	2028
Reducing uncertainty of wind and fisheries impacts within regulatory reviewing process – Number of independent peer reviewed literature documenting the effects and impacts of offshore wind development on fisheries and protected species recovery and conservation					
With Increase	5	6	8	7	7
Without Increase	3	3	4	4	4
Outyear Costs:					
Direct Obligations	7,634	7,634	7,634	7,634	7,634
Capitalized	0	0	0	0	0
Uncapitalized	7,634	7,634	7,634	7,634	7,634
Budget Authority	7,634	7,634	7,634	7,634	7,634
Outlays	6,107	6,107	6,107	6,107	6,107
FTE	7	9	9	9	9
Positions	9	9	9	9	9

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PROGRAM CHANGE PERSONNEL DETAIL**

Activity: Fisheries Science and Management
 Subactivity: Fisheries and Ecosystem Science Programs and Services
 Program Change: Wind Energy: Fisheries Science and Technical Reviews

<u>Title</u>	<u>Grade</u>	<u>Number</u>	<u>Annual Salary</u>	<u>Total Salaries</u>
Fisheries Biologist (NWFSC)	ZPIV	1	109,546	109,546
Fisheries Biologist (NEFSC)	ZPIV	3	110,798	332,394
Fisheries Biologist (NWFSC)	ZPIII	2	76,860	153,720
Fisheries Biologist (SEFSC)	ZPIII	1	73,639	73,639
Fisheries Biologist (SWFSC)	ZPIII	1	78,307	78,307
Fisheries Biologist (SEFSC)	ZPII	1	49,758	49,758
Total		<u>9</u>		<u>797,364</u>
Less lapse	25.00%	<u>(2)</u>		<u>(199,341)</u>
Total full-time permanent (FTE)		7		598,023
2024 Pay Adjustment (5.2%)				<u>31,097</u>
				629,120
<u>Personnel Data Summary</u>				
Full-time Equivalent Employment (FTE)				
Full-time permanent		<u>7</u>		
Total FTE		7		
Authorized Positions:				
Full-time permanent		<u>9</u>		
Total Positions		9		

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(Direct Obligations amounts in thousands)

Activity: Fisheries Research and Management

Subactivity: Fisheries and Ecosystem Science Programs and Service

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1 Full-time permanent compensation	67,484	71,091	74,888	75,517	629
11.3 Other than full-time permanent	597	628	660	660	0
11.5 Other personnel compensation	2,581	2,718	2,856	2,856	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	70,662	74,437	78,404	79,033	629
12 Civilian personnel benefits	26,365	27,773	29,228	29,463	235
13 Benefits for former personnel	1	1	1	1	0
21 Travel and transportation of persons	1,251	1,318	1,318	1,642	324
22 Transportation of things	583	614	614	765	151
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	2,676	2,819	2,819	2,819	0
23.2 Rental Payments to others	394	415	415	415	0
23.3 Communications, utilities and misc charges	2,549	2,685	2,685	2,685	0
24 Printing and reproduction	52	55	55	55	0
25.1 Advisory and assistance services	9,850	10,375	10,375	10,375	0
25.2 Other services from non-Federal sources	20,014	21,083	21,083	26,267	5,184
25.3 Other goods and services from Federal sources	978	1,030	1,030	1,030	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	3,495	3,681	3,681	4,587	906
31 Equipment	792	835	835	1,040	205
32 Lands and structures	873	919	919	919	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	12,775	13,457	13,457	13,457	0
42 Insurance claims and indemnities	2	2	2	2	0
43 Interest and dividends	1	1	1	1	0
44 Refunds	0	0	0	0	0
99 Total obligations	153,313	161,500	166,922	174,556	7,634

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		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Fisheries and Ecosystem Science	Pos./BA	668	166,922	675	170,614	7	3,692
Programs and Services	FTE/OBL	585	166,922	590	170,614	5	3,692

Advancing and Improving Territorial Fisheries Science and Management (+\$3,692, 5 FTE/ 7 Positions) – NMFS will increase science and management efforts for economically and culturally significant fisheries located within U.S. Pacific and Caribbean territories. Several fisheries are at-risk of overfishing, impacting the livelihoods of these underserved communities, and immediately require bolstering of current science and management efforts. Local territorial fisheries agencies will benefit greatly from additional resources and support to address gaps in effective reporting, data collection, and complementary management measures.

This proposal will provide support to the Pacific Island territories for meaningful involvement of diverse local communities in fisheries science and management. NMFS will use \$2.5 million to tackle urgent fishery science and management gaps in Pacific Island territories of American Samoa, Guam, and the Commonwealth of the Northern Marianas Islands (CNMI), focusing on the stock status of key economic resources at risk of overfishing (e.g. territorial bottomfishes). Fishing and seafood are integral to local community ways of life and culture in this region. Funds will improve data to reduce uncertainty in stock assessments, and establish staff positions to support cooperative projects. NMFS staff will conduct in-person outreach and education for local territorial management agencies and the fishing community to inform them on the science and management implications of stock assessments, including the introduction and implementation of e-reporting. These actions are the first steps to end the current overfishing/overfished situations in American Samoa and Guam.

NMFS will invest \$1.2 million in the Caribbean to provide equitable science and management support to local fisheries management agencies. Available U.S. Caribbean data sources and potential assessment techniques indicate data limitations significantly degrade the development of quantitative management advice required under the MSA. Annual catch limits in the U.S. Caribbean currently use highly uncertain landings data, potentially limiting optimum yield for the fishery. Well-designed fishery independent surveys will provide immediate benefits by enabling the use of data-limited stock assessment techniques, facilitating the evaluation of

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management options (e.g. Marine Protected Areas), and contributing to ecosystem based fisheries management objectives. Specifically, NMFS will provide support to local fisheries, and fund cooperative data collection and survey efforts. NMFS will implement these actions through extensive capacity building and engagement with local fishing communities and universities. This cooperative approach is cost-effective and ensures territorial scientists, managers, and communities participate as effective partners in the management of their local marine resources.

Schedule and Milestones:

FY 2024 – FY 2028:

Pacific Islands

- Establish quarterly meetings (FY 2024) through fisheries liaisons, inaugural coordination meetings in each territory (FY 2024), and training workshops (FY 2026-2028) for movement to e-reporting for creel and commercial reporting.
- Establish grant proposals for territorial agency funding (per territory) and a biosampling program for American Samoa (FY 2024-2025)
- Review fishery-dependent (creel survey and expansion) data and fishery-independent (mapping, video, environmental DNA) data for surveys (FY 2024-2025)
- Establish a timeline and implementation plan for creel database modernization and new commercial system (FY 2024-2025)

Caribbean

- Develop outreach and education programs and materials (FY 2024), for programs to be conducted on an annual basis (FY 2025-2028)
- Establish collaborative partnerships with local fishing communities and universities (FY 2024-2028)
- Review and assimilate available data to inform design of fisheries independent survey or enhanced data collection activities in coordination with territorial agencies (FY 2024), collect data to refine proposed surveys (FY 2025-2028)

Deliverables:

FY 2024 – FY 2028:

Pacific Islands

- Three fishery coordination meetings (one per territory) and a total of 12 virtual quarterly meetings (per year) (inaugural FY 2024, then yearly)
- Three (one per territory) multi-year grant awards for creel survey expansion and biosampling programs (FY 2024-2028)

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- Completed reports of fish habitat maps for fishery independent surveys for American Samoa (FY 2024-2025), Guam (FY 2025-2026), and CNMI (FY 2026-2027)
- Three new fishery-independent surveys (completed): American Samoa (FY 2027-2028), Guam (FY 2028), and CNMI (FY 2028).
- Complete replacement of territorial database with one centralized and standardized system for all three PI territories and replace paper logs with e-reporting interface (FY 2026)

Caribbean

- New Caribbean outreach and education program (FY 2024)
- Collaborative partnerships with local fishing communities and universities established through territorial fisheries agencies (FY 2025-2028)
- New survey design (FY 2024) and database (FY 2025, to be updated annually thereafter, FY 2026-2028)

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Performance Measures	2024	2025	2026	2027	2028
Number of coordination meetings serving U.S. territories With Increase	15	15	15	15	15
Without Increase	0	0	0	0	0
Number of new survey databases serving U.S. territories (cumulative) With Increase	0	1	2	2	2
Without Increase	0	0	0	0	0
Outyear Costs:					
Direct Obligations	3,692	3,692	3,692	3,692	3,692
Capitalized	0	0	0	0	0
Uncapitalized	3,692	3,692	3,692	3,692	3,692
Budget Authority	3,692	3,692	3,692	3,692	3,692
Outlays	2,289	2,289	2,289	2,289	2,289
FTE	5	7	7	7	7
Positions	7	7	7	7	7

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PROGRAM CHANGE PERSONNEL DETAIL**

Activity: Fisheries Science and Management

Subactivity: Fisheries and Ecosystem Science Programs and Services

Program Change: Advancing and Improving Territorial Fisheries Science and Management

Title	Grade	Number	Annual Salary	Total Salaries
Fisheries Biologist (PIFSC/R)	ZP-III	1	71,877	71,877
Fisheries Biologist (PIFSC/R)	ZP-IV	1	102,444	102,444
Fisheries Biologist (SERO)	ZP-III	1	69,107	69,107
Fisheries Biologist (Territories)	ZP-II	3	46,696	140,088
Fisheries Biologist (SEFSC)	ZP-IV	1	104,955	104,955
Total		<u>7</u>		<u>488,471</u>
Less lapse	-25.00%	<u>(2)</u>		<u>(122,118)</u>
Total full-time permanent (FTE)		5		366,353
2023 Pay Adjustment (5.2%)	5.20%			<u>19,050</u>
				385,403
<hr/> Personnel Data Summary				
Full-time Equivalent Employment (FTE)				
Full-time permanent		<u>5</u>		
Total FTE		5		
Authorized Positions:				
Full-time permanent		<u>7</u>		
Total Positions		7		

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Fisheries Science and Management
Subactivity: Fisheries and Ecosystem Science Programs and Service

Object Class		2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1	Full-time permanent compensation	67,484	71,091	74,888	75,273	385
11.3	Other than full-time permanent	597	628	660	660	0
11.5	Other personnel compensation	2,581	2,718	2,856	2,856	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	70,662	74,437	78,404	78,789	385
12	Civilian personnel benefits	26,365	27,773	29,228	29,324	96
13	Benefits for former personnel	1	1	1	1	0
21	Travel and transportation of persons	1,251	1,318	1,318	1,586	268
22	Transportation of things	583	614	614	614	0
23	Rent, communications, and utilities	0	0	0	0	0
23.1	Rental payments to GSA	2,676	2,819	2,819	2,819	0
23.2	Rental Payments to others	394	415	415	425	10
23.3	Communications, utilities and misc charges	2,549	2,685	2,685	2,705	20
24	Printing and reproduction	52	55	55	55	0
25.1	Advisory and assistance services	9,850	10,375	10,375	12,675	2,300
25.2	Other services from non-Federal sources	20,014	21,083	21,083	21,228	145
25.3	Other goods and services from Federal sources	978	1,030	1,030	1,030	0
25.4	Operation and maintenance of facilities	0	0	0	0	0
25.5	Research and development contracts	0	0	0	0	0
25.6	Medical care	0	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0	0
26	Supplies and materials	3,495	3,681	3,681	3,701	20
31	Equipment	792	835	835	1,077	242
32	Lands and structures	873	919	919	919	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	12,775	13,457	13,457	13,663	206
42	Insurance claims and indemnities	2	2	2	2	0
43	Interest and dividends	1	1	1	1	0
44	Refunds	0	0	0	0	0
99	Total obligations	153,313	161,500	166,922	170,614	3,692

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM INCREASE FOR 2024**

(Dollar amounts in thousands)

		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Fisheries and Ecosystem Science	Pos./BA	668	166,922	670	168,122	2	1,200
Programs and Services	FTE/OBL	585	166,922	587	168,122	2	1,200

Community Social Vulnerability Indicators (CSVI) Toolbox (+\$1,200, 2 FTE/ 2 Positions) – NMFS will expand the CSVI Toolbox – an interactive, online GIS-based decision-making tool – to include new metrics that address climate change concerns (Sec. 219 of E.O. 14008), environmental justice (E.O. 12898), and racial equity (E.O. 13985) in underserved coastal communities. Fishing communities can face considerable uncertainty from annual fluctuations in harvest and regulatory changes, which directly affect fishermen’s household income. Furthermore, fishing communities, like all coastal communities, increasingly face threats from severe storms, flooding, and sea level rise, which are all exacerbated by climate change. All of these factors may affect the social vulnerability of a community. NMFS has developed a number of mapping tools for visualizing fisheries information at the community level. NMFS’ CSVI Toolbox provides a suite of social indicators that reflect a community’s ability to respond to change by providing metrics that identify the relative importance of commercial and recreational fishing to communities, putting the fisheries data in a human context.

The CSVI Toolbox is currently comprised of a suite of 14 statistically robust social, economic, and climate change metrics that uniquely characterize and evaluate a community’s vulnerability and resilience to disturbances (e.g., harvest declines associated with management actions or stock collapse, extreme weather, oil spills, sea level rise, etc.). The publicly accessible indicator map and graphing tool enables users to analyze both environmental justice questions and the climate vulnerability of over 4,600 coastal communities in 23 states and is routinely used for National Environmental Policy Act and Magnuson-Stevens Act social impact assessment analyses. The expanded toolbox will be able to identify communities with less capacity to adapt to the disturbances named above, which will support evaluation and implementation of policies to address environmental justice, climate change, and racial equity. It will inform policy initiatives by underscoring that ‘one-size fits all’ policies are not supported by currently available information, and thus will support better informed assessments and better targeted policies and programs.

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PROGRAM INCREASE FOR 2024

(Dollar amounts in thousands)

This effort will build on the existing toolbox to provide relevant new metrics (including those relied upon by state governments) and geospatial tools. By expanding existing web mapping tools to allow integration with other relevant community data and tools (e.g., EPA, BLS and CDC), NMFS will improve actionable knowledge on the intersection between environmental justice and racial equity issues in relation to climate change impacts in underserved communities. Actions include refinement of policy implementation to target underserved communities and will support assessment of the effectiveness of these policies. Updates to the sea level rise and storm surge indicators, and national expansion of the metric for community dependence on climate vulnerable species, will strengthen the utility of the CSVI Toolbox. To ensure use and application of the improved toolbox, a training and outreach program will be provided for analysts, Fishery Management Council staff, decision makers, and stakeholders to ensure that these metrics are considered from the initial scoping stage of a fisheries regulation to analyses supporting the final rule.

Schedule and Milestones:

FY 2024 – FY 2028:

- Develop (FY 2024) and implement annually (FY 2025-2028) a new suite of environmental justice and racial equity indicators, including indicators relied upon by state governments
- Update sea level rise and storm surge indicators (FY 2025), updated annually thereafter
- Initiate development of a national framework for assessing community impacts from species vulnerability to climate change nationally (FY 2025) and implement annually thereafter (FY 2026-2028)
- Conduct training on CSVI indicators with NMFS and Council staff (FY 2025 and annually as part of new Council member training and training for NMFS and Council staff)

Deliverables:

FY 2024 – FY 2028:

- Three new metrics for environmental justice and racial equity (FY 2024), total of six new metrics to be updated annually (FY 2026)
- Six sea level rise and storm surge indicators (FY 2024), updated annually (FY 2025-2028)
- Expanded species climate vulnerability metrics for all regions (FY 2025), updated bi-annually (FY 2027)
- Four trainings in FY 2025, and three trainings per year after (FY 2026–2028)

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PROGRAM INCREASE FOR 2024**

(Dollar amounts in thousands)

Performance Measures	2024	2025	2026	2027	2028
Number of environmental justice and racial equity indicators, including those required by state governments (cumulative)	6	8	9	9	9
With Increase					
Without Increase	3	3	3	3	3
Regions with updated community-level storm surge and sea level rise risk indicators	6	6	6	6	6
With Increase					
Without Increase	0	0	0	0	0
Regions with metric that measures community vulnerability to climate vulnerable species					
With Increase	1	2	6	6	6
Without Increase	1	1	1	1	1
Outyear Costs:					
Direct Obligations	1,200	1,200	1,200	1,200	1,200
Capitalized	0	0	0	0	0
Uncapitalized	1,200	1,200	1,200	1,200	1,200
Budget Authority	1,200	1,200	1,200	1,200	1,200
Outlays	720	720	720	720	720
FTE	2	2	2	2	2
Positions	2	2	2	2	2

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE PERSONNEL DETAIL**

Activity: Fisheries Science and Management
 Subactivity: Fisheries and Ecosystem Science Programs and Services
 Program Change: Community Social Vulnerability Indicators (CSVI) Toolbox

Title	Grade	Number	Annual Salary	Total Salaries
Social Scientist	ZP-IV	<u>2</u>	112,015	<u>224,030</u>
Total		<u>2</u>		<u>224,030</u>
Less lapse	-25.00%	<u>0</u>		<u>(56,008)</u>
Total full-time permanent (FTE)		<u>2</u>		<u>168,023</u>
2023 Pay Adjustment (5.2%)	5.20%			<u>8,737</u>
				<u>176,760</u>
 <u>Personnel Data Summary</u>				
Full-time Equivalent Employment (FTE)				
Full-time permanent		<u>2</u>		
Total FTE		<u>2</u>		
Authorized Positions:				
Full-time permanent		<u>2</u>		
Total Positions		<u>2</u>		

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Fisheries Science and Management
Subactivity: Fisheries and Ecosystem Science Programs and Services

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1 Full-time permanent compensation	67,484	71,091	74,888	75,065	177
11.3 Other than full-time permanent	597	628	660	660	0
11.5 Other personnel compensation	2,581	2,718	2,856	2,856	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	70,662	74,437	78,404	78,581	177
12 Civilian personnel benefits	26,365	27,773	29,228	29,272	44
13 Benefits for former personnel	1	1	1	1	0
21 Travel and transportation of persons	1,251	1,318	1,318	1,318	0
22 Transportation of things	583	614	614	614	0
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	2,676	2,819	2,819	2,819	0
23.2 Rental Payments to others	394	415	415	415	0
23.3 Communications, utilities and misc charges	2,549	2,685	2,685	2,685	0
24 Printing and reproduction	52	55	55	55	0
25.1 Advisory and assistance services	9,850	10,375	10,375	10,375	0
25.2 Other services from non-Federal sources	20,014	21,083	21,083	21,083	0
25.3 Other goods and services from Federal sources	978	1,030	1,030	1,030	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	778	778
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	3,495	3,681	3,681	3,681	0
31 Equipment	792	835	835	835	0
32 Lands and structures	873	919	919	919	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	12,775	13,457	13,457	13,658	201
42 Insurance claims and indemnities	2	2	2	2	0
43 Interest and dividends	1	1	1	1	0
44 Refunds	0	0	0	0	0
99 Total obligations	153,313	161,500	166,922	168,122	1,200

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Facilities, and Research
PROGRAM DECREASE FOR 2024
 (Dollar amounts in thousands)

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>
Fisheries							
Ecosystem	Pos./BA	668	166,922	668	166,722	0	(200)
Science Programs and Services	FTE/OBL	585	166,922	585	166,722	0	(200)

Enterprise Infrastructure Solutions (EIS) Decrease (-\$200, 0 FTE/0 Positions) – NOAA requests a reduction for EIS. Funds provided to NMFS through FY 2023 were sufficient to complete the transition of telecommunications services to GSA's EIS contract vehicle.

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Fisheries Science and Management
Subactivity: Fisheries and Ecosystem Science Programs and Services

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1 Full-time permanent compensation	67,484	71,091	74,888	74,888	0
11.3 Other than full-time permanent	597	628	660	660	0
11.5 Other personnel compensation	2,581	2,718	2,856	2,856	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	70,662	74,437	78,404	78,404	0
12 Civilian personnel benefits	26,365	27,773	29,228	29,228	0
13 Benefits for former personnel	1	1	1	1	0
21 Travel and transportation of persons	1,251	1,318	1,318	1,318	0
22 Transportation of things	583	614	614	614	0
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	2,676	2,819	2,819	2,819	0
23.2 Rental Payments to others	394	415	415	415	0
23.3 Communications, utilities and misc charges	2,549	2,685	2,685	2,685	0
24 Printing and reproduction	52	55	55	55	0
25.1 Advisory and assistance services	9,850	10,375	10,375	10,375	0
25.2 Other services from non-Federal sources	20,014	21,083	21,083	20,883	(200)
25.3 Other goods and services from Federal sources	978	1,030	1,030	1,030	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	3,495	3,681	3,681	3,681	0
31 Equipment	792	835	835	835	0
32 Lands and structures	873	919	919	919	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	12,775	13,457	13,457	13,457	0
42 Insurance claims and indemnities	2	2	2	2	0
43 Interest and dividends	1	1	1	1	0
44 Refunds	0	0	0	0	0
99 Total obligations	153,313	161,500	166,922	166,722	(200)

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM INCREASE FOR 2024**
(Dollar amounts in thousands)

		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Fisheries Data							
Collections,	Pos./BA	511	208,593	536	223,194	25	14,601
Surveys, and	FTE/OBL	466	208,593	485	223,194	19	14,601
Assessments							

Wind Energy: Scientific Survey Mitigation (+\$14,601 19 FTE/ 25 Positions) – This request will support the newly established national program to mitigate the effects of planned offshore energy activities on NMFS scientific surveys. NMFS’ expertise in managing ocean species and habitats is critical to supporting the Administration’s priority of deploying 30 gigawatts of offshore wind by 2030, by facilitating responsible renewable energy development while protecting ecosystems. This proposal would allow NMFS to expand capacity nationally as the Administration opens up new areas of the Outer Continental Shelf to offshore wind energy development and ensuring co-ocean use.

The goal of the survey mitigation program is to ensure the continuity of the important marine scientific investments in long-term data collection and to maintain scientific support for sustainable fisheries. Offshore wind development has been and continues to rapidly expand in the Northeast and Mid-Atlantic, including 10 projects currently under environmental review, and over 21 expected to commence between 2023 and 2026 in the Northwest, Mid-Atlantic, off the coasts of the Carolinas, and north and central California. By 2026, BOEM is planning to hold at least four more commercial auctions in the Gulf of Mexico, Gulf of Maine, and off the coast of the Central Atlantic and Oregon, with over 14 potential lease sales between 2023 and 2025.

Offshore wind represents a new use of our marine waters requiring substantial scientific and regulatory review. NMFS will work with BOEM to mitigate impacts to fisheries, protected species, and ecosystems surveys in the Northeast and Mid-Atlantic, as well as the West Coast, Gulf of Mexico, and South Atlantic. NMFS is requesting a total of \$51.7 million in four complementary areas to address the rapid expansion and the impacts of offshore energy projects. The other components can be found in Marine Mammals, Sea Turtles, and Other Species (NMFS-14); Fisheries Ecosystem Science Programs and Services (NMFS-59); and Fisheries

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PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)

Management Programs and Services (NMFS-85). This effort complements the \$8.7 million in total requested in the NOS proposal, Foundational Information for Expansion of Offshore Wind Energy (NOS-53).

NMFS requests an additional \$14.6 million to develop and implement a national Federal survey mitigation program that will need to occur over the operational lifespan of offshore wind developments (33+ years). The survey mitigation program will address impacts from offshore wind development on NMFS surveys arising from: exclusion of NMFS sampling platforms from the wind development area due to operational and safety limitations; impacts on the random-stratified statistical design that is the basis for scientific assessments, advice and analysis; and alteration of benthic and pelagic habitats, and airspace in and around the wind energy development. The program will evaluate existing survey designs, identify and develop new survey approaches. It will calibrate these new approaches to existing surveys, develop interim survey indices, and conduct monitoring efforts. This will fill regional scientific survey data needs over the life of offshore wind operations. Information and outcomes from these efforts will be shared with the public, industry, academia, and state and federal partners to ensure an open and transparent process.

Schedule and Milestones:

FY 2024 – FY 2028:

- Advance management's understanding of and science-based evidence for the interactions of protected species and their habitats and fisheries with offshore wind energy
- Establish and support regional collaborative ecosystem-scale research and monitoring programs across project/ecosystem scales to develop the necessary understanding of fisheries, habitat, and protected species interactions with wind development and the associated cumulative impacts to these resources and the habitats and ecosystems on which they rely, including potential changes in oceanographic conditions
- Implement annual requirements for all six elements of a Northeast and Mid-Atlantic Federal Survey Mitigation Program, as described in the Vineyard Wind Final Environmental Impact Statement for seven core Northeast Fisheries Science Center (NEFSC) fisheries and protected species surveys

Deliverables:

FY 2024 - FY 2028:

- Scientific manuscripts for publication in peer-reviewed journals to aid in establishing NMFS as a global leader on topics related to offshore wind and fisheries science

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Operations, Research, and Facilities
PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)

- Regional scientific frameworks for (1) fisheries research and monitoring, and (2) protected species and wildlife research and monitoring, that are integrated into a Federal survey mitigation program
- Scientific survey adaptation plans and scientific recommendations to mitigate impacts to the NEFSC Spring and Autumn Bottom Trawl Survey, Ecosystem Monitoring Survey, Scallop Survey, Atlantic Surfclam and Ocean Quahog Surveys, North Atlantic right whale aerial survey, and marine mammal and sea turtle ship-based and aerial surveys (FY 2023, 2024)
- One additional survey indices time series with existing NEFSC data to bridge the period of uncertainty created by the transition in survey methods (FY 2023)
- One calibration experiment to ensure continuity of NEFSC core survey time series (FY 2025)
- Assessment and development of Federal Survey Mitigation Plans along the West Coast, Gulf of Mexico, and South Atlantic

Performance Measures	2024	2025	2026	2027	2028
Number of core Federal scientific surveys for which survey mitigation plans have been developed to assure the continuity of critical scientific time series (annual)					
With Increase	4	4	2	2	2
Without Increase	0	0	0	0	0
Outyear Costs:					
Direct Obligations	14,601	14,601	14,601	14,601	14,601
Capitalized	0	0	0	0	0
Uncapitalized	14,601	14,601	14,601	14,601	14,601
Budget Authority	14,601	14,601	14,601	14,601	14,601
Outlays	11,681	11,681	11,681	11,681	11,681
FTE	19	25	25	25	25
Positions	25	25	25	25	25

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE PERSONNEL DETAIL**

Activity: Fisheries Science and Management
Subactivity: Fisheries Data Collections, Surveys, and Assessments
Program Change: Wind Energy: Scientific Survey Mitigation

<u>Title</u>	<u>Grade</u>	<u>Number</u>	<u>Annual Salary</u>	<u>Total Salaries</u>
Fisheries Biologist (SWFSC)	ZPIV	1	111,609	111,609
Fisheries Biologist (NEFSC)	ZPIV	7	110,798	775,586
Fisheries Biologist (NWFSC)	ZPIV	1	109,546	109,546
Fisheries Biologist (SEFSC)	ZPIII	1	73,639	73,639
Fisheries Biologist (SWFSC)	ZPIII	1	78,307	78,307
Fisheries Biologist (NEFSC)	ZPIII	5	77,738	388,690
Fisheries Biologist (NWFSC)	ZPIII	2	76,860	153,720
Fisheries Biologist (NEFSC)	ZPII	7	52,527	367,689
Total		<u>25</u>		<u>2,058,786</u>
Less lapse	25.00%	<u>(6)</u>		<u>(514,697)</u>
Total full-time permanent (FTE)		19		1,544,090
2024 Pay Adjustment (5.2%)				<u>80,293</u>
				1,624,382
<u>Personnel Data Summary</u>				
Full-time Equivalent Employment (FTE)				
Full-time permanent		<u>19</u>		
Total FTE		19		
Authorized Positions:				
Full-time permanent		<u>25</u>		
Total Positions		25		

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Facilities, and Research
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Fisheries Science and Management
Subactivity: Fisheries Data Collections, Surveys, and Assessments

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1 Full-time permanent compensation	52,519	55,635	58,969	60,593	1,624
11.3 Other than full-time permanent	439	465	491	491	0
11.5 Other personnel compensation	2,422	2,565	2,706	2,706	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	55,380	58,665	62,166	63,790	1,624
12 Civilian personnel benefits	20,553	21,773	23,014	23,617	603
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	1,612	1,708	1,708	2,300	592
22 Transportation of things	556	589	589	793	204
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	2,526	2,676	2,676	2,676	0
23.2 Rental Payments to others	211	224	224	224	0
23.3 Communications, utilities and misc charges	9,657	10,230	10,230	10,230	0
24 Printing and reproduction	83	88	88	88	0
25.1 Advisory and assistance services	11,105	11,764	11,764	11,764	0
25.2 Other services from non-Federal sources	25,277	26,777	26,777	36,044	9,267
25.3 Other goods and services from Federal sources	615	652	652	652	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	5,566	5,897	5,897	7,940	2,043
31 Equipment	730	774	774	1,042	268
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	58,552	62,028	62,028	62,028	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	5	6	6	6	0
44 Refunds	0	0	0	0	0
99 Total obligations	192,428	203,851	208,593	223,194	14,601

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM DECREASE FOR 2024**
(Dollar amounts in thousands)

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Fisheries Data	Pos./BA	511	208,593	511	207,393	0	(1,200)
Collection, Surveys and Assessments	FTE/OBL	466	208,593	466	207,393	0	(1,200)

Fisheries Data Collection Projects Reduction (-\$1,200, 0 FTE/ 0 Positions) – This request reduces the additional resources provided in FY 2023 for specific projects, including the Northwest Fisheries Ecosystem Monitoring System (-\$350) and the Gulf of Mexico Shrimp Fishing Effort (-\$850). With the reduction, NMFS will continue, as directed in FY 2023, the Northwest Fisheries Ecosystem Monitoring System at \$500. NMFS will also continue to consult with Gulf of Mexico Fishery Management Council and shrimp industry stakeholders on the requirements of Gulf of Mexico Shrimp Fishing Electronic Logbook program in FY 2024.

	2024	2025	2026	2027	2028
Outyear Costs:					
Direct Obligations	(1,200)	(1,200)	(1,200)	(1,200)	(1,200)
Capitalized	0	0	0	0	0
Uncapitalized	(1,200)	(1,200)	(1,200)	(1,200)	(1,200)
Budget Authority	(1,200)	(1,200)	(1,200)	(1,200)	(1,200)
Outlays	(744)	(744)	(744)	(744)	(744)
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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National Oceanic and Atmospheric Administration
Operations, Facilities, and Research
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Fisheries Science and Management

Subactivity: Fisheries Data Collection, Surveys, and Assessments

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1 Full-time permanent compensation	52,519	55,635	58,969	58,969	0
11.3 Other than full-time permanent	439	465	491	491	0
11.5 Other personnel compensation	2,422	2,565	2,706	2,706	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	55,380	58,665	62,166	62,166	0
12 Civilian personnel benefits	20,553	21,773	23,014	23,014	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	1,612	1,708	1,708	1,708	0
22 Transportation of things	556	589	589	589	0
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	2,526	2,676	2,676	2,676	0
23.2 Rental Payments to others	211	224	224	224	0
23.3 Communications, utilities and misc charges	9,657	10,230	10,230	10,230	0
24 Printing and reproduction	83	88	88	88	0
25.1 Advisory and assistance services	11,105	11,764	11,764	11,764	0
25.2 Other services from non-Federal sources	25,277	26,777	26,777	25,577	(1,200)
25.3 Other goods and services from Federal sources	615	652	652	652	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	5,566	5,897	5,897	5,897	0
31 Equipment	730	774	774	774	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	58,552	62,028	62,028	62,028	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	5	6	6	6	0
44 Refunds	0	0	0	0	0
99 Total obligations	192,428	203,851	208,593	207,393	(1,200)

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM INCREASE FOR 2024**
(Dollar amounts in thousands)

		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Fisheries Management	Pos./BA	500	142,074	520	145,509	20	3,435
Programs and Services	FTE/OBL	458	142,074	473	145,509	15	3,435

Wind Energy: Fisheries Management (+\$3,435, 15 FTE/ 20 Positions) – NOAA requests additional funds to assess the effects of planned offshore energy activities on fisheries environmental reviews including Essential Fish Habitat (EFH) consultations under the Magnuson Stevens Act (MSA) and review of environmental impact statements (EIS) analyzing the impacts to living marine resources and affected communities under the National Environmental Policy Act (NEPA). NOAA's expertise in managing and conserving fisheries, ocean species and habitats is critical to supporting the Administration's priority of deploying 30 gigawatts of offshore wind by 2030 by facilitating responsible renewable energy development while protecting ecosystems and ensuring co-ocean use.

Offshore wind development has been and continues to rapidly expand in the Northeast and Mid-Atlantic, including 10 projects currently under environmental review, and over 21 expected to commence between 2023 and 2026 in the Northwest, Mid-Atlantic, off the coasts of the Carolinas, and north and central California. By 2026, the BOEM is planning to hold at least four more commercial auctions in the Gulf of Mexico, Gulf of Maine, and off the coast of the Central Atlantic and Oregon, with over 14 potential lease sales between 2023 and 2025. Offshore wind represents a significant use of our marine waters requiring substantial scientific and regulatory review. NMFS will work with BOEM to minimize the effects of offshore energy projects on protected resources, fisheries, and important habitats in the region; reduce delays and minimize adverse economic impacts to the fishing industry and related coastal communities; and mitigate impacts to fisheries surveys. NMFS is requesting a total of \$51.7 million in four complementary areas to address the rapid expansion and the impacts of offshore energy projects. The other components can be found in Marine Mammals, Sea Turtles, and Other Species (NMFS-14); Fisheries Ecosystem Science Programs and Services (NMFS-59); and Fisheries Data Collections, Surveys, and Assessments (NMFS-78). This effort complements the \$8.7 million in total requested in the NOS proposal, Foundational Information for Expansion of Offshore Wind Energy (NOS-53).

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(Dollar amounts in thousands)

NMFS requests an additional \$3.4 million to efficiently and effectively carry out increased consultation work associated with new BOEM activities, and support early engagement with BOEM and project proponents, and to minimize impacts and delays to existing workload carried by existing consultation biologists. The funding supports the staff needed to review environmental assessments for wind projects that enables NMFS to conduct EFH consultations on offshore wind projects and provide conservation recommendations to mitigate the impacts to complex and important marine habitats. In addition, it supports the review of comprehensive and complex EISs to ensure NMFS can provide BOEM reasonable alternatives with sufficient analysis to assess the impacts to living marine resources and their habitats and socio-economic impacts to affected fishing and coastal communities. Both tasks routinely require dedicated engagement with BOEM staff and contractors to allow NMFS to conduct assessments and consultations as a cooperating agency.

Schedule and Milestones:

FY 2024 – FY 2028:

- Provide information, expert advice, and guidance to BOEM to implement offshore wind development for approximately 25 to 35 projects over a four to five year period beginning in FY 2023 that considers impacts to:
 - Socio-economic impacts from offshore wind development; and,
 - Essential fish habitats, with particular focus on vulnerable complex habitats and life stages
- As a Cooperating Agency under NEPA, identify and share living marine resources expertise and make recommendations upon potential environmental, biological, and socio-economic impacts on our trust resources on approximately 25 to 35 projects over a four to five year period by 2027. This will allow regulators and developers to consider the full scope of impacts
- Complete thorough and timely EFH consultations that are based on the best available scientific information while fulfilling FAST-41¹¹ obligations

¹¹ P.L. 114-94 Title 41, Fixing America's Surface Transportation Act

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Operations, Research, and Facilities
PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)**

Deliverables:

FY 2024 - FY 2028:

- NEPA reviews of the direct, indirect, short-term, long-term, and cumulative impacts to essential fish habitats, fisheries, and resource users and associated communities
- Critical products developed with NMFS input, including: planning and analysis and leasing documents and notices during BOEM’s initial phases of offshore wind development, as well as project milestones and timelines, Draft EIS, Final EIS, and Records of Decision structure, content, and appropriate methodology for impact analysis to BOEM to improve document quality

Performance Measures	2024	2025	2026	2027	2028
The number of wind energy projects where early and comprehensive coordination with BOEM and industry yields sufficient information and analysis to inform NMFS consultations and reviews, resulting in improved protection of NOAA Trust Resources					
With Increase	25	27	27	29	29
Without Increase	17	16	18	18	18
Outyear Costs:					
Direct Obligations	3,435	3,435	3,435	3,435	3,435
Capitalized	0	0	0	0	0
Uncapitalized	3,435	3,435	3,435	3,435	3,435
Budget Authority	3,435	3,435	3,435	3,435	3,435
Outlays	2,748	2,748	2,748	2,748	2,748
FTE	15	20	20	20	20
Positions	20	20	20	20	20

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE PERSONNEL DETAIL**

Activity: Fisheries Science and Management
Subactivity: Fisheries Management Programs and Services
Program Change: Wind Energy: Fisheries Management

<u>Title</u>	<u>Grade</u>	<u>Number</u>	<u>Annual Salary</u>	<u>Total Salaries</u>
Program Analyst (Policy)	ZAIV	1	112,015	112,015
Fisheries Biologist (OHC)	ZPIII	1	78,592	78,592
Fisheries Biologist (GARFO)	ZPIII	10	77,738	777,380
Fisheries Biologist (WCRO)	ZPIII	3	76,860	230,580
Fisheries Biologist (SERO)	ZPIII	4	69,107	276,428
Fisheries Biologist (GARFO)	ZPII	1	52,527	52,527
Total		<u>20</u>		<u>1,527,522</u>
Less lapse	25.00%	<u>(5)</u>		<u>(381,881)</u>
Total full-time permanent (FTE)		15		1,145,642
2024 Pay Adjustment (5.2%)				<u>59,573</u>
				1,205,215
<u>Personnel Data Summary</u>				
Full-time Equivalent Employment (FTE)				
Full-time permanent		<u>15</u>		
Total FTE		15		
Authorized Positions:				
Full-time permanent		<u>20</u>		
Total Positions		20		

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Facilities, and Research
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Fisheries Research and Management
Subactivity: Fisheries Management Programs and Services

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1 Full-time permanent compensation	55,519	59,399	62,464	63,669	1,205
11.3 Other than full-time permanent	100	107	112	112	0
11.5 Other personnel compensation	1,394	1,491	1,566	1,566	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	57,013	60,997	64,142	65,347	1,205
12 Civilian personnel benefits	21,591	23,100	24,279	24,735	456
13 Benefits for former personnel	34	36	36	36	0
21 Travel and transportation of persons	1,142	1,222	1,222	1,307	85
22 Transportation of things	216	231	231	260	29
23 Rent, communications, and utilities			0	0	0
23.1 Rental payments to GSA	2,563	2,742	2,742	2,742	0
23.2 Rental Payments to others	1,065	1,140	1,140	1,140	0
23.3 Communications, utilities and misc charges	424	453	453	453	0
24 Printing and reproduction	86	92	92	92	0
25.1 Advisory and assistance services	6,481	6,934	6,934	6,934	0
25.2 Other services from non-Federal sources	18,579	19,877	19,877	21,204	1,327
25.3 Other goods and services from Federal sources	1,111	1,189	1,189	1,189	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	1,225	1,311	1,311	1,605	294
31 Equipment	854	913	913	952	39
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	16,364	17,507	17,507	17,507	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	6	6	6	6	0
44 Refunds	0	0	0	0	0
99 Total obligations	128,754	137,750	142,074	145,509	3,435

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM INCREASE FOR 2024**

(Dollar amounts in thousands)

		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Fisheries							
Management	Pos./BA	500	142,074	500	144,875	0	2,801
Programs and Services	FTE/OBL	458	142,074	458	144,875	0	2,801

Education and Outreach for Diverse Participation in Regulatory and Science Processes (+\$2,801, 0 FTE/0 Positions) – This request will support stronger fishing and seafood sectors by implementing training programs to provide constituents the information and tools needed to confidently and productively engage in fishery (commercial, recreational, aquaculture) management decision processes. Very few new constituents participate in the fishery management process and many who do not participate lack an understanding of the process. Yet strong fishing and seafood sectors require robust engagement with diverse communities that are familiar with the regulations and science that underpin NMFS’ activities. By targeting outreach to underserved and underrepresented communities, we will provide these training opportunities to a more diverse group of new participants, allowing them to better understand the scientific underpinnings and the public processes for regulatory actions. The training will benefit both the agency and stakeholders by improving cooperation and trust among the industry, public, scientists, and regulators. These funds will enable NMFS to build stronger and more equitable fishing and seafood sectors to create jobs, support critical infrastructure, and strengthen community economic resiliency.

Requested funds will support three complementary efforts:

- NMFS will enroll a group of experts to examine the breadth and depth of diversity and inclusion issues facing NMFS and the fishing and seafood sectors and to provide recommendations for moving forward.
- Building on the panel’s recommendations, NMFS will fund partnerships through competitive grants and/or cooperative agreements to bring together diverse stakeholders with scientists, managers, and other marine resource professionals to learn about NMFS’ regulatory and science processes in a neutral and professional setting. Modeled after the highly successful Marine Resource Education Program (MREP), participants will leave the program empowered and better prepared to be a voice in Federal fisheries management. The MREP experience enables fishermen and other fishery stakeholders to participate productively in the fisheries management process and leads to improved cooperation and trust between state and Federal

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PROGRAM INCREASE FOR 2024

(Dollar amounts in thousands)

stakeholders including fishermen, scientists, and managers. A co-learning approach is fundamental to program delivery, where fishermen and industry participants, and expert science and management presenters learn from one another in an inclusive and unbiased environment outside of the regulatory process. The opportunity exists to partner with the Gulf of Maine Research Institute (GMRI), which currently runs MREP, and assist with tailoring their workshops for specific diverse and underrepresented communities such as tribal and non-English speaking communities.

- NMFS will also support five to 10 fisheries education/training pilot programs in partnership with the private and public sector and academic institutions targeting diverse and underserved communities, including but not limited to: Historically Black Colleges and Universities (HBCUs), minority-serving institutions (MSIs), and tribal and community colleges. Training curriculum will include broad aspects of fisheries science and management. These pilots will help gauge the effectiveness of various efforts before targeted future investments into the two to three programs that show the greatest potential for longer-term effectiveness.

Schedule and Milestones:

FY 2024 – FY 2028:

- Create/identify panel of experts to guide program development and identify barriers to participation (FY 2024)
- Provide grants to execute science and management training targeted for underserved communities (FY 2025- 2028)
- Pilot Projects
 - Five to 10 pilots established (FY 2025)
 - Two to three training partnerships in place (FY 2026-2028)

Deliverables:

FY 2024 - FY 2028:

- Strategic Training and Implementation Plan Developed (FY 2024)
- Five-10 pilots established and complete first science and management training (FY 2025)
- Two to three training partnerships in place (FY 2026-2028)

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM INCREASE FOR 2024**
(Dollar amounts in thousands)

Performance Measures	2024	2025	2026	2027	2028
Number of Completed Trainings					
With Increase	0	2	4	4	6
Without Increase	0	0	0	0	0
Outyear Costs:					
Direct Obligations	2,801	2,801	2,801	2,801	2,801
Capitalized	0	0	0	0	0
Uncapitalized	2,801	2,801	2,801	2,801	2,801
Budget Authority	2,801	2,801	2,801	2,801	2,801
Outlays	1,737	1,737	1,737	1,737	1,737
FTE	0	0	0	0	0
Positions	0	0	0	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Facilities, and Research
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Fisheries Science and Management
Subactivity: Fisheries Management Programs and Service

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1 Full-time permanent compensation	55,519	59,399	62,464	62,464	0
11.3 Other than full-time permanent	100	107	112	112	0
11.5 Other personnel compensation	1,394	1,491	1,566	1,566	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	57,013	60,997	64,142	64,142	0
12 Civilian personnel benefits	21,591	23,100	24,279	24,279	0
13 Benefits for former personnel	34	36	36	36	0
21 Travel and transportation of persons	1,142	1,222	1,222	1,222	0
22 Transportation of things	216	231	231	231	0
23 Rent, communications, and utilities			0	0	0
23.1 Rental payments to GSA	2,563	2,742	2,742	2,742	0
23.2 Rental Payments to others	1,065	1,140	1,140	1,140	0
23.3 Communications, utilities and misc charges	424	453	453	453	0
24 Printing and reproduction	86	92	92	92	0
25.1 Advisory and assistance services	6,481	6,934	6,934	6,934	0
25.2 Other services from non-Federal sources	18,579	19,877	19,877	20,128	251
25.3 Other goods and services from Federal sources	1,111	1,189	1,189	1,189	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	1,225	1,311	1,311	1,311	0
31 Equipment	854	913	913	913	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	16,364	17,507	17,507	20,057	2,550
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	6	6	6	6	0
44 Refunds	0	0	0	0	0
99 Total obligations	128,754	137,750	142,074	144,875	2,801

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Operations, Research, and Facilities
PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Fisheries							
Management	Pos./BA	500	142,074	508	144,074	8	2,000
Programs and Services	FTE/OBL	458	142,074	464	144,074	6	2,000

Targeting and Combating Illegal, Unreported, and Unregulated (IUU) Fishing (+\$2,000, 6 FTE/ 8 Positions) – NMFS will support several initiatives to target and combat IUU fishing through a multi-pronged effort that augments the capacities of existing programs and adds new capabilities. This request aligns with the National Seafood Strategy, which outlines the actions to deploy the agency’s full array of authorities and capabilities to rebuild and enhance the competitiveness of the seafood and fishing industry, along with associated communities. Specifically, the funding would support the following initiatives:

- Target IUU Fishing through Advanced Technology: Global Seafood Data System (\$0.5 million): Sustain investments in NOAA’s technological capabilities to detect IUU fishing where it occurs, track fish through the supply chain, and identify imports at high risk of IUU fishing. Increased resources would support continued investment in artificial intelligence and machine learning capabilities to identify IUU fishing and imports into the United States at risk of IUU fishing, including to target audits and enforcement related to the Seafood Import Monitoring Program (SIMP) and related analysis and reporting.
- Improve Global Fisheries Management through International Negotiations and Capacity Building (\$0.75 million): IUU fishing cannot be addressed without effective measures to manage the high seas and shared fish stocks through international organizations, or improved enforcement and enhanced maritime domain awareness in coastal states where IUU fishing occurs. Increased resources would support staffing in the International Affairs Division of the Office of International Affairs, Trade, and Commerce dedicated to combating IUU fishing. Personnel and resources would be devoted to implementing efforts under the Maritime SAFE Act to build capacity in priority countries and regions where IUU fishing is particularly likely to occur or affect U.S. seafood imports.
- Import Measures to Promote Legal and Sustainable Seafood (\$0.75 million): Expand and develop programs to monitor U.S. imports and target shipments at risk of IUU fishing, seafood fraud, or related abuses. Increased resources would help support the risk-based expansion of SIMP to additional species at risk of IUU fishing and seafood fraud, and also support effective

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(Dollar amounts in thousands)

implementation of SIMP to increase audits of shipments and improve ability to detect and enforce against imports of IUU fish and fish products.

This proposal links to DOC Strategic Objective 2.1 (Drive equitable, resilient, place-based economic development and job growth) and Strategy 5 (Grow the blue economy), which expects NOAA will increase the sustainability and economic competitiveness of U.S. seafood while combating illegal, unreported, and unregulated fishing. It will also help NOAA effectively implement the President's National Security Memorandum on Combating Illegal, Unreported, and Unregulated Fishing and Associated Labor Abuses issued June 27, 2022.

Schedule and Milestones:

- Enhance the Global Seafood Data System to integrate additional data sources and refine Artificial Intelligence/Machine Learning models that will enhance analytical and reporting capabilities and better identify shipments to the U.S. at high risk of IUU fishing (FY 2024 – FY 2028)
- Implement capacity building activities in priority regions and flag states to combat IUU fishing, including Ecuador, Panama, Senegal, Taiwan, and Vietnam (FY 2024 – FY 2028)
- Engage with regional fisheries management organizations to encourage adoption of measures that identify and counter IUU fishing, including high seas boarding inspection schemes (FY 2024 – FY 2028)
- Recruit and onboard additional staff to support capacity-building efforts under the Maritime SAFE Act (FY 2024)
- Recruit and onboard additional staff to support increased auditing of shipments under SIMP (FY 2024)

Deliverables:

- Greater ability to identify and analyze shipments at high risk of IUU fishing using technology
- Expanded capacity building efforts in priority regions and flag states where IUU fishing is likely to occur that impact U.S. seafood imports
- Increased number of shipments that will be audited under SIMP
- Ability to expand coverage of SIMP, as appropriate, to meet the objectives of combating IUU fishing and seafood fraud most effectively

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PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)

Performance Measures	2024	2025	2026	2027	2028
Total number of capacity building activities focused on countering IUU fishing in priority countries and regions					
With Increase	5	10	10	10	10
Without Increase	0	0	0	0	0
Number of SIMP audits conducted per month					
With Increase	75	90	90	90	90
Without Increase	60	60	60	60	60
Outyear Costs:					
Direct Obligations	2,000	2,000	2,000	2,000	2,000
Capitalized	0	0	0	0	0
Uncapitalized	2,000	2,000	2,000	2,000	2,000
Budget Authority	2,000	2,000	2,000	2,000	2,000
Outlays	1,240	1,240	1,240	1,240	1,240
FTE	6	8	8	8	8
Positions	8	8	8	8	8

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE PERSONNEL DETAIL**

Activity: Fisheries Science and Management

Subactivity: Fisheries Management Programs and Services

Program Change: Targeting and Combating Illegal, Unreported, and Unregulated (IUU) Fishing

<u>Title</u>	<u>Grade</u>	<u>Number</u>	<u>Annual Salary</u>	<u>Total Salaries</u>
Foreign Affairs Specialist	ZA-04	2	112,015	224,030
Supervisory Program Analyst	ZA-03	1	69,107	69,107
Program Analyst	ZA-02	5	46,696	233,480
Total		<u>8</u>		<u>526,617</u>
Less lapse	25.00%	<u>(2)</u>		<u>(131,654)</u>
Total full-time permanent (FTE)		6		394,963
2024 Pay Adjustment (5.2%)				<u>20,538</u>
				415,501
<u>Personnel Data Summary</u>				
Full-time Equivalent Employment (FTE)				
Full-time permanent		<u>6</u>		
Total FTE		6		
Authorized Positions:				
Full-time permanent		<u>8</u>		
Total Positions		8		

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PERSONNEL CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Fisheries Science and Management
Subactivity: Fisheries Management Programs and Services

Object Class		2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1	Full-time permanent compensation	55,519	59,399	62,464	62,880	416
11.3	Other than full-time permanent	100	107	112	112	0
11.5	Other personnel compensation	1,394	1,491	1,566	1,566	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	57,013	60,997	64,142	64,558	416
12	Civilian personnel benefits	21,591	23,100	24,279	24,383	104
13	Benefits for former personnel	34	36	36	36	0
21	Travel and transportation of persons	1,142	1,222	1,222	1,272	50
22	Transportation of things	216	231	231	231	0
23	Rent, communications, and utilities			0	0	0
23.1	Rental payments to GSA	2,563	2,742	2,742	2,742	0
23.2	Rental Payments to others	1,065	1,140	1,140	1,155	15
23.3	Communications, utilities and misc charges	424	453	453	453	0
24	Printing and reproduction	86	92	92	92	0
25.1	Advisory and assistance services	6,481	6,934	6,934	8,079	1,145
25.2	Other services from non-Federal sources	18,579	19,877	19,877	19,877	0
25.3	Other goods and services from Federal sources	1,111	1,189	1,189	1,189	0
25.4	Operation and maintenance of facilities	0	0	0	0	0
25.5	Research and development contracts	0	0	0	0	0
25.6	Medical care	0	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0	0
26	Supplies and materials	1,225	1,311	1,311	1,314	3
31	Equipment	854	913	913	930	17
32	Lands and structures	0	0	0	0	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	16,364	17,507	17,507	17,757	250
42	Insurance claims and indemnities	0	0	0	0	0
43	Interest and dividends	6	6	6	6	0
44	Refunds	0	0	0	0	0
99	Total obligations	128,754	137,750	142,074	144,074	2,000

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Fisheries							
Management	Pos./BA	500	142,074	500	143,487	0	1,413
Programs and Services	FTE/OBL	458	142,074	458	143,487	0	1,413

Workforce Training to Support the Seafood Industry (+\$1,413, 0 FTE/0 Positions) – NMFS will implement a series of workforce development and training pilot projects and grants to support a more robust and diverse domestic seafood sector. These programs align with the National Strategy for Seafood Resilience and Competitiveness workforce development goals and objectives to strengthen the entire seafood sector. The COVID-19 crisis caused substantial economic disruption to many segments of the seafood and fishing industry—the shutdown of restaurants, slowdown and changes in retail sales and exports, and disruptions to processing facilities and supply chains. Addressing these challenges through workforce training offers opportunities to build a stronger seafood sector that will create new jobs, improve working infrastructure, and strengthen community economic resiliency, while supporting a diverse, equitable, and inclusive workforce that can enhance innovation in the industry.

The requested funds will support five to 10 one-year pilot programs for workforce development and training efforts through partnerships with entities catering to diverse and historically underserved communities, including but not limited to: minority serving institutions (MSIs), Historically Black Colleges and Universities (HBCUs), tribal colleges, and community colleges. The results of these pilots will help identify and inform areas for future, more focused investment in a subset of one to three pilots that showed the most potential to have longer-term impact. NMFS will coordinate with the National Sea Grant College Program to provide training for the seafood, fishing, and aquaculture industries to be better prepared to adapt to disruptions in the market. Specific focus areas for grants will be developed with our partners and will include:

- (1) technical and engineering skills for the seafood sector (e.g., hatchery techniques, fishing and vessel skills, recirculating aquaculture systems, seafood handling and processing);
- (2) seafood safety and Hazard Analysis Critical Control Point;
- (3) innovative and value-added processing capacity (e.g., freezing and methods to create shelf-stable products for retail sale);

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- (4) business planning and management;
- (5) communication and marketing methods (including online and direct marketing tools where appropriate); and
- (6) training related to recreational fishing business opportunities.

Schedule and Milestones:

FY 2024 – FY 2028:

- Evaluate potential education opportunities for the seafood sector, focusing on providing access to underserved and vulnerable communities adversely impacted by the pandemic
- Support five to 10 one-year pilot programs to train prospective participants in the seafood industry workforce in close collaboration with Sea Grant
- Review, evaluate, and assess performance using a series of socio-economic metrics—composition of incoming participants, rate of program completion, types of employment opportunities secured post-training, etc.
- Conduct selection process to identify one to three pilot programs for additional funding

Deliverables:

FY 2024 – FY 2028:

- Five to 10 one-year pilot programs established and implemented (FY 2024)
- One to three pilot programs selected for additional funding based on performance evaluation (FY 2025-2028)

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Performance Measures	2024	2025	2026	2027	2028
Workforce Development Program Graduates					
With Increase	0	40	60	60	60
Without Increase	0	0	0	0	0
Outyear Costs:					
Direct Obligations	1,413	1,413	1,413	1,413	1,413
Capitalized	0	0	0	0	0
Uncapitalized	1,413	1,413	1,413	1,413	1,413
Budget Authority	1,413	1,413	1,413	1,413	1,413
Outlays	876	876	876	876	876
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Fisheries Science and Management
Subactivity: Fisheries Management Programs and Services

Object Class		2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1	Full-time permanent compensation	55,519	59,399	62,464	62,464	0
11.3	Other than full-time permanent	100	107	112	112	0
11.5	Other personnel compensation	1,394	1,491	1,566	1,566	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	57,013	60,997	64,142	64,142	0
12	Civilian personnel benefits	21,591	23,100	24,279	24,279	0
13	Benefits for former personnel	34	36	36	36	0
21	Travel and transportation of persons	1,142	1,222	1,222	1,222	0
22	Transportation of things	216	231	231	231	0
23	Rent, communications, and utilities			0	0	0
23.1	Rental payments to GSA	2,563	2,742	2,742	2,742	0
23.2	Rental Payments to others	1,065	1,140	1,140	1,140	0
23.3	Communications, utilities and misc charges	424	453	453	453	0
24	Printing and reproduction	86	92	92	92	0
25.1	Advisory and assistance services	6,481	6,934	6,934	6,934	0
25.2	Other services from non-Federal sources	18,579	19,877	19,877	19,877	0
25.3	Other goods and services from Federal sources	1,111	1,189	1,189	1,189	0
25.4	Operation and maintenance of facilities	0	0	0	0	0
25.5	Research and development contracts	0	0	0	0	0
25.6	Medical care	0	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0	0
26	Supplies and materials	1,225	1,311	1,311	1,311	0
31	Equipment	854	913	913	913	0
32	Lands and structures	0	0	0	0	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	16,364	17,507	17,507	18,920	1,413
42	Insurance claims and indemnities	0	0	0	0	0
43	Interest and dividends	6	6	6	6	0
44	Refunds	0	0	0	0	0
99	Total obligations	128,754	137,750	142,074	143,487	1,413

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(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Fisheries							
Management	Pos./BA	500	142,074	500	140,224	0	(1,850)
Programs and Services	FTE/OBL	458	142,074	458	140,224	0	(1,850)

Fisheries Management Projects Reduction (-\$1,850, 0 FTE/ 0 Positions) – This request reduces the additional resources provided in FY 2023 for Video Review of Electronic Monitoring Data (-\$600), Observer Data Integration (-\$500), Electronic Vessel Trip Reporting (-\$250), and Highly Migratory Species research grants (-\$500). NMFS will implement these projects as directed in FY 2023.

	2024	2025	2026	2027	2028
Outyear Costs:					
Direct Obligations	(1,850)	(1,850)	(1,850)	(1,850)	(1,850)
Capitalized	0	0	0	0	0
Uncapitalized	(1,850)	(1,850)	(1,850)	(1,850)	(1,850)
Budget Authority	(1,850)	(1,850)	(1,850)	(1,850)	(1,850)
Outlays	(1,147)	(1,147)	(1,147)	(1,147)	(1,147)
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Fisheries Science and Management
Subactivity: Fisheries Management Programs and Services

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1 Full-time permanent compensation	55,519	59,399	62,464	62,464	0
11.3 Other than full-time permanent	100	107	112	112	0
11.5 Other personnel compensation	1,394	1,491	1,566	1,566	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	57,013	60,997	64,142	64,142	0
12 Civilian personnel benefits	21,591	23,100	24,279	24,279	0
13 Benefits for former personnel	34	36	36	36	0
21 Travel and transportation of persons	1,142	1,222	1,222	1,222	0
22 Transportation of things	216	231	231	231	0
23 Rent, communications, and utilities			0	0	0
23.1 Rental payments to GSA	2,563	2,742	2,742	2,742	0
23.2 Rental Payments to others	1,065	1,140	1,140	1,140	0
23.3 Communications, utilities and misc charges	424	453	453	453	0
24 Printing and reproduction	86	92	92	92	0
25.1 Advisory and assistance services	6,481	6,934	6,934	6,934	0
25.2 Other services from non-Federal sources	18,579	19,877	19,877	19,877	0
25.3 Other goods and services from Federal sources	1,111	1,189	1,189	1,189	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	1,225	1,311	1,311	1,311	0
31 Equipment	854	913	913	913	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	16,364	17,507	17,507	15,657	(1,850)
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	6	6	6	6	0
44 Refunds	0	0	0	0	0
99 Total obligations	128,754	137,750	142,074	140,224	(1,850)

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Activity: Enforcement

Goal Statement

NOAA’s Office of Law Enforcement (OLE) strengthens domestic commerce by enforcing NOAA’s natural resource protection laws and promoting compliance with Federal regulations to conserve and protect our Nation’s living marine resources and their natural habitat.

Base Program

OLE protects and monitors the world’s largest EEZ, including 16 National Marine Sanctuaries and five Marine National Monuments (Figure 1), and is the only enforcement program (Federal or state) exclusively dedicated to Federal fisheries and marine resource enforcement. An overview can be found at <https://www.fisheries.noaa.gov/about/office-law-enforcement> and <https://www.fisheries.noaa.gov/topic/enforcement>. OLE provides direct support for enforcement activities in the NMFS headquarters’ Offices of Sustainable Fisheries and Protected Resources, NMFS Regional Offices, and the NOS Office of National Marine Sanctuaries.



Figure 1. NOAA OLE Jurisdiction

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OLE supports critical collaborations and leverages 29 Joint Enforcement Agreements (JEAs) with 29 coastal states and territories, and partnerships with other Federal agencies such as the U.S. Coast Guard. OLE refers enforcement cases that document violations to NOAA's Office of General Counsel or the U.S. Department of Justice for review and potential prosecution.

NOAA cannot meet the mandate to end overfishing without OLE's efforts. These efforts ensure that the millions of people who enjoy and rely on these marine resources understand and comply with the regulations necessary to ensure their sustainability and allow fair competition now and for future generations. OLE supports two objectives:

1. Enforce laws and regulations that govern:
 - a. commercial and recreational fisheries,
 - b. international and interstate commerce in marine resources, and
 - c. human interactions with marine mammals and threatened and endangered species.
2. Protect resources within designated sanctuaries, marine monuments, and protected areas.

To address these mission requirements, OLE implements four primary methods:

1. Traditional enforcement such as investigations and patrols,
2. Partnerships with state and Federal agencies,
3. Technological tools such as Vessel Monitoring Systems, and
4. Outreach and education strategies designed to increase and enhance voluntary compliance with environmental laws and regulations.

Statement of Operating Objectives

Schedule and Milestones:

FY 2024 – FY 2028:

- Continue to advance enforcement and compliance assistance efforts in support of NOAA's OLE Operational Priorities
- Continue with the hiring, training and deployment of enforcement personnel at strategic Ports of Entry
- Ensure consistent international IUU fishing enforcement training and technical assistance

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Deliverables:

FY 2024 – FY 2028:

- Monitoring of and compliance assistance to approximately 4,450 vessels under the Vessel Monitoring System (VMS) requirements of 23 Fishery Management Plans (FMPs), two international convention areas, and the Papahānaumokuākea National Monument
- Review of progress toward current and determination of next set of strategic five-year national and regional Operational Enforcement Priorities

Explanation and Justification

Comparison by subactivity		2022		2023		2024	
		Actual		Enacted		Base Program	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Enforcement	Pos/BA	258	76,631	259	82,000	259	84,623
	FTE/OBL	222	79,909	226	82,000	226	84,623
Total Enforcement	Pos/BA	258	76,631	259	82,000	259	84,623
	FTE/OBL	222	79,909	226	82,000	226	84,623

The following programs and activities are funded by the Enforcement budget line:

Enforcement and Surveillance:

NOAA special agents and enforcement officers work to deter, detect, investigate, and document any violations of Federal marine natural resource laws and regulations. NOAA’s approach to fisheries enforcement emphasizes compliance assistance. OLE assists regulated parties in understanding and complying with fishery regulations through contact during monitoring and inspections, and increases public awareness and understanding of enforcement goals and objectives through participation in community meetings, trade shows, and on-the-dock informational visits. This approach has proven effective in maintaining dialog on often complex regulations, and allows NOAA’s investigative efforts and subsequent prosecution to focus on cases that go beyond misunderstandings and/or clerical errors.

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This program responds to inquiries and requests for assistance from a variety of industry and public stakeholders, covering a broad range of issues related to fisheries, marine mammals, and endangered and other protected marine species. In recent years, additional investments in the Enforcement Program have been made to strengthen NOAA's efforts to detect and deter Illegal, Unreported and Unregulated (IUU) fishing and enforce restrictions on imports of illegally-harvested and improperly-documented seafood.

Cooperative Agreements with States:

The Cooperative Enforcement Program leverages the resources of coastal state and U.S. territorial marine conservation law enforcement agencies to provide direct support for the Federal enforcement mission. These partners execute Joint Enforcement Agreements (JEA) with NOAA to support Federal enforcement efforts near shore and at sea, as well as provide land-based monitoring and inspection activities. This approach addresses challenges associated with the geographic jurisdiction, the breadth of laws and regulations within NOAA's stewardship responsibilities, the amount of regulated commercial activity (fishing and both domestic and international trade), and the amount of recreational use of the marine environment. This cooperative program allows OLE to concentrate on the investigation and resolution of more serious violations by integrating monitoring and inspection activities for Federal requirements with the work of state/territorial enforcement partners and the U.S. Coast Guard. More information on the program can be found at <https://www.fisheries.noaa.gov/topic/enforcement#cooperative-enforcement>.

Technology and Domain Awareness:

OLE utilizes current and emerging technologies to enhance and maximize operational capabilities and effectiveness. The development, use, support, and management of these technologies is essential. One of the current technologies utilized is the Vessel Monitoring System (VMS). VMS is a satellite or cellular-based technology program for remote monitoring of fishing vessels at sea. VMS is a cost-effective way to help enforce protected areas, fishing quotas, actual landings, and several Federal natural resource, environmental, and species conservation laws. OLE also utilizes digital and marine forensics capabilities to collect, process and analyze evidence, and employs other technologies in its efforts to promote compliance with, and investigate violations of, regulated activities.

Implementation of the High Seas Driftnet Fisheries Enforcement Act:

The High Seas Driftnet Fisheries Enforcement Act sets U.S. policy to enforce the United Nations' worldwide moratorium on large-scale driftnet fishing beyond the EEZ of any nation. Renegade large-scale high seas driftnet fishing indiscriminately kills massive amounts of fish and other marine life such as whales and turtles with enormous nets suspended for miles in open water. The practice

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is universally condemned because it is a significant threat to ocean ecosystems and to the food and economic security of nations that rely on fishery resources. The Act provides for denial of port privileges to and import sanctions against nations whose vessels and/or nationals are determined to be conducting illegal driftnet activities and who do not take corrective action. With these funds, OLE conducts investigation and enforcement required to prosecute and deter these illegal actions. Additionally, NOAA participates in scientific research on driftnet-affected species. The results of this research reduce uncertainty in population assessments for these species and inform related fishery management and enforcement decisions.

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		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Enforcement	Pos./BA	259	84,623	264	85,587	5	964
	FTE/OBL	226	84,623	230	85,587	4	964

Illegal, Unreported, and Unregulated (IUU) Fishing Enforcement (+\$964, 4 FTE/ 5 Positions) – NMFS will improve the detection and enforcement of IUU fishing through increased enforcement capacity and marine forensics. This request supports the National Seafood Strategy, which outlines the actions to deploy the agency’s full array of authorities and capabilities to rebuild and enhance the competitiveness of the seafood and fishing industry, along with associated communities.

NMFS will support additional enforcement staff consisting of Foreign Affairs Specialist, Investigative Analyst, Special Agent, and Enforcement officers to increase Office of Law Enforcement’s analytical, capacity building, and enforcement capabilities. Funds will enhance NOAA’s ability to conduct overseas capacity building to address IUU fishing at the domestic level, to develop internal tools and capacities to track and identify IUU fishing, and to engage with other agencies to coordinate efforts. NMFS will also invest in marine forensics to support Office of Law Enforcement investigations of IUU. The forensics funding will be used for field DNA test kits for use in identification of seafood used in trade.

This proposal links to DOC Strategic Objective 2.1 (Drive equitable, resilient, place-based economic development and job growth) and Strategy 5 (Grow the blue economy), which expects NOAA will increase the sustainability and economic competitiveness of U.S. seafood while combating IUU fishing. It will also help NOAA effectively implement the President’s National Security Memorandum on Combating IUU Fishing and Associated Labor Abuses issued June 27, 2022.

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Schedule and Milestones:

- Hire, train, equip, and deploy enforcement staff (FY 2024-FY 2025)
- Enhance forensic analysis capabilities for imported seafood to help ensure and further promote fair trade (FY 2024- FY 2028)

Deliverables:

- Increased investigations and interdiction of IUU fish and fish products
- Increased forensic testing and analytical capabilities

Performance Measures	2024	2025	2026	2027	2028
Total number of capacity building events on IUU fishing, Seafood Import Monitoring Program, and Port State Measures					
With Increase	20	25	25	25	25
Without Increase	20	20	20	20	20
Outyear Costs:					
Direct Obligations	964	964	964	964	964
Capitalized	0	0	0	0	0
Uncapitalized	964	964	964	964	964
Budget Authority	964	964	964	964	964
Outlays	598	598	598	598	598
FTE	4	5	5	5	5
Positions	5	5	5	5	5

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PROGRAM CHANGE PERSONNEL DETAIL**

Activity: Enforcement
 Subactivity: Enforcement
 Program Change: Illegal, Unreported, and Unregulated (IUU) Fishing Enforcement

<u>Title</u>	<u>Grade</u>	<u>Number</u>	<u>Annual Salary</u>	<u>Total Salaries</u>
Foreign Affairs Specialist	ZA-03	1	78,592	78,592
Investigative Analyst	ZA-03	1	76,860	76,860
Enforcement Officer	ZA-02	1	46,936	46,936
Enforcement Officer	ZA-02	1	52,912	52,912
Special Agent	ZA-03	1	69,463	69,463
Total		5		324,763
Less lapse	25.00%	(1)		(81,191)
Total full-time permanent (FTE)		4		243,572
2024 Pay Adjustment (5.2%)				12,666
				256,238
<u>Personnel Data Summary</u>				
Full-time Equivalent Employment (FTE)				
Full-time permanent		4		
Total FTE		4		
Authorized Positions:				
Full-time permanent		5		
Total Positions		5		

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Enforcement
Subactivity: Enforcement

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1 Full-time permanent compensation	24,311	24,947	26,453	26,709	256
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	2,907	2,983	3,163	3,163	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	27,218	27,930	29,616	29,872	256
12 Civilian personnel benefits	15,125	15,521	16,458	16,522	64
13 Benefits for former personnel	5	5	5	5	0
21 Travel and transportation of persons	343	352	352	402	50
22 Transportation of things	1,026	1,053	1,053	1,053	0
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	2,516	2,582	2,582	2,582	0
23.2 Rental Payments to others	384	394	394	394	0
23.3 Communications, utilities and misc charges	1,494	1,533	1,533	1,533	0
24 Printing and reproduction	20	20	20	20	0
25.1 Advisory and assistance services	12	12	12	187	175
25.2 Other services from non-Federal sources	27,779	28,506	28,506	28,700	194
25.3 Other goods and services from Federal sources	968	993	993	993	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	942	967	967	1,192	225
31 Equipment	737	756	756	756	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	1,340	1,376	1,376	1,376	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total obligations	79,909	82,000	84,623	85,587	964

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(Dollar amounts in thousands)

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>
Enforcement	Pos./BA	259	84,623	259	83,673	0	(950)
	FTE/OBL	226	84,623	226	83,673	0	(950)

Enforcement Projects Reduction (-\$950, 0 FTE/ 0 Positions) – This request reduces the additional resources provided in the FY 2023 appropriations for Northeast lobster enforcement (-\$200) and commercial space-based radio frequency data collection testing and evaluation for IUU fishing tracking (-\$750). NOAA’s Office of Law Enforcement (OLE) will continue the cooperative offshore lobster enforcement program using the \$750 thousand in base funds received in FY 2021. While this request reduces the specific funds provided for radio-frequency data collection for IUU tracking, we are requesting funding for IUU enforcement through capacity building and marine forensics (NMFS-110). Additionally, OLE will continue to utilize current and emerging technologies to enhance and maximize operational capabilities and effectiveness.

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Enforcement
Subactivity: Enforcement

Object Class		2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1	Full-time permanent compensation	24,311	24,947	26,453	26,453	0
11.3	Other than full-time permanent	0	0	0	0	0
11.5	Other personnel compensation	2,907	2,983	3,163	3,163	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	27,218	27,930	29,616	29,616	0
12	Civilian personnel benefits	15,125	15,521	16,458	16,458	0
13	Benefits for former personnel	5	5	5	5	0
21	Travel and transportation of persons	343	352	352	352	0
22	Transportation of things	1,026	1,053	1,053	1,053	0
23	Rent, communications, and utilities	0	0	0	0	0
23.1	Rental payments to GSA	2,516	2,582	2,582	2,582	0
23.2	Rental Payments to others	384	394	394	394	0
23.3	Communications, utilities and misc charges	1,494	1,533	1,533	1,533	0
24	Printing and reproduction	20	20	20	20	0
25.1	Advisory and assistance services	12	12	12	12	0
25.2	Other services from non-Federal sources	27,779	28,506	28,506	27,556	(950)
25.3	Other goods and services from Federal sources	968	993	993	993	0
25.4	Operation and maintenance of facilities	0	0	0	0	0
25.5	Research and development contracts	0	0	0	0	0
25.6	Medical care	0	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0	0
26	Supplies and materials	942	967	967	967	0
31	Equipment	737	756	756	756	0
32	Lands and structures	0	0	0	0	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	1,340	1,376	1,376	1,376	0
42	Insurance claims and indemnities	0	0	0	0	0
43	Interest and dividends	0	0	0	0	0
44	Refunds	0	0	0	0	0
99	Total obligations	79,909	82,000	84,623	83,673	(950)

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JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Activity: Habitat Conservation and Restoration

Goal Statement

The Office of Habitat Conservation protects and restores habitat to sustain fisheries, recover protected species, and maintain resilient coastal ecosystems and communities.

Base Program

Activities within the Habitat Conservation and Restoration activity focus on three program areas including Sustainable Habitat Management, Fisheries Habitat Restoration, and Chesapeake Bay Protection and Restoration. The Magnuson-Stevens Fishery Conservation and Management Act (MSA), Federal Power Act, Energy Policy Act of 2005; Endangered Species Act; Oil Pollution Act; and Comprehensive Environmental Response, Compensation and Liability Act guide many of our efforts. NOAA works strategically across programs and with partner organizations toward shared goals to address the growing challenge of coastal and marine habitat loss and degradation. (See <https://www.fisheries.noaa.gov/insight/habitat-heroes-some-our-partners-habitat-conservation> for additional information on our partners.)

Through NOAA's Habitat Blueprint (<https://www.habitatblueprint.noaa.gov/>), NOAA and partners collaborate to increase the effectiveness of our habitat conservation efforts for the benefit of fisheries, coastal and marine life, and the coastal communities and economies they support.

Additional information on NMFS habitat conservation can be found at <https://www.fisheries.noaa.gov/topic/habitat-conservation>.

Statement of Operating Objectives

Schedule and Milestones:

FY 2024 – FY 2028:

- Develop management options for protecting deep-sea corals in partnership with the Regional Fishery Management Councils and National Marine Sanctuaries
- Participate in the licensing process for an estimated 125 hydroelectric projects

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- Identify and protect essential fish habitat through consultations and partnerships
- Develop restoration plans, conduct habitat assessments, and implement priority restoration projects critical for NOAA trust resources
- Contribute to major ecosystem restoration efforts, including Chesapeake Bay, Puget Sound, Gulf of Mexico, Great Lakes, and San Francisco Bay/Delta

Deliverables:

FY 2024 – FY 2028:

- Accurate deep-sea coral habitat distribution maps that allow managers to better protect these biologically rich ecosystems
- Technical guidance and assistance provided to NOAA partners, Federal action agencies, and resource decision-makers to achieve protection and restoration of NOAA trust resources
- Restoration plans reviewed and approved through NRDA public process
- Annual development of maps and habitat assessments to support oyster restoration in the Chesapeake Bay
- Acres of habitat restored for ocean, coastal, and Great Lakes resources
- Stream miles made accessible for ocean, coastal, and Great Lakes resources

		<u>Explanation and Justification</u>					
		2022		2023		2024	
		Actual		Enacted		Base Program	
<u>Comparison by subactivity</u>		Personnel	Amount	Personnel	Amount	Personnel	Amount
Habitat Conservation and	Pos/BA	191	232,477	191	56,684	191	58,666
Restoration	FTE/OBL	186	55,647	183	56,684	183	58,666
Total Habitat Conservation	Pos/BA	191	232,477	191	56,684	191	58,666
and Restoration	FTE/OBL	186	55,647	183	56,684	183	58,666

Healthy habitat provides significant and essential ecosystem, community, and economic benefits. Habitat is the foundation for resilient fisheries and fishing-based communities and industries, as well as key to supporting and recovering endangered and

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threatened species. In 2020, the U.S. commercial and recreational saltwater fishing industries generated more than \$253 billion in sales and supported 1.7 million jobs.¹²

Coastal communities rely on healthy habitat for a wide variety of additional socio-economic needs including, recreation, tourism, and natural infrastructure that protects life and property by reducing effects of storm damage, erosion, and coastal flooding. (<https://www.fisheries.noaa.gov/national/habitat-conservation/value-habitat>) The Nation's ocean and coastal resources annually provide non-market value (e.g. storm surge protection, wildlife viewing, beach visits, snorkeling) of over \$100 billion.¹³

However, we are facing continued widespread loss and deterioration of vital habitats for managed fisheries, as well as threatened and endangered species. For example, we are losing coastal wetlands – prime nurseries for many species – at the rate of about 80,000 acres per year. (<https://www.fisheries.noaa.gov/coastal-wetlands-too-valuable-lose>) This rate of loss is 20,000 more acres per year than was lost during the 6-year period of 1998– 2004.¹⁴ NOAA is working to decrease the loss of priority coastal habitat through its habitat conservation programs.

Sustainable Habitat Management

When a Federal agency authorizes, funds, or undertakes an action that may adversely affect Essential Fish Habitat (EFH), they must consult with NMFS on that action, as required by Section 305(b) of the Magnuson-Stevens Act. NOAA works with Federal partners to guide coastal development in a manner that protects vital fish habitat without hindering economic development opportunities, including critical transportation and infrastructure improvements.

Each year, NOAA protects more than one hundred thousand acres of EFH by conducting thousands of consultations with Federal agencies to avoid, minimize, or compensate for any adverse impacts to coastal habitat that may result from proposed actions such as dredging and filling wetlands, and renewable energy proposals. (<https://www.fisheries.noaa.gov/national/habitat-conservation/essential-fish-habitat>) Fish require healthy surroundings to survive and reproduce. EFH includes all types of aquatic habitat - wetlands, coral reefs, seagrasses, and rivers - where fish spawn, breed, feed, or grow to maturity. EFH is described and

¹² National Marine Fisheries Service. 2023. Fisheries Economics of the United States, 2020. U.S. Dept. of Commerce, NOAA Tech. Memo. NMFS-F/SPO-236, 231 p. Available at: <https://www.fisheries.noaa.gov/national/sustainable-fisheries/fisheries-economics-united-states>.

¹³ The National Ocean Economics Program and the Center for the Blue Economy. 2014. State of the U.S. Ocean and Coastal Economies. 84p. Available at: <http://www.oceaneconomics.org/Download/>

¹⁴ T.E. Dahl and S.M. Stedman. 2013. Status and trends of wetlands in the coastal watersheds of the Conterminous United States 2004 to 2009. U.S. Department of the Interior, Fish and Wildlife Service and National Oceanic and Atmospheric Administration, National Marine Fisheries Service. (46 p.). Available at: <https://coast.noaa.gov/digitalcoast/training/wetland-trends.html>

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designated by each of the Regional Fishery Management Councils in their development of Fishery Management Plans for Federally-managed fish species. Our unique role and responsibility under the Federal Power Act to ensure fish passage at hydropower dams licensed by the Federal Energy Regulatory Commission (FERC) has resulted in opening passage of more than 2,100 miles of streams and rivers for species such as river herring that serve as important food sources for commercial and recreational fish stocks. (<https://www.fisheries.noaa.gov/national/habitat-conservation/improving-fish-migration-hydropower-dams>) Since 2011, under its Deep Sea Coral Research and Technology program, NOAA has mapped more than 1,373,000 square kilometers of seafloor to identify locations and new species of deep-sea corals in coordination with other Federal agencies and research institutions. (<https://www.fisheries.noaa.gov/national/habitat-conservation/deep-sea-coral-habitat>)

Fisheries Habitat Restoration

The NOAA Office of Habitat Conservation Restoration Center (RC) provides expert technical assistance to its many partners for the implementation of priority coastal habitat restoration nationwide. (<https://www.fisheries.noaa.gov/topic/habitat-conservation#how-we-restore>) In addition, the NOAA RC leads restoration planning and implementation for oil spills and hazardous substance releases across the Nation through our Damage Assessment Remediation and Restoration program (DARRP) (<https://darrp.noaa.gov/>). Every year, NOAA responds to as many as 150 oil spills and hazardous substance releases (most notably the Deepwater Horizon oil spill <https://www.gulfspillrestoration.noaa.gov/>). The Community-based Restoration Program (CRP) provides technical and financial assistance for the implementation of community-driven habitat restoration. Habitat restoration projects are selected through a competitive solicitation process that leverages substantial investments from partners. (<https://www.fisheries.noaa.gov/grant/coastal-and-marine-habitat-restoration-grants>)

Chesapeake Bay Protection and Restoration (<https://chesapeakebay.noaa.gov/>)

The NOAA Chesapeake Bay Office (NCBO) conducts work in fisheries, observations, education, and oyster restoration in support of the 2014 Chesapeake Bay Agreement. NCBO collects and integrates information about the Bay from buoys, satellites, shipboard mapping technologies, and other sources to improve fisheries and protected resource management, weather forecasts, on-the-water safety, and public health. NCBO is working closely with state, Federal, academic, and not-for-profit partners to provide technical assistance for restoring native oysters in ten tributaries of the Chesapeake Bay.

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Pacific Coastal Salmon Recovery Fund
SUMMARY OF RESOURCE REQUIREMENTS**
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
2023 Enacted	2	2	65,000	65,068
Less: Obligations from Prior Year Balances	0	0	0	(68)
Plus: Other Adjustments-to- Base	0	0	0	0
2024 Base	2	2	65,000	65,000
Plus: 2024 Program Changes	0	0	0	0
2024 Estimate	2	2	65,000	65,000

		2022 Actual Personnel Amount	2023 Enacted Personnel Amount	2024 Base Personnel Amount	2024 Estimate Personnel Amount	Increase/ Decrease from 2024 Base Personnel Amount
Pacific Coastal Salmon Recovery Fund	Pos/BA	2 96,101	2 65,000	2 65,000	2 65,000	0 0
	FTE/OBL	2 96,046	2 65,068	2 65,000	2 65,000	0 0
Total: Pacific Coastal Salmon Recovery Fund	Pos/BA	2 96,101	2 65,000	2 65,000	2 65,000	0 0
	FTE/OBL	2 96,046	2 65,068	2 65,000	2 65,000	0 0

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Pacific Coastal Salmon Recovery Fund
SUMMARY OF RESOURCE REQUIREMENTS**
(Dollar amounts in thousands)

	2022 Actual		2023 Enacted		2024 Base				Increase/ Decrease	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Discretionary Obligation	2	96,046	2	65,068	2	65,000	2	65,000	0	0
Total Obligations	2	96,046	2	65,068	2	65,000	2	65,000	0	0
Adjustments for:										
Recoveries	0	(2)	0	0	0	0	0	0	0	0
Unobligated balance, unapportioned	0	0	0	0	0	0	0	0	0	0
Unobligated balance, adj. SOY	0	(11)	0	(68)	0	0	0	0	0	0
Unobligated balance, expired	0	0	0	0	0	0	0	0	0	0
Unobligated balance, transferred	0	0	0	0	0	0	0	0	0	0
Unobligated balance, adj. EOY	0	68	0	0	0	0	0	0	0	0
Total Budget Authority	2	96,101	2	65,000	2	65,000	2	65,000	0	0
Financing from Transfers and Other:										
Transfer to ORF	0	3,299	0	0	0	0	0	0	0	0
Appropriation	2	99,400	2	65,000	2	65,000	2	65,000	0	0

*FY 2022 Actual Amount includes the Infrastructure Investments and Jobs Act (IIJA) (\$34.4 million) that became available in FY 2022. FY 2023 Amount does not include funds received through the Infrastructure Investments and Jobs Act (IIJA) (\$34.4 million) that became available in FY 2023. FY 2024 Amount also does not include funds received through the IIJA (\$34.4 million) that became available in FY 2024.

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Pacific Coastal Salmon Recovery Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Activity: Pacific Coastal Salmon Recovery Fund

For FY 2024, NMFS requests a total of \$65,000 for this fund.

Goal Statement

The Pacific Coastal Salmon Recovery Fund (PCSRF) was established by Congress in FY 2000 to protect, restore, and conserve Pacific salmon and steelhead and their habitats through competitive funding to states and Tribes.

Base Program

Congressionally authorized activities include:

- Conserving salmon and steelhead populations that are listed as threatened or endangered, or identified by a state as at-risk to be so listed,
- Maintaining populations necessary for exercise of Tribal treaty fishing rights or native subsistence fishing, and
- Conserving Pacific coastal salmon and steelhead habitat.

Key accomplishments for PCSRF-funded activities from FY 2000 to FY 2022 include:

- More than 1,176,000 acres of habitat restored, and
- Passage restored to over 11,800 stream miles of salmon habitat.

Restoration projects have increased the quality and quantity of spawning and rearing habitat from stream headwaters to coastal estuaries. Upstream restoration activities have controlled erosion, enhanced in-stream flow and streambed conditions, and provided the habitat necessary for successful spawning and egg survival. Estuary and wetland restoration projects closer to the coast have protected and improved feeding and rearing habitat used by juvenile fish as they transition from freshwater to the open ocean. PCSRF restoration projects have also removed more than 3,800 barriers to fish passage along streams, restoring access to high-quality habitat. PCSRF projects provide a number of socio-economic benefits, including enhanced water quality, recreation opportunities, flood control, and coastline protection, as well as support for green jobs and local economies.

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Pacific Coastal Salmon Recovery Fund
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Statement of Operating Objectives

PCSRF awards to grantees remain active for up to five years with an estimated 1,162 active projects funded from FY 2017 through FY 2022.

Active projects span all project categories, but a select list of habitat projects include:

- Alaska: Restoring Connectivity for Chinook and Coho Salmon in the Little Tonsina River (end date November 2023)
- Alaska: Strategic Conservation of Priority Salmon Habitat-Phase 8 (end date November 2023)
- Washington: Kwoneesum Dam Removal (end date February 2025)
- Washington: Cispus-Yellowjacket Restoration Phase III (end date February 2024)
- Idaho: Tourmaline Habitats Meadow Restoration Project (end date February 2024)
- Oregon: McKay Creek Water Rights Switch (end date December 2024)
- California: North Fork Noyo River Tributary Complex – Large Wood Enhancement Project (end date March 2025)
- California: Restoring Fish Passage from Salt River to Williams Creek (end date June 2023)

Explanation and Justification

The PCSRF program provides competitive funding to states and Tribes of the Pacific Coast region to implement projects that restore and protect salmonid populations and their habitats. Eligible applicants include the States of Washington, Oregon, California, Idaho, Nevada, and Alaska and Federally recognized Tribes of the Columbia River and Pacific Coast (including Alaska). States are required to provide 33 percent matching funds, and PCSRF awards are supplemented further by significant private and local contributions at the project level. No match is required from the Federally recognized Tribes.

PCSRF habitat projects provide a number of benefits to the human community, including enhanced water quality, recreation opportunities, flood control, and coastline protection. Studies suggest that a \$1.0 million investment in watershed restoration, of which PCSRF and state matching funds play a significant role, creates on average 16¹⁵ to 17¹⁶ new “green” jobs and averages \$2.3 million¹⁷ in economic activity. Additionally, approximately 80 percent of habitat restoration investments are spent locally in the county

¹⁵ Nielsen-Pincus, M., and C. Moseley. 2010. Economic and employment impacts of forest and watershed restoration in Oregon. University of Oregon, Institute for a Sustainable Environment, Ecosystem Workforce Program, Working Paper Number 24, Spring 2010.

¹⁶ Edwards, P.E.T., A.E. Sutton-Grier and C.E. Coyle. 2013 Investing in nature: Restoring coastal habitat blue infrastructure and green job creation. Marine Policy 38:65-71.

¹⁷ Nielsen-Pincus, M., and C. Moseley. 2010. Economic and employment impacts of forest and watershed restoration in Oregon. University of Oregon, Institute for a Sustainable Environment, Ecosystem Workforce Program, Working Paper Number 24, Spring 2010.

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in which the project is located, and over 90 percent is spent within the state¹⁸, supporting local jobs and local economies, often in rural and economically distressed communities. More information is available at the program's website:

<https://www.fisheries.noaa.gov/grant/pacific-coastal-salmon-recovery-fund>

¹⁸ Hibbard, M. and S. Lurie. 2006. Some community socio-economic benefits of watershed councils: A case study from Oregon. *Journal of Environmental Planning and Management* 49:891-908.

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Pacific Coastal Salmon Recovery Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

		2022 Actual				
11	Personnel compensation					
11.1	Full-time permanent	161	161	161	161	0
11.3	Other than full-time permanent	0	0	0	0	0
11.5	Other personnel compensation	0	0	0	0	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	161	161	161	161	0
12.1	Civilian personnel benefits	62	62	62	62	0
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	0	0	0	0	0
22	Transportation of things	0	0	0	0	0
23.1	Rental payments to GSA	0	0	0	0	0
23.2	Rental payments to others	0	0	0	0	0
23.3	Commun., util., misc. charges	0	0	0	0	0
24	Printing and reproduction	0	0	0	0	0
25.1	Advisory and assistance services	0	0	0	0	0
25.2	Other services from non-federal sources	264	264	264	264	0
26	Supplies and materials	0	0	0	0	0
31	Equipment	0	0	0	0	0
32	Lands and structures	0	0	0	0	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	95,559	64,581	64,513	64,513	0
42	Insurance claims and indemnities	0	0	0	0	0
43	Interest and dividends	0	0	0	0	0
44	Refunds	0	0	0	0	0
99	Total Obligations	96,046	65,068	65,000	65,000	0

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Pacific Coastal Salmon Recovery Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
Less prior year recoveries	(2)	0	0	0	0
Plus unobligated balance, transferred	0	0	0	0	0
Unobligated balance, expired	0	0	0	0	0
Less unobligated balance, SOY	(11)	(68)	0	0	0
Plus unobligated balance, EOY	68	0	0	0	0
Total Budget Authority	96,101	65,000	65,000	65,000	0

Personnel Data

Full-Time equivalent Employment:

Full-time permanent	2	2	2	2	0
Other than full time permanent	0	0	0	0	0
Total	2	2	2	2	0

Authorized Positions:

Full-time permanent	2	2	2	2	0
Other than full time permanent	0	0	0	0	0
Total	2	2	2	2	0

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National Oceanic and Atmospheric Administration
Fisheries Disaster Assistance Fund
SUMMARY OF REQUIREMENTS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
2023 Enacted	1	1	300	307,527
Plus: Obligations from prior year balances	0	0	0	(307,227)
Less: Other Adjustments-to-Base	0	1	0	0
2024 Base	1	1	300	300
Plus: 2024 Program Changes	0	0	0	0
2024 Estimate	1	1	300	300

		2022 Actual		2023 Enacted		2024 Base		2024 Estimate		Increase/Decrease from 2024 Base	
		Personnel Amount		Personnel Amount		Personnel Amount		Personnel Amount		Personnel Amount	
Fisheries Disaster Assistance Fund	Pos/BA	0	199,800	1	300	1	300	1	300	0	0
	FTE/OBL	0	7,720	1	307,527	1	300	1	300	0	0
Total: Fisheries Disaster Assistance Fund	Pos/BA	0	199,800	1	300	1	300	1	300	0	0
	FTE/OBL	0	7,720	1	307,527	1	300	1	300	0	0

*FY 2022 Actual does include funds received through the FY 2022 Disaster Relief Supplemental Act (\$200 million). FY 2023 Amount does not include funds received through the FY 2023 Disaster Supplemental (\$300 million).

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Fisheries Disaster Assistance Fund
SUMMARY OF REQUIREMENTS
(Dollar amounts in thousands)**

	2022 Actual		2023 Enacted		2024 Base		2024 Estimate		Increase/Decrease from 2024 Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Discretionary Obligation	0	7,720	1	307,527	1	300	1	300	0	0
Total Obligations	0	7,720	1	307,527	1	300	1	300	0	0
Adjustments for:										
Recoveries	0	(22)	0	0	0	0	0	0	0	0
Unobligated balance, adj. SOY	0	(115,125)	0	(307,227)	0	0	0	0	0	0
Unobligated balance, EOY	0	307,227	0	0	0	0	0	0	0	0
Total Budget Authority	0	199,800	1	300	1	300	1	300	0	0
Financing from Transfers and Other:										
Transfer to ORF	0	200	0	0	0	0	0	0	0	0
Net Appropriation	0	200,000	1	300	1	300	1	300	0	0

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Fisheries Disaster Assistance Fund
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(Dollar amounts in thousands)

Activity: Fisheries Disaster Assistance Fund

For FY 2024, NMFS requests a total of \$300 for this fund.

Goal Statement

To enhance and expedite the review and analysis of fishery disaster requests, allocations, and spend plans, and support faster turnarounds and improved programs for recipients.

Base Program

Fishery disaster assistance is administered by NOAA's National Marine Fisheries Service within the Department of Commerce. Congress passed and the President signed a new law on fisheries disasters in December 2022, as a result the Magnuson-Stevens Fishery Conservation and Management Act (MSA) has been revised and provides the authority for fishery disaster assistance. Under the statute, a request for a fishery disaster determination is generally made by the Governor of a State, or an elected leader of a fishing community, although the Secretary of Commerce may also initiate a review at their own discretion. The Secretary determines whether the circumstances are consistent with relevant statute and warrant a fishery disaster determination. If the Secretary determines that a fishery disaster has occurred, Congress may appropriate funds for disaster assistance, which are administered by the Secretary.

Statement of Operating Objectives

- MSA 312(a)(2) allows for disaster funds to be used for assessing the economic and social effects of the commercial fishery failure and for activities that restore the fishery or prevent a similar failure in the future and to assist a fishing community affected by such failure. Additionally, any such activity may not expand the size or scope of the commercial fishery failure in that fishery or into other fisheries or other geographic regions.

Explanation and Justification

NOAA Fisheries is committed to quickly evaluating information from requestors for fishery disaster assistance to determine if a fishery disaster has occurred and getting assistance to fishers in a more timely way. If Congress appropriates funds, NOAA allocates the funding to positively determined fishery disasters and administers the funds through non-competitive awards consistent with

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spend plans developed by the recipients and approved by the Administration. These funds will be used to support implementation of the new law to ensure NOAA meets the new statutory deadlines for each step in the disaster determination and funding processes.

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Fisheries Disaster Assistance Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
11 Personnel compensation					
11.1 Full-time permanent	0	118	118	118	0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	0	118	118	118	0
12.1 Civilian personnel benefits	0	31	31	31	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	0	25	25	25	0
22 Transportation of things	0	0	0	0	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental payments to others	0	0	0	0	0
23.3 Comm., util., misc. charges	0	0	0	0	0
24 Printing and reproduction	0	0	0	0	0
25.1 Advisory and assistance services	0	0	0	0	0
25.2 Other services from non-federal sources	0	111	111	111	0
25.3 Other goods and services from Federal sources	0	0	0	0	0
26 Supplies and materials	0	10	10	10	0
31 Equipment	0	5	5	5	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	7,720	307,227	0	0	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total Obligations	7,720	307,527	300	300	0

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Fisheries Disaster Assistance Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
Less prior year recoveries	(22)	0	0	0	0
Plus unobligated balance, transferred	0	0	0	0	0
Unobligated balance, expired	0	0	0	0	0
Less unobligated balance, SOY	(115,125)	(307,227)	0	0	0
Plus unobligated balance, EOY	307,227	0	0	0	0
Total Budget Authority	199,800	300	300	300	0

Department of Commerce
National Oceanic and Atmospheric Administration
Fishermen's Contingency Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
2023 Enacted	0	0	349	349
Plus: Obligations from prior year balances	0	0	0	0
Plus: Other Adjustments-to-Base	0	0	0	0
2024 Base	0	0	349	349
Plus: 2024 Program Changes	0	0	0	0
2024 Estimate	0	0	349	349

		2022 Actual Personnel Amount		2023 Enacted Personnel Amount		2024 Base Personnel Amount		2024 Estimate Personnel Amount		Increase/Decrease from 2024 Base Personnel Amount	
Fishermen's Contingency Fund	Pos/BA	0	4	0	349	0	349	0	349	0	0
	FTE/OBL	0	54	0	349	0	349	0	349	0	0
Total: Fishermen's Contingency Fund	Pos/BA	0	4	0	349	0	349	0	349	0	0
	FTE/OBL	0	54	0	349	0	349	0	349	0	0

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Fishermen’s Contingency Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)**

	2022 Actual		2023 Enacted		2024 Base		2024 Estimate		Increase/Decrease from 2024 Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Discretionary Obligation	0	54	0	349	0	349	0	349	0	0
Total Obligations	0	54	0	349	0	349	0	349	0	0
Adjustments for:										
Unobligated balance, adj. SOY	0	(1,104)	0	(1,054)	0	(1,054)	0	(1,054)	0	0
Unobligated balance, EOY	0	1,054	0	1,054	0	1,054	0	1,054	0	0
Total Budget Authority	0	4	0	349	0	349	0	349	0	0
Financing from Transfers and Other:										
Temporarily Reduced	0	0	0	0	0	0	0	0	0	0
Unapportioned	0	0	0	0	0	0	0	0	0	0
Discretionary Appropriation	0	0	0	0	0	0	0	0	0	0
Net Appropriation	0	4	0	349	0	349	0	349	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Fishermen's Contingency Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Activity: Fishermen's Contingency Fund

For FY 2024, NMFS requests a total of \$349 for this fund.

Goal Statement

This fund compensates U.S. commercial fishermen for damage or loss of fishing gear, vessels, and resulting economic loss caused by obstructions related to oil or gas exploration, development, and production in any area of the Outer Continental Shelf.

Base Program

The Fishermen's Contingency Fund is authorized under Section 402 of Title IV of the Outer Continental Shelf Lands Act Amendments of 1978. This fund minimizes financial instability of the fishing industry caused by competing uses of the OCS, and provides for timely resolution of claims by vessel owners.

Statement of Operating Objectives

Fishermen who can prove that they suffered losses in income due to inability or reduced capacity to fish as a result of the damage sustained may be eligible for compensation for economic loss and property loss or damage. Compensation for economic loss is based on 50 percent of gross income lost, rather than loss of profits.

Explanation and Justification

The funds used to provide this compensation are derived solely from fees collected on an annual basis by the Secretary of the Interior from the holders of leases, exploration permits, easements, or rights-of-way in areas of the OCS. Disbursements can be made only to the extent authorized in appropriation acts.

PROPOSED LEGISLATION:

For carrying out the provisions of Title IV of Public Law 95-372, not to exceed \$349,000, to be derived from receipts collected pursuant to that Act, to remain available until expended.

Department of Commerce
National Oceanic and Atmospheric Administration
Fishermen's Contingency Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
11 Personnel compensation					
11.1 Full-time permanent	0	0	0	0	0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	0	0	0	0	0
12.1 Civilian personnel benefits	0	0	0	0	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	0	0	0	0	0
22 Transportation of things	0	0	0	0	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental payments to others	0	0	0	0	0
23.3 Commun., util., misc. charges	0	0	0	0	0
24 Printing and reproduction	0	0	0	0	0
25.2 Other services from non federal sources	0	0	0	0	0
26 Supplies and materials	0	0	0	0	0
31 Equipment	0	0	0	0	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	0	0	0	0	0
42 Insurance claims and indemnities	54	349	349	349	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total Obligations	54	349	349	349	0

Department of Commerce
National Oceanic and Atmospheric Administration
Fishermen’s Contingency Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
 (Dollar amounts in thousands)

	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
Less prior year recoveries	0	0	0	0	0
Less unobligated balance, SOY	(1,104)	(1,054)	(1,054)	(1,054)	0
Less unapportioned	0	0	0	0	0
Plus unobligated balance, EOY	1,054	1,054	1,054	1,054	0
Unobligated balance, rescission	0	0	0	0	0
Total Budget Authority	4	349	349	349	0

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Department of Commerce
National Oceanic and Atmospheric Administration
Foreign Fishing Observer Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
2023 Enacted	0	0	0	0
Less: Obligations from prior year balances	0	0	0	0
Plus: 2024 Adjustments to Base	0	0	0	0
2024 Base	0	0	0	0
Plus: 2024 Program Changes	0	0	0	0
2024 Estimate	0	0	0	0

		2022 Actual Personnel Amount	2023 Enacted Personnel Amount	2024 Base Personnel Amount	2024 Estimate Personnel Amount	Increase/Decrease from 2024 Base Personnel Amount
Foreign Fishing Observer Fund	Pos/BA	0	0	0	0	0
	FTE/OBL	0	0	0	0	0
Total: Foreign Fishing Observer Fund	Pos/BA	0	0	0	0	0
	FTE/OBL	0	0	0	0	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Foreign Fishing Observer Fund
SUMMARY OF RESOURCE REQUIREMENTS**
(Dollar amounts in thousands)

	2022 Actual		2023 Enacted		2024 Base		2024 Estimate		Increase/ Decrease from 2024 Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Discretionary Obligation	0	0	0	0	0	0	0	0	0	0
Total Obligations	0	0	0	0	0	0	0	0	0	0
Adjustments for:										
Unobligated balance, adj. SOY	0	(522)	0	(522)	0	(522)	0	(522)	0	0
Unobligated balance, EOY	0	522	0	522	0	522	0	522	0	0
Total Budget Authority	0	0	0	0	0	0	0	0	0	0
Financing from Transfers and Other:										
Unobligated balance, rescission	0	0	0	0	0	0	0	0	0	0
Net Appropriation	0	0	0	0	0	0	0	0	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Foreign Fishing Observer Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Activity: Foreign Fishing Observer Fund

For FY 2024, NMFS requests a total of \$0 for this fund.

Goal Statement

The goals of this fund are to provide 100 percent observer coverage aboard foreign vessels fishing within the U.S. EEZ; increase compliance with fishery regulations and requirements; support balanced conservation and management measures to achieve and maintain the optimum use of living marine resources; collect data to determine foreign compliance with fishery regulations and the status of fish stocks within the U.S. EEZ; and administer the base and supplemental observer programs in a cost-effective manner.

Base Program

The Foreign Fishing Observer Fund is financed through fees collected from owners and operators of foreign fishing vessels fishing within the U.S. EEZ (such fishing requires a permit issued under the Magnuson-Stevens Fishery Conservation and Management Act). The fund is used by NOAA to pay salaries, administrative costs, data editing and entry, and other costs incurred in placing observers aboard foreign fishing vessels.

Statement of Operating Objectives

- Monitor foreign fishing for compliance with U.S. fishing regulations
- Collect biological data

Explanation and Justification

The observer program is conducted primarily through contracts with the private sector. This includes longline vessels fishing in the Atlantic billfish and shark fishery and other foreign vessels fishing in the EEZ. NOAA places these observers aboard foreign fishing vessels to monitor compliance with U.S. fishery laws and to collect fishery management data. Amounts available in the fund can be disbursed only to the extent and in amounts provided in appropriation acts. In FY 1985, Congress approved the establishment of a supplemental observer program. The program provided that foreign vessels without federally funded observers are required to obtain the services of private contractors certified by the Secretary of Commerce.

Department of Commerce
National Oceanic and Atmospheric Administration
Foreign Fishing Observer Fund
SUMMARY OF RESOURCE REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
11 Personnel compensation					
11.1 Full-time permanent	0	0	0	0	0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	0	0	0	0	0
12.1 Civilian personnel benefits	0	0	0	0	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	0	0	0	0	0
22 Transportation of things	0	0	0	0	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental payments to others	0	0	0	0	0
23.3 Commun., util., misc. charges	0	0	0	0	0
24 Printing and reproduction	0	0	0	0	0
25.2 Other services from non-Federal sources	0	0	0	0	0
26 Supplies and materials	0	0	0	0	0
31 Equipment	0	0	0	0	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	0	0	0	0	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total Obligations	0	0	0	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Foreign Fishing Observer Fund
SUMMARY OF RESOURCE REQUIREMENTS BY OBJECT CLASS
 (Dollar amounts in thousands)

	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
Less prior year recoveries	0	0	0	0	0
Less unobligated balance, SOY	(522)	(522)	(522)	(522)	0
Plus unobligated balance, EOY	522	522	522	522	0
Unobligated balance, rescission	0	0	0	0	0
Total Budget Authority	0	0	0	0	0

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Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Finance Program Account
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
2023 Enacted	0	0	5,722	5,722
Less: 2024 Adjustments to Base	0	0	(5,722)	(5,722)
2024 Base	0	0	0	0
Plus: 2024 Program Changes	0	0	0	0
2024 Estimate	0	0	0	0

		2022 Actual		2023 Enacted		2024 Base		2024 Estimate		Increase/ Decrease from 2024 Base	
		Personnel Amount		Personnel Amount		Personnel Amount		Personnel Amount		Personnel Amount	
Fisheries Finance Program Account	Pos/BA	0	17,293	0	5,722	0	0	0	0	0	0
	FTE/OBL	0	17,293	0	5,722	0	0	0	0	0	0
Total: Fisheries Finance Program Account	Pos/BA	0	17,293	0	5,722	0	0	0	0	0	0
	FTE/OBL	0	17,293	0	5,722	0	0	0	0	0	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Finance Program Account
SUMMARY OF RESOURCE REQUIREMENTS**
(Dollar amounts in thousands)

	2022 Actual		2023 Enacted		2024 Base		2024 Estimate		Increase/ Decrease from 2024 Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Loan Modification	0	0	0	0	0	0	0	0	0	0
Credit Reestimates	0	17,293	0	5,722	0	0	0	0	0	0
Total Obligations	0	17,293	0	5,722	0	0	0	0	0	0
Adjustments for:										
Recoveries	0	0	0	0	0	0	0	0	0	0
Unobligated balance, adj. SOY	0	(2,781)	0	(2,781)	0	(2,781)	0	(2,781)	0	0
Unobligated balance, EOY	0	2,781	0	2,781	0	2,781	0	2,781	0	0
Total Budget Authority	0	17,293	0	5,722	0	0	0	0	0	0
Financing from Transfers and Other:										
Less: Permanent Indefinite Authority (Mandatory)	0	0	0	0	0	0	0	0	0	0
Net Appropriation	0	17,293	0	5,722	0	0	0	0	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Finance Program Account
JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Activity: Fisheries Finance Program Account

For FY 2024, NMFS requests a total of \$0 for the Fisheries Finance Program Account.

Goal Statement

The Fisheries Finance Program (FFP) is a national loan program that makes long-term, fixed-rate financing available to U.S. citizens who otherwise qualify for financing or refinancing.

Base Program

NOAA's FFP offers financing to U.S. companies seeking to improve their commercial fisheries, aquaculture facilities, and fishing vessels. Vessel financing or refinancing that could contribute to overcapitalization by increasing harvesting capacity is prohibited by regulation.

Statement of Operating Objectives

The purpose of these loans is to provide affordable financing to support participants of the fishing and aquaculture industries.

Explanation and Justification

Types of activities for financing include the reconstruction, reconditioning, and, in some cases, the purchasing of fishing vessels, shoreside processing, aquaculture, mariculture facilities, purchase or refinance the purchase of harvesting rights in federally managed limited access systems, and the purchase of individual fishing quota (IFQ) in two Northwest fisheries. The FFP also provides fishery-wide financing to ease the transition to sustainable fisheries through its fishing capacity reduction programs and provides IFQ financing to fishermen who fish from small vessels and entry-level fishermen to promote stability and reduce consolidation in already rationalized fisheries. Additionally, FFP can provide loans for fisheries investments of Western Alaska Community Development Quota (CDQ) groups.

The FFP operates under the authority of Subtitle V of Title 46 of the U.S. Code, formerly known as "Title XI of the Merchant Marine Act of 1936," 46 U.S.C. 53701; Section 303(a) of the Sustainable Fisheries Act amendments to the Magnuson-Stevens

Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Finance Program Account
JUSTIFICATION OF PROGRAM AND PERFORMANCE

(Dollar amounts in thousands)

Fishery Conservation and Management Act; and, from time to time FFP-specific legislation. FFP lending practices are guided by Title XI, general rules implementing Title XI (found at 50 CFR part 253, subpart B), and NOAA's sustainable fisheries policy. The overriding guideline for all FFP financings is that they cannot contribute or be construed to contribute to an increase in existing fish harvesting.

FFP authority is subject to the Federal Credit Reform Act of 1990 (FCRA) (2 U.S.C. 661), which requires the estimated loan losses (FCRA cost) be appropriated in cash at the time Congress authorizes annual credit ceilings. Some types of FFP loans require no FCRA subsidy appropriations because these types of loans have historically not required additional loan subsidy. However, specific loan ceilings for each type of loan authority must be included in appropriation language or other bill language regardless of the need for cash appropriations.

PROPOSED LEGISLATION:

Subject to section 502 of the Congressional Budget Act of 1974, during fiscal year 2024, obligations of direct loans may not exceed \$24,000,000 for Individual Fishing Quota loans and not to exceed \$100,000,000 for traditional direct loans as authorized by the Merchant Marine Act of 1936.

Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Finance Program Account
SUMMARY OF RESOURCE REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
11 Personnel compensation					
11.1 Full-time permanent	0	0	0	0	0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	0	0	0	0	0
12.1 Civilian personnel benefits	0	0	0	0	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	0	0	0	0	0
22 Transportation of things	0	0	0	0	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental payments to others	0	0	0	0	0
23.3 Commun., util., misc. charges	0	0	0	0	0
24 Printing and reproduction	0	0	0	0	0
25.2 Other services from non-Federal sources	0	0	0	0	0
26 Supplies and materials	0	0	0	0	0
31 Equipment	0	0	0	0	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	17,293	5,722	0	0	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total Obligations	17,293	5,722	0	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Finance Program Account
SUMMARY OF RESOURCE REQUIREMENTS BY OBJECT CLASS
 (Dollar amounts in thousands)

	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
Less prior year recoveries	0	0	0	0	0
Less unobligated balance, SOY	(2,781)	(2,781)	(2,781)	(2,781)	0
Plus unobligated balance, EOY	2,781	2,781	2,781	2,781	0
Unobligated balance, rescission	0	0	0	0	0
Total Budget Authority	17,293	5,722	0	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Promote and Develop Fisheries Products
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
2023 Enacted	0	0	11,500	12,229
Less: Obligations from prior year balances	0	0	0	(729)
Less: 2024 Adjustments to Base	0	0	(3,970)	(3,970)
2024 Base	0	0	0	0
Plus: 2024 Program Changes	0	0	0	0
2024 Estimate	0	0	7,530	7,530

			2022 Actual Personnel Amount		2023 Enacted Personnel Amount		2024 Base Personnel Amount		2024 Estimate Personnel Amount		Increase/Decrease from 2024 Base Personnel Amount
Promote and Develop Fisheries Products	Pos/BA	0	10,628	0	11,500	0	7,530	0	7,530	0	0
	FTE/OBL	0	12,223	0	12,229	0	7,530	0	7,530	0	0
Total: Promote and Develop Fisheries Products	Pos/BA	0	10,628	0	11,500	0	7,530	0	7,530	0	0
	FTE/OBL	0	12,223	0	12,229	0	7,530	0	7,530	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Promote and Develop Fisheries Products
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	2022 Actual		2023 Enacted		2024 Base		2024 Estimate		Increase/Decrease from 2024 Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Discretionary Obligation	0	12,223	0	12,229	0	7,530	0	7,530	0	0
Total Obligations	0	12,223	0	12,229	0	7,530	0	7,530	0	0
Adjustments for:										
Unobligated balance, adj. SOY	0	(1,346)	0	(729)	0	0	0	0	0	0
Recoveries	0	(978)	0	0	0	0	0	0	0	0
Unobligated balance, adj. EOY	0	729	0	0	0	0	0	0	0	0
Total Budget Authority	0	10,628	0	11,500	0	7,530	0	7,530	0	0
Financing from Transfers and Other:										
Transfer from USDA	0	(253,669)	0	(362,611)	0	(362,611)	0	(362,611)	0	0
Appropriations previously unavailable	0	(14,950)	0	(14,459)	0	(20,669)	0	(20,669)	0	0
Permanently Reduced	0	0	0	0	0	0	0	0	0	0
Temporarily Reduced	0	14,459	0	20,669	0	20,669	0	20,669	0	0
Transfer to ORF	0	243,532	0	344,901	0	355,081	0	355,081	0	0
Net Appropriation	0	0	0	0	0	0	0	0	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Promote and Develop Fisheries Products
JUSTIFICATION OF PROGRAM AND PERFORMANCE

(Dollar amounts in thousands)

Activity: Promote and Develop Fisheries Products

For FY 2024, NOAA estimates that a total of \$362,611 will be transferred from the Department of Agriculture to the Promote and Develop account. After accounting for sequestration and prior year recoveries, \$362,611 will be available in the account. NOAA requests to transfer \$355,081 from the Promote and Develop account to the Operations, Research, and Facilities (ORF) account, leaving \$7,530 for the Saltonstall-Kennedy (S-K) grant program in FY 2024.

Goal Statement

To address the needs of fishing communities in optimizing economic benefits by building and maintaining sustainable fisheries and practices, dealing with the impacts of conservation and management measures, and increasing other opportunities to keep working waterfronts viable.

Base Program

NOAA will transfer \$355,081 from the Promote and Develop account to offset appropriations in the NMFS ORF account. The transfer to ORF will support data collection, data management, and fisheries stock assessment production within the Fisheries Data Collections, Surveys, and Assessments budget line, which includes the Expand Annual Stock Assessments, Fish Information Networks, Survey and Monitoring Projects, Cooperative Research activities; Fisheries Management Programs and Services; and Interjurisdictional Fisheries Grants.

Statement of Operating Objectives

Applications should fall into one of two priorities:

- Promotion, Development, and Marketing
- Science or Technology that Promotes Sustainable U.S. Seafood Production and Harvesting

**Department of Commerce
National Oceanic and Atmospheric Administration
Promote and Develop Fisheries Products
JUSTIFICATION OF PROGRAM AND PERFORMANCE**

(Dollar amounts in thousands)

Explanation and Justification

The Promote and Develop account funds are derived from a transfer of thirty percent of duties on imported fisheries products from Department of Agriculture. Any funds remaining in this account after the ORF transfer are available to carry out the purposes of the S-K program. The American Fisheries Promotion Act (AFPA) of 1980 amended the S-K Act to authorize a grants program for fisheries research and development projects. In FY 2022, more than \$11.8 million for 44 projects were recommended nationwide. The projects address either promotion, development and marketing and science or technology that promotes sustainable U.S seafood production and harvesting. More information on past accomplishments is available at the program's website http://www.nmfs.noaa.gov/mb/financial_services/skhome.htm.

Department of Commerce
National Oceanic and Atmospheric Administration
Promote and Develop Fisheries Products
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
11 Personnel compensation					
11.1 Full-time permanent	0	0	0	0	0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	0	0	0	0	0
12.1 Civilian personnel benefits	0	0	0	0	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	0	0	0	0	0
22 Transportation of things	0	0	0	0	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental payments to others	0	0	0	0	0
23.3 Commun., util., misc. charges	0	0	0	0	0
24 Printing and reproduction	0	0	0	0	0
25.1 Advisory and assistance services	0	0	0	0	0
25.2 Other services from non-federal sources	0	0	0	0	0
25.3 Other goods and services from Federal sources	0	0	0	0	0
26 Supplies and materials	0	0	0	0	0
31 Equipment	0	0	0	0	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	12,223	12,229	7,530	7,530	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total Obligations	12,223	12,229	7,530	7,530	0

Department of Commerce
National Oceanic and Atmospheric Administration
Promote and Develop Fisheries Products
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
Less unobligated balance, SOY	(1,346)	(729)	0	0	0
Plus unobligated balance, EOY	729	0	0	0	0
Recoveries	(978)	0	0	0	0
Total Budget Authority	10,628	11,500	7,530	7,530	0

Personnel Data

Full-Time equivalent Employment:

Full-time permanent	0	0	0	0	0
Other than full time permanent	0	0	0	0	0
Total	0	0	0	0	0

Authorized Positions:

Full-time permanent	0	0	0	0	0
Other than full time permanent	0	0	0	0	0
Total	0	0	0	0	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Federal Ship Financing Fund
SUMMARY OF RESOURCE REQUIREMENTS**
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
2023 Enacted	0	0	0	0
2024 Base	0	0	0	0
Plus: 2024 Program Changes	0	0	0	0
2024 Estimate	0	0	0	0

		2022 Actual Personnel Amount		2023 Enacted Personnel Amount		2024 Base Personnel Amount		2024 Estimate Personnel Amount		Increase/ Decrease from 2024 Base Personnel Amount	
Federal Ship Financing Fund	Pos/BA	0	0	0	0	0	0	0	0	0	0
	FTE/OBL	0	0	0	0	0	0	0	0	0	0
Total: Federal Ship Financing Fund	Pos/BA	0	0	0	0	0	0	0	0	0	0
	FTE/OBL	0	0	0	0	0	0	0	0	0	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Federal Ship Financing Fund
SUMMARY OF RESOURCE REQUIREMENTS**
(Dollar amounts in thousands)

	2022 Actual		2023 Enacted		2024 Base		2024 Estimate		Increase/ Decrease from 2024 Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Discretionary Obligation	0	0	0	0	0	0	0	0	0	0
Total Obligations	0	0	0	0	0	0	0	0	0	0
Adjustments for:										
Transfer to Treasury (mandatory)	0	0	0	0	0	0	0	0	0	0
Offsetting collections (mandatory)	0	0	0	0	0	0	0	0	0	0
Unobligated balance, adj. SOY	0	0	0	0	0	0	0	0	0	0
Unobligated balance, adj. EOY	0	0	0	0	0	0	0	0	0	0
Total Budget Authority	0	0	0	0	0	0	0	0	0	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Federal Ship Financing Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE**
(Dollar amounts in thousands)

Activity: Federal Ship Financing Fund

For FY 2024, NMFS estimates a total of \$0 for the Federal Ship Financing Fund Account.

Goal Statement

To provide for a liquidating account necessary for the collection of premiums and fees under the Fishing Vessel Obligations Guarantee program for loan commitments made prior to FY 1992.

Base Program

Administrative expenses for management of the loan guarantee portfolio were charged to the Federal Ship Financing Fund prior to the enactment of the Federal Credit Reform Act of 1990. Administrative expenses are charged to the ORF account.

Statement of Operating Objectives

- Collect repayments and interest
- Repay borrowings plus interest
- Pay default claims and interest

Explanation and Justification

These collections are for operations of this program, loans, and for use in case of default.

**Department of Commerce
National Oceanic and Atmospheric Administration
Federal Ship Financing Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS**
(Dollar amounts in thousands)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
11 Personnel compensation					
11.1 Full-time permanent	0	0	0	0	0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	0	0	0	0	0
12.1 Civilian personnel benefits	0	0	0	0	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	0	0	0	0	0
22 Transportation of things	0	0	0	0	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental payments to others	0	0	0	0	0
23.3 Commun., util., misc. charges	0	0	0	0	0
24 Printing and reproduction	0	0	0	0	0
25.2 Other services from non-Federal sources	0	0	0	0	0
26 Supplies and materials	0	0	0	0	0
31 Equipment	0	0	0	0	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	0	0	0	0	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total Obligations	0	0	0	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Federal Ship Financing Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
 (Dollar amounts in thousands)

	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
Plus transfers to Treasury	0	0	0	0	0
Less unobligated balance, SOY	0	0	0	0	0
Plus unobligated balance, EOY	0	0	0	0	0
Less offsetting Collections	0	0	0	0	0
Total Budget Authority	0	0	0	0	0

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**Department of Commerce
National Oceanic and Atmospheric Administration
Environmental Improvement and Restoration Fund
SUMMARY OF RESOURCE REQUIREMENTS**
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
2023 Enacted	0	0	6,557	6,557
Less: Obligations from prior year balances	0	0	0	0
Less: 2024 Adjustments to Base	0	0	7,544	7,544
2024 Base	0	0	14,101	14,101
Plus: 2024 Program Changes	0	0	0	0
2024 Estimate	0	0	14,101	14,101

		2022 Actual Personnel Amount	2023 Enacted Personnel Amount	2024 Base Personnel Amount	2024 Estimate Personnel Amount	Increase/ Decrease from 2024 Base Personnel Amount
Environmental Improvement and Restoration Fund	Pos/BA	0	6,215	0	6,557	0
	FTE/OBL	0	6,215	0	6,557	0
Total: Environmental Improvement and Restoration Fund	Pos/BA	0	6,215	0	6,557	0
	FTE/OBL	0	6,215	0	6,557	0

Department of Commerce
National Oceanic and Atmospheric Administration
Environmental Improvement and Restoration Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	2022 Actual		2023 Enacted		2024 Base		2024 Estimate		Increase/Decrease from 2024 Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Mandatory Obligation	0	6,215	0	6,557	0	14,101	0	14,101	0	0
Total Obligations	0	6,215	0	6,557	0	14,101	0	14,101	0	0
Adjustments for:										
Unobligated balance, adj. SOY	0	0	0	0	0	0	0	0	0	0
Recoveries	0	0	0	0	0	0	0	0	0	0
Unobligated balance, adjusted	0	0	0	0	0	0	0	0	0	0
Unobligated balance, EOY	0	0	0	0	0	0	0	0	0	0
Total Budget Authority	0	6,215	0	6,557	0	14,101	0	14,101	0	0
Financing from Transfers and Other:										
Appropriation previously unavailable	0	0	0	0	0	0	0	0	0	0
Permanently Reduced	0	376	0	396	0	852	0	852	0	0
Net Mandatory Appropriation	0	6,591	0	6,953	0	14,953	0	14,953	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Environmental Improvement and Restoration Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Activity: Environmental Improvement and Restoration Fund

For FY 2024, NMFS estimates obligating \$14,101 in the Environmental Improvement and Restoration Fund.

Goal Statement

The Environmental Improvement and Restoration Fund (EIRF) was created by the Department of Interior and Related Agencies Appropriations Act of 1998 for the purpose of carrying out marine research activities in the North Pacific.

Base Program

These funds will provide grants to Federal, state, private, or foreign organizations or individuals to conduct research activities on or relating to the fisheries or marine ecosystems in the North Pacific Ocean, Bering Sea, and Arctic Ocean.

Statement of Operating Objectives

- Improve understanding of North Pacific marine ecosystem dynamics and use of the resources
- Improve ability to forecast and respond to effects of changes through integration of various research activities including long-term monitoring
- Improve ability to manage and protect fish and wildlife populations of the North Pacific

Explanation and Justification

Each year NOAA's EIRF account is financed with a transfer from the Department of the Interior. NOAA grants these funds to the North Pacific Research Board (NPRB), which conducts an open, competitive process for gathering research proposals. Through this process, the NPRB recommends research projects relating to fisheries or marine ecosystems in the North Pacific Ocean, Bering Sea, and Arctic Ocean, with emphasis on cooperative research designed to address pressing fishery management or marine ecosystem information needs.

Department of Commerce
National Oceanic and Atmospheric Administration
Environmental Improvement and Restoration Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
11 Personnel compensation					
11.1 Full-time permanent	0	0	0	0	0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	0	0	0	0	0
12.1 Civilian personnel benefits	0	0	0	0	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	0	0	0	0	0
22 Transportation of things	0	0	0	0	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental payments to others	0	0	0	0	0
23.3 Commun., util., misc. charges	0	0	0	0	0
24 Printing and reproduction	0	0	0	0	0
25.2 Other services from non-Federal sources	0	0	0	0	0
26 Supplies and materials	0	0	0	0	0
31 Equipment	0	0	0	0	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	6,215	6,557	14,101	14,101	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total Obligations	6,215	6,557	14,101	14,101	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Environmental Improvement and Restoration Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS**
(Dollar amounts in thousands)

	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
Less unobligated balance, SOY	0	0	0	0	0
Plus unobligated balance, adjusted	0	0	0	0	0
Less unobligated balance, transferred	0	0	0	0	0
Plus unobligated balance, EOY	0	0	0	0	0
Recoveries	0	0	0	0	0
Total Budget Authority	6,215	6,557	14,101	14,101	0

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Department of Commerce
National Oceanic and Atmospheric Administration
Limited Access System Administration Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
2023 Enacted	40	28	12,877	17,550
Plus: Adjustments to Base	0	0	558	(3,228)
Less: Obligations from Prior Year Balances	0	0	0	0
2024 Base	40	28	13,435	14,322
Plus: 2024 Program Changes	0	0	0	0
2024 Estimate	40	28	13,435	14,322

		2022 Actual Personnel Amount		2023 Enacted Personnel Amount		2024 Base Personnel Amount		2024 Estimate Personnel Amount		Increase/ Decrease from 2024 Base Personnel Amount	
Limited Access System	Pos/BA	40	11,399	40	12,877	40	13,435	40	13,435	0	0
Administration Fund	FTE/OBL	28	13,232	28	17,550	28	14,322	28	14,322	0	0
Total: Limited Access System	Pos/BA	40	11,399	40	12,877	40	13,435	40	13,435	0	0
Administration Fund	FTE/OBL	28	13,232	28	17,550	28	14,322	28	14,322	0	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Limited Access System Administration Fund
SUMMARY OF RESOURCE REQUIREMENTS**
(Dollar amounts in thousands)

	2022 Actual		2023 Enacted		2024 Base		2024 Estimate		Increase/ Decrease from 2024 Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Discretionary Obligation	28	13,232	28	17,550	28	14,322	28	14,322	0	0
Total Obligations	28	13,232	28	17,550	28	14,322	28	14,322	0	0
Adjustments for:										
Recoveries	0	(240)	0	0	0	0	0	0	0	0
Unobligated balance, adj. SOY	0	(20,539)	0	(18,946)	0	(14,273)	0	(14,273)	0	0
Unobligated balance, unapportioned	0	0	0	0	0	0	0	0	0	0
Unobligated balance, EOY	0	18,946	0	14,273	0	13,386	0	13,386	0	0
Total Budget Authority	28	11,399	28	12,877	28	13,435	28	13,435	0	0
Financing from Transfers and Other:										
Appropriations previously unavailable	0	(682)	0	(648)	0	(739)	0	(739)	0	0
Temporarily Reduced	0	648	0	739	0	767	0	767	0	0
Net Appropriation	28	11,365	28	12,968	28	13,463	28	13,463	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Limited Access System Administration Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Activity: Limited Access System Administration Fund

For FY 2024, NMFS estimates obligating \$14,322 in the Limited Access System Administration account.

Goal Statement

To provide for the collection of fees to recover the incremental costs of management, data collection, and enforcement of Limited Access Privilege (LAP) programs.

Base Program

Under the authority of Magnuson-Stevens Fishery Conservation and Management Act (MSA) Section 304(d)(2)(A) funds collected are deposited into the "Limited Access System Administrative Fund" (LASAF). Fees cannot exceed three percent of the ex-vessel value of fish harvested under any such program, and shall be collected at either the time of the landing, filing of a landing report, or sale of such fish during a fishing season or in the last quarter of the calendar year in which the fish is harvested.

Statement of Operating Objectives

- Provide repository for fees collected from Limited Access Programs
- Fund incremental costs of management, data collection and analysis, and enforcement of limited access privilege programs

Explanation and Justification

The LASAF is available, without appropriation or fiscal year limitation, only for the purposes of administering the central registry system; and administering and implementing the MSA in the fishery in which the fees were collected. Sums in the fund that are not currently needed for these purposes are kept on deposit or invested in obligations of, or guaranteed by, the United States. Also, in establishing a LAP program, a Regional Council can consider, and may provide, if appropriate, an auction system or other program to collect royalties for the initial or any subsequent distribution of allocations. If an auction system is developed, revenues from these royalties are deposited in the LASAF.

Department of Commerce
National Oceanic and Atmospheric Administration
Limited Access System Administration Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
11 Personnel compensation					
11.1 Full-time permanent	2,725	3,499	3,499	3,499	0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	242	242	242	242	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	2,967	3,741	3,741	3,741	0
12.1 Civilian personnel benefits	1,556	1,599	1,599	1,599	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	21	70	70	70	0
22 Transportation of things	6	17	17	17	0
23.1 Rental payments to GSA	300	300	300	300	0
23.2 Rental payments to others	2	2	2	2	0
23.3 Commun., util., misc. charges	46	46	46	46	0
24 Printing and reproduction	45	45	45	45	0
25.1 Advisory and assistance services	0	0	0	0	0
25.2 Other services from non-Federal sources	4,329	7,771	4,543	4,543	0
25.3 Other goods and services from Federal sources	0	0	0	0	0
26 Supplies and materials	12	16	16	16	0
31 Equipment	33	33	33	33	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	3,910	3,910	3,910	3,910	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total Obligations	13,232	17,550	14,322	14,322	0

Department of Commerce
National Oceanic and Atmospheric Administration
Limited Access System Administration Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
Recoveries	(240)	0	0	0	0
Less unobligated balance, SOY	(20,539)	(18,946)	(14,273)	(14,273)	0
Unobligated balance, unapportioned	0	0	0	0	0
Plus unobligated balance, EOY	18,946	14,273	13,386	13,386	0
Unobligated balance, rescission	0	0	0	0	0
Total Budget Authority	11,399	12,877	13,435	13,435	0

Personnel Data

Full-Time equivalent Employment:

Full-time permanent	28	28	28	28	0
Other than full time permanent	0	0	0	0	0
Total	28	28	28	28	0

Authorized Positions:

Full-time permanent	40	40	40	40	0
Other than full time permanent	0	0	0	0	0
Total	40	40	40	40	0

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Department of Commerce
National Oceanic and Atmospheric Administration
Marine Mammal Unusual Mortality Event Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
2023 Enacted	0	0	0	0
Plus: Adjustments to Base	0	0	0	34
2024 Base	0	0	0	0
Plus: 2024 Program Change	0	0	0	0
2024 Estimate	0	0	0	34

		2022 Actual Personnel Amount	2023 Enacted Personnel Amount	2024 Base Personnel Amount	2024 Estimate Personnel Amount	Increase/ Decrease from 2024 Base Personnel Amount
Marine Mammal Unusual Mortality Event Fund	Pos/BA	0	0	0	0	0
	FTE/OBL	0	0	0	34	0
Total: Marine Mammal Unusual Mortality Event Fund	Pos/BA	0	0	0	0	0
	FTE/OBL	0	0	0	34	0

Department of Commerce
National Oceanic and Atmospheric Administration
Marine Mammal Unusual Mortality Event Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	2022 Actual		2023 Enacted		2024 Base		2024 Estimate		Increase/Decrease from 2024 Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Discretionary Obligation	0	0	0	0	0	34	0	34	0	0
Total Obligations	0	0	0	0	0	34	0	34	0	0
Adjustments for:										
Recoveries	0	0	0	0	0	0	0	0	0	0
Collections	0	0	0	0	0	0	0	0	0	0
Unobligated balance, adj. SOY	0	(34)	0	(34)	0	(34)	0	(34)	0	0
Unobligated balance, unapportioned	0	0	0	0	0	0	0	0	0	0
Unobligated balance, EOY	0	34	0	34	0	0	0	0	0	0
Total Budget Authority	0	0	0	0	0	0	0	0	0	0
Financing from Transfers and Other:										
Appropriation previously unavailable	0	0	0	0	0	0	0	0	0	0
Net Appropriation	0	0	0	0	0	0	0	0	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Marine Mammal Unusual Mortality Event Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Activity: Marine Mammal Unusual Mortality Event Fund

For FY 2024, NMFS estimates obligating up to \$34 from the Marine Mammal Unusual Mortality Event Fund.

Provide funds to support investigations and responses to unusual marine mammal mortality events.

Base Program

An unusual mortality event (UME) is defined under the Marine Mammal Protection Act (MMPA) as “a stranding that is unexpected; involves a significant die-off of any marine mammal population; and demands immediate response.” In recent years, increased efforts to examine carcasses and live stranded animals have improved the knowledge of mortality rates and causes, allowing a better understanding of population threats and stressors and the ability to determine when a situation is “unusual.” Understanding and investigating marine mammal UMEs is important because they can serve as indicators of ocean health, giving insight into larger environmental issues, which may also have implications for human health.

Statement of Operating Objectives

MMPA Section 405 (16 U.S.C. 1421d) establishes the Marine Mammal Unusual Mortality Event Fund and describes its purposes and how donations can be made to the Fund. The Fund is an emergency response fund used to help cover expenses incurred by the volunteer Marine Mammal Stranding Network during a UME. Specifically, the fund: “shall be available only for use by the Secretary of Commerce, in consultation with the Secretary of the Interior: to compensate persons for special costs incurred in acting in accordance with the contingency plan issued under section 1421c(b) of this title or under the direction of an Onsite Coordinator for an unusual mortality event:

- for reimbursing any stranding network participant for costs incurred in preparing and transporting tissues collected with respect to an unusual mortality event for the Tissue Bank; and,
- for care and maintenance of marine mammal seized under section 1374(c)(2)(D) of this title.”

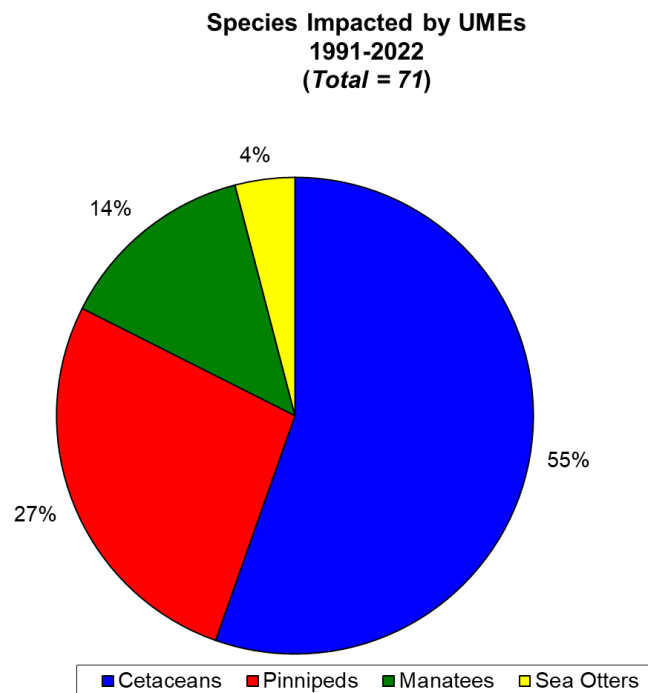
According to the MMPA, deposits can be made into Fund in the following ways:

- “amounts appropriated to the Fund;

**Department of Commerce
National Oceanic and Atmospheric Administration
Marine Mammal Unusual Mortality Event Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE**
(Dollar amounts in thousands)

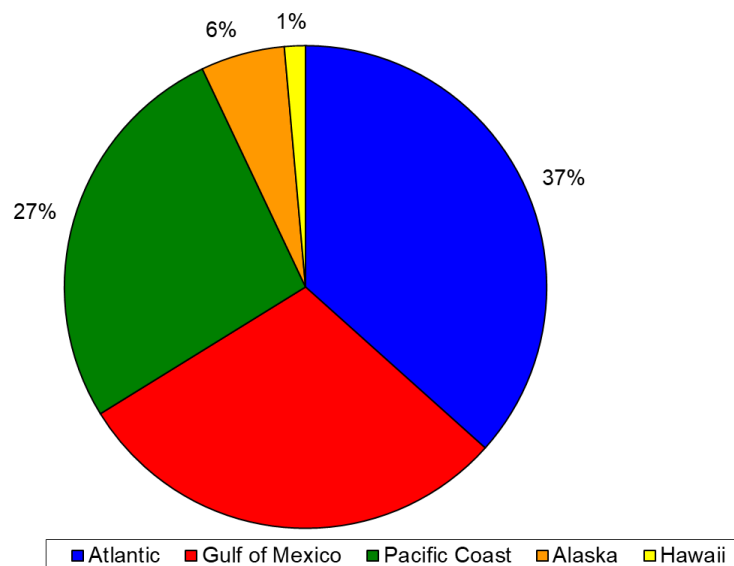
- other amounts appropriated to the Secretary for use with respect to unusual mortality events; and,
- amounts received by the United States in the form of gifts, devises, and bequests under subsection (d) of this section.”

NOAA will continue to utilize the UME Contingency Fund to support the Marine Mammal Stranding Network’s eligible work as needed.



Department of Commerce
National Oceanic and Atmospheric Administration
Marine Mammal Unusual Mortality Event Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE
 (Dollar amounts in thousands)

UMEs Per Geographic Area
1991-2022
(Total = 71)



Explanation and Justification

Since UMEs are unpredictable emergency events caused by any number of circumstances (natural or human-caused), it is impossible to anticipate how many UMEs may occur in a given year or how much funding will be needed. During the past 30 years (1991– 2022), NOAA declared 71 UMEs, an average of ~2.4 UMEs per year. The highest number of UMEs declared in a year was five (in both 2006 and 2007). The costs associated with UMEs are highly variable and depend on the species involved, location, equipment, and laboratory needs. For example, a UME involving large whales offshore can cost well over several \$100,000s in expenses because of the considerable logistical challenges and needs (e.g., ship time or aerial support, number of personnel, safety equipment, etc.)

Department of Commerce
National Oceanic and Atmospheric Administration
Marine Mammal Unusual Mortality Event Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

To date, Congress has appropriated funding for UMEs on one occasion in 2005. Some of those funds were transferred to the National Fish and Wildlife Foundation (NFWF) since they have the ability to quickly distribute funds within 30 days of invoicing to our partners during a UME. At this time there are sufficient funds held at NFWF to meet most of our expected expenses in FY 2023 and we do not anticipate obligating available funding from the Marine Mammal Unusual Mortality Event Fund in FY 2024. Additionally, the UME Contingency fund is listed on Pay.gov allowing the public to donate to the fund year round.

Department of Commerce
National Oceanic and Atmospheric Administration
Marine Mammal Unusual Mortality Event Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
11 Personnel compensation					
11.1 Full-time permanent	0	0	0	0	0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	0	0	0	0	0
12.1 Civilian personnel benefits	0	0	0	0	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	0	0	0	0	0
22 Transportation of things	0	0	0	0	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental payments to others	0	0	0	0	0
23.3 Commun., util., misc. charges	0	0	0	0	0
24 Printing and reproduction	0	0	0	0	0
25.2 Other services from non-federal sources	0	0	0	0	0
26 Supplies and materials	0	0	0	0	0
31 Equipment	0	0	0	0	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	0	0	34	34	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total Obligations	0	0	34	34	0

Department of Commerce
National Oceanic and Atmospheric Administration
Marine Mammal Unusual Mortality Event Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
 (Dollar amounts in thousands)

	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
Less prior year recoveries	0	0	0	0	0
Less unobligated balance, SOY	(34)	(34)	(34)	(34)	0
Plus unobligated balance, EOY	34	34	0	0	0
Less collections	0	0	0	0	0
Unobligated balance, unapportioned	0	0	0	0	0
Total Budget Authority	0	0	0	0	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Western Pacific Sustainable Fisheries Fund
SUMMARY OF RESOURCE REQUIREMENTS**
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
2023 Enacted	0	0	734	789
Adjustments to Base	0	0	16	(39)
2024 Base	0	0	750	750
Plus: 2024 Program Changes	0	0	0	0
2024 Estimate	0	0	750	750

		2022 Actual Personnel Amount	2023 Enacted Personnel Amount	2024 Base Personnel Amount	2024 Estimate Personnel Amount	Increase/Decrease from 2024 Base Personnel Amount
Western Pacific Sustainable Fisheries Fund	Pos/BA	0	482	0	734	0
	FTE/OBL	0	561	0	789	0
Total: Western Pacific Sustainable Fisheries Fund	Pos/BA	0	482	0	734	0
	FTE/OBL	0	561	0	789	0

Department of Commerce
National Oceanic and Atmospheric Administration
Western Pacific Sustainable Fisheries Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	2022 Actual		2023 Enacted		2024 Base		2024 Estimate		Increase/ Decrease from 2024 Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Discretionary Obligation	0	561	0	789	0	750	0	750	0	0
Total Obligations	0	561	0	789	0	750	0	750	0	0
Adjustments for:										
Recoveries	0	0	0	0	0	0	0	0	0	0
Unobligated balance, adj. SOY	0	(134)	0	(55)	0	0	0	0	0	0
Unobligated balance, unapportioned	0	0	0	0	0	0	0	0	0	0
Unobligated balance, EOY	0	55	0	0	0	0	0	0	0	0
Total Budget Authority	0	482	0	734	0	750	0	750	0	0
Financing from Transfers and Other:										
Appropriation previously unavailable	0	(34)	0	(27)	0	(43)	0	(43)	0	0
Temporarily Reduced	0	27	0	43	0	43	0	43	0	0
Net Appropriation	0	475	0	750	0	750	0	750	0	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Western Pacific Sustainable Fisheries Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE**
(Dollar amounts in thousands)

Activity: Western Pacific Sustainable Fisheries Fund

For FY 2024, NMFS estimates obligating \$750 in the Western Pacific Sustainable Fisheries Fund.

Goal Statement

The purpose of this fund is to allow foreign fishing within the U.S. Exclusive Economic Zone (EEZ) in the Western Pacific through a Pacific Insular Area Fishery Agreement.

Base Program

Section 204(e) of the 2006 amendments to the Magnuson-Stevens Fishery Conservation and Management Act (MSA) authorizes the establishment of the Western Pacific Sustainable Fisheries Fund. Before entering an Agreement, the Western Pacific Fishery Management Council must develop a Marine Conservation Plan that provides details on uses for any funds collected by the Secretary of Commerce. Marine Conservation Plans must also be developed by the Governors of the Territories of Guam and American Samoa and of the Commonwealth of the Northern Mariana Islands and approved by the Secretary or designee.

Statement of Operating Objectives

The conservation and management objectives for the Western Pacific Sustainable Fisheries Fund are listed in the four marine conservation plans:

- Hawaii and Pacific Insular Areas
- Guam
- American Samoa
- Commonwealth of the Northern Mariana Islands.

Department of Commerce
National Oceanic and Atmospheric Administration
Western Pacific Sustainable Fisheries Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Explanation and Justification

The Western Pacific Sustainable Fisheries Fund serves as a repository for any permit payments received by the Secretary for foreign fishing within the U.S. EEZ around Johnston Atoll, Kingman Reef, Palmyra Atoll, and Jarvis, Howland, Baker and Wake Islands, sometimes known as the Pacific remote island areas (PRIA). Funds are available to:

- The Western Pacific Council for the purpose of carrying out implementation of a marine conservation plan (see below for more info on marine conservation plans).
- The Secretary of State for mutually agreed upon travel expenses for no more than two Federal representatives incurred as a direct result of negotiations and entering into a Pacific Insular Area fishery agreement. These fishery agreements authorize foreign fishing within the exclusive economic zone adjacent to a Pacific Insular Area other than American Samoa, Guam, or the Northern Mariana Islands, at the request of the Western Pacific Council.
- The Western Pacific Council to meet conservation and management objectives in the State of Hawaii if monies remain in the Western Pacific Sustainable Fisheries Fund after the funding requirements of Section 204(e) subparagraphs (A) and (B) of the 2006 amendments to the MSA have been satisfied.

In the case of violations by foreign vessels occurring in these areas, amounts received by the Secretary attributable to fines and penalties are deposited into the fund to be used for fisheries enforcement and for implementation of a marine conservation plan. Additionally, any funds or contributions received in support of conservation and management objectives under a Marine Conservation Plan for any Pacific Insular Area other than American Samoa, Guam, or the Northern Mariana Islands are deposited in the fund.

Department of Commerce
National Oceanic and Atmospheric Administration
Western Pacific Sustainable Fisheries Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
11 Personnel compensation					
11.1 Full-time permanent	0	0	0	0	0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	0	0	0	0	0
12.1 Civilian personnel benefits	0	0	0	0	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	0	0	0	0	0
22 Transportation of things	0	0	0	0	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental payments to others	0	0	0	0	0
23.3 Commun., util., misc. charges	0	0	0	0	0
24 Printing and reproduction	0	0	0	0	0
25.2 Other services from non-Federal sources	0	0	0	0	0
26 Supplies and materials	0	0	0	0	0
31 Equipment	0	0	0	0	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	561	789	750	750	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total Obligations	561	789	750	750	0

Department of Commerce
National Oceanic and Atmospheric Administration
Western Pacific Sustainable Fisheries Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
 (Dollar amounts in thousands)

	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
Recoveries	0	0	0	0	0
Less unobligated balance, SOY	(134)	(55)	0	0	0
Plus unobligated balance, EOY	55	0	0	0	0
Unobligated balance, unapportioned	0	0	0	0	0
Total Budget Authority	482	734	750	750	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Enforcement Asset Forfeiture Fund
SUMMARY OF RESOURCE REQUIREMENTS**
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
2023 Enacted	0	0	2,132	3,500
Plus: Adjustments to Base			(14)	0
Less: Obligations from Prior Year Balances	0	0	0	0
2024 Base	0	0	2,118	3,500
Plus: 2024 Program				
Changes	0	0	0	0
2024 Estimate	0	0	2,118	3,500

		2022 Actual Personnel Amount		2023 Enacted Personnel Amount		2024 Base Personnel Amount		2024 Estimate Personnel Amount		Increase/ Decrease from 2024 Base Personnel Amount	
Fisheries Enforcement Asset Forfeiture Fund	Pos/BA	0	2,350	0	2,132	0	2,118	0	2,118	0	0
	FTE/OBL	0	3,292	0	3,500	0	3,500	0	3,500	0	0
Total: Fisheries Enforcement Asset Forfeiture Fund	Pos/BA	0	2,350	0	2,132	0	2,118	0	2,118	0	0
	FTE/OBL	0	3,292	0	3,500	0	3,500	0	3,500	0	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Enforcement Asset Forfeiture Fund
SUMMARY OF RESOURCE REQUIREMENTS**
(Dollar amounts in thousands)

	2022 Actual		2023 Enacted		2024 Base		2024 Estimate		Increase/ Decrease from 2024 Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Mandatory Obligation	0	3,292	0	3,500	0	3,500	0	3,500	0	0
Total Obligations	0	3,292	0	3,500	0	3,500	0	3,500	0	0
Adjustments for:										
Recoveries	0	0	0	0	0	0	0	0	0	0
Unobligated balance, adj. SOY	0	(7,466)	0	(6,524)	0	(5,156)	0	(5,156)	0	0
Unobligated balance, EOY	0	6,524	0	5,156	0	3,774	0	3,774	0	0
Total Budget Authority	0	2,350	0	2,132	0	2,118	0	2,118	0	0
Financing from Transfers and Other:										
Mandatory Appropriation										
Temporarily Reduced	0	135	0	121	0	121	0	121	0	0
Appropriations previously unavailable	0	(122)	0	(135)	0	(121)	0	(121)	0	0
Unobligated balance, Rescission	0	0	0	0	0	0	0	0	0	0
Net Appropriation	0	2,363	0	2,118	0	2,118	0	2,118	0	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Enforcement Asset Forfeiture Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE**
(Dollar amounts in thousands)

Activity: Fisheries Enforcement Asset Forfeiture Fund

For FY 2024, NMFS estimates it will collect \$2,118 in fines, penalties, and forfeitures proceeds.

Goal Statement

To pay certain enforcement-related expenses from fines, penalties, and forfeiture proceeds received for violations of the Magnuson-Stevens Fishery Conservation and Management Act (MSA), Marine Mammal Protection Act (MMPA), National Marine Sanctuaries Act, or any other marine resource law enforced by the Secretary.

Base Program

Pursuant to Section 311(e)(1) of the MSA, NOAA has established a Civil Monetary Penalty/Asset Forfeiture Fund (AFF) where these proceeds are deposited.

Statement of Operating Objectives

The objective of the AFF is to provide a repository for fines, penalties and forfeiture proceeds, which are only used to fund the authorized costs listed below.

Explanation and Justification

The proceeds held in the AFF may be used to offset in part the costs of administering the Enforcement program. Expenses funded through this source include: costs directly related to the storage, maintenance, and care of seized fish, vessels, or other property during a civil or criminal proceeding; expenditures related directly to specific investigations and enforcement proceedings such as travel for interviewing witnesses; enforcement-unique information technology infrastructure; and annual interagency agreement and contract costs for the administrative adjudication process, including Administrative Law Judges.

Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Enforcement Asset Forfeiture Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
11 Personnel compensation					
11.1 Full-time permanent	0	0	0	0	0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	0	0	0	0	0
12.1 Civilian personnel benefits	0	0	0	0	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	1,212	1,420	1,420	1,420	0
22 Transportation of things	0	0	0	0	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental payments to others	32	32	32	32	0
23.3 Commun., util., misc. charges	4	4	4	4	0
24 Printing and reproduction	0	0	0	0	0
25.1 Advisory and assistance services	0	0	0	0	0
25.2 Other services from non-Federal sources	974	974	974	974	0
25.3 Other goods and services from Federal sources	490	490	490	490	0
26 Supplies and materials	129	129	129	129	0
31 Equipment	185	185	185	185	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	266	266	266	266	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total Obligations	3,292	3,500	3,500	3,500	0

Department of Commerce
National Oceanic and Atmospheric Administration
Fisheries Enforcement Asset Forfeiture Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
 (Dollar amounts in thousands)

	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
Less unobligated balance, SOY	(7,466)	(6,524)	(5,156)	(5,156)	0
Recoveries	0	0	0	0	0
Plus unobligated balance, EOY	6,524	5,156	3,774	3,774	0
Total Budget Authority	2,350	2,132	2,118	2,118	0

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**Department of Commerce
National Oceanic and Atmospheric Administration
North Pacific Observer Fund
SUMMARY OF RESOURCE REQUIREMENTS**
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
2023 Enacted	0	0	4,451	6,060
Plus: Adjustments to Base	0	0	145	(1,464)
Less: Obligations from Prior Year Balances	0	0	0	0
2024 Base	0	0	4,596	4,596
Plus: 2024 Program	0	0	0	0
Changes	0	0	0	0
2024 Estimate	0	0	4,596	4,596

		2022 Actual Personnel Amount		2023 Enacted Personnel Amount		2024 Base Personnel Amount		2024 Estimate Personnel Amount		Increase/ Decrease from 2024 Base Personnel Amount	
North Pacific Observer Fund	Pos/BA	0	3,098	0	4,451	0	4,596	0	4,596	0	0
	FTE/OBL	0	1,660	0	6,060	0	4,596	0	4,596	0	0
Total: North Pacific Observer Fund	Pos/BA	0	3,098	0	4,451	0	4,596	0	4,596	0	0
	FTE/OBL	0	1,660	0	6,060	0	4,596	0	4,596	0	0

**Department of Commerce
National Oceanic and Atmospheric Administration
North Pacific Observer Fund
SUMMARY OF RESOURCE REQUIREMENTS**
(Dollar amounts in thousands)

	2022 Actual		2023 Enacted		2024 Base		2024 Estimate		Increase/ Decrease from 2024 Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Mandatory Obligation	0	1,660	0	6,060	0	4,596	0	4,596	0	0
Total Obligations	0	1,660	0	6,060	0	4,596	0	4,596	0	0
Adjustments for:										
Recoveries	0	0	0	0	0	0	0	0	0	0
Unobligated balance, SOY	0	(171)	0	(1,609)	0	0	0	0	0	0
Unobligated balance, EOY	0	1,609	0	0	0	0	0	0	0	0
Total Budget Authority	0	3,098	0	4,451	0	4,596	0	4,596	0	0
Financing from Transfers and Other:										
Appropriation previously unavailable	0	(140)	0	(179)	0	(258)	0	(258)	0	0
Temporarily Reduced	0	179	0	258	0	262	0	262	0	0
Net Appropriation	0	3,137	0	4,530	0	4,600	0	4,600	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
North Pacific Observer Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Activity: North Pacific Observer Fund

For FY 2024, NMFS estimates obligating \$4,596 for the North Pacific Observer Fund.

Goal Statement

To fund observer coverage on the vessels and processors in the partial coverage category within the North Pacific Groundfish Observer Program (NPGOP).

Base Program

On January 1, 2013, the restructured NPGOP went into effect and made important changes to how observers are deployed, how observer coverage is funded, and the vessels and processors that must have some or all of their operations observed.

Statement of Operating Objectives

- Collect catch data onboard fishing vessels and at onshore processing plants that is used for in-season management and scientific purposes such as stock assessments and ecosystem studies
- Ensure that the data collected by observers are of the highest quality possible by implementing rigorous quality control and quality assurance processes

Explanation and Justification

Coverage levels are no longer based on vessel length and processing volume; rather, NMFS now has the flexibility to decide when and where to deploy observers based on a scientifically defensible deployment plan. The new observer program places all vessels and processors in the groundfish and halibut fisheries off Alaska into one of two observer coverage categories: (1) full coverage category and (2) partial coverage. Vessels and processors in the full coverage category ($\geq 100\%$ observer coverage) will obtain observers by contracting directly with observer providers. Vessels and processors in the full observer coverage category are required to have at least one observer at all times. This will represent no change from the status quo for participants in the full coverage category. Vessels and processors in the partial coverage category ($< 100\%$ observer coverage) will no longer contract independently with an observer provider, and will be required to carry an observer when they are selected through the Observer Declare and

**Department of Commerce
National Oceanic and Atmospheric Administration
North Pacific Observer Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)**

Deploy System (ODDS). Additionally, landings from all vessels in the partial coverage category will be assessed a 1.25 percent fee on standard ex-vessel prices of the landed catch weight of groundfish and halibut. The fee percentage is set in regulation and will be reviewed periodically by the North Pacific Council after the second year of the program. The money generated by this fee will be used to pay for observer coverage on the vessels and processors in the partial coverage category in the following year. NMFS expects approximately \$4.0 million to be collected in fees from the FY 2022 season, to be used in FY 2023 for observer coverage.

Department of Commerce
National Oceanic and Atmospheric Administration
North Pacific Observer Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
11 Personnel compensation					
11.1 Full-time permanent	0	0	0	0	0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	0	0	0	0	0
12.1 Civilian personnel benefits	0	0	0	0	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	0	0	0	0	0
22 Transportation of things	0	0	0	0	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental payments to others	0	0	0	0	0
23.3 Commun., util., misc. charges	0	0	0	0	0
24 Printing and reproduction	0	0	0	0	0
25.2 Other goods and services from Federal sources	1,660	6,060	4,596	4,596	0
26 Supplies and materials	0	0	0	0	0
31 Equipment	0	0	0	0	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	0	0	0	0	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total Obligations	1,660	6,060	4,596	4,596	0

Department of Commerce
National Oceanic and Atmospheric Administration
North Pacific Observer Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
 (Dollar amounts in thousands)

	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
Recoveries	0	0	0	0	0
Less unobligated balance, SOY	(171)	(1,609)	0	0	0
Plus unobligated balance, EOY	1,609	0	0	0	0
Unobligated balance, rescission	0	0	0	0	0
Total Budget Authority	3,098	4,451	4,596	4,596	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Seafood Inspection Program Trust Revolving Fund
SUMMARY OF RESOURCE REQUIREMENTS**
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
2023 Enacted	125	100	0	19,500
Plus: Adjustments to Base	0	10	0	4,100
Less: Obligations from Prior Year Balances	0	0	0	0
2024 Base	125	110	0	23,300
Plus: 2024 Program				
Changes	0	0	0	0
2024 Estimate	125	110	0	23,300

		2022 Actual Personnel Amount		2023 Enacted Personnel Amount		2024 Base Personnel Amount		2024 Estimate Personnel Amount		Increase/ Decrease from 2024 Base Personnel Amount	
SIP Trust Revolving Fund	Pos/BA	0	0	125	0	125	0	125	0	0	0
	FTE/OBL	0	0	100	19,500	110	23,600	110	23,600	0	0
Total: SIP Trust Revolving Fund	Pos/BA	0	0	125	0	125	0	125	0	0	0
	FTE/OBL	0	0	100	19,500	110	23,600	110	23,600	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Seafood Inspection Program Trust Revolving Fund
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

	2022 Actual		2023 Enacted		2024 Base		2024 Estimate		Increase/ Decrease from 2024 Base	
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount
Direct Mandatory Obligation	0	0	100	19,500	110	23,600	110	23,600	0	0
Total Obligations	0	0	100	19,500	110	23,600	110	23,600	0	0
Offsetting collection from:										
Federal funds	0	0	0	0	0	0	0	0	0	0
Trust funds	0	0	(100)	(19,500)	(110)	(23,600)	(110)	(23,600)	0	0
Non-Federal sources	0	0	0	0	0	0	0	0	0	0
Adjustments for:										
Recoveries	0	0	0	0	0	0	0	0	0	0
Unobligated balance, SOY	0	0	0	0	0	0	0	0	0	0
Unobligated balance, EOY	0	0	0	0	0	0	0	0	0	0
Total Budget Authority	0	0	0	0	0	0	0	0	0	0
Financing from Transfers and Other:										
Appropriation previously unavailable	0	0	0	0	0	0	0	0	0	0
Temporarily Reduced	0	0	0	0	0	0	0	0	0	0
Net Appropriation	0	0	0	0	0	0	0	0	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Seafood Inspection Program Trust Revolving Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Activity: Seafood Inspection Program Trust Revolving Fund

For FY 2024, NMFS estimates obligating \$23,600 in receipts and fees assessed to users of the Seafood Inspection Program.

Goal Statement

To cover expenses related to the delivery of inspection, auditing, and certification services of the Seafood Inspection Program (SIP) from fees assessed to program participants.

Base Program

The SIP is a fee-for-service program within the National Marine Fisheries Service authorized under the Agricultural Marketing Act of 1946 (7 USC Section 1622(h)). It provides inspection and auditing services to domestic seafood processors and distributors in order to provide health and catch certification for export of fish and fishery products to foreign countries, ensure compliance with food safety regulations, evaluate product quality and grading, and evaluate facility and systems compliance. SIP provides services to companies that export seafood and supply military, school lunch, and other Federal programs as well as consumer markets.

Statement of Operating Objectives

The purpose of the trust revolving fund is to provide a repository to credit receipts and collections from fees assessed to users of the SIP which are used to cover the cost of services provided.

Explanation and Justification

NOAA is authorized to assess, collect, and retain fees under the program. Fees are set with the goal of full cost recovery and the receipts and collections credited to the trust revolving fund are used to offset the total cost of operating the program. Expenses funded through this source include salary and benefits, travel, operation and maintenance of core business applications, rent, utilities, supplies, transportation, shipping, equipment, contractual services, and administrative overhead.

Department of Commerce
National Oceanic and Atmospheric Administration
Seafood Inspection Program Trust Revolving Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
11 Personnel compensation					
11.1 Full-time permanent	0	11,417	14,144	14,144	0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	0	220	262	262	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	0	11,637	14,406	14,406	0
12.1 Civilian personnel benefits	0	3,702	4,692	4,692	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	0	689	839	839	0
22 Transportation of things	0	99	118	118	0
23.1 Rental payments to GSA	0	375	474	474	0
23.2 Rental payments to others	0	241	301	301	0
23.3 Commun., util., misc. charges	0	81	91	91	0
24 Printing and reproduction	0	0	0	0	0
25.2 Other goods and services from Federal sources	0	2,533	2,508	2,508	0
26 Supplies and materials	0	125	137	137	0
31 Equipment	0	3	6	6	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	0	0	0	0	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total Obligations	0	19,500	23,600	23,600	0

Department of Commerce
National Oceanic and Atmospheric Administration
Seafood Inspection Program Trust Revolving Fund
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase/ Decrease from 2024 Base
Offsetting collection from:					
Trust funds	0	(19,500)	(23,600)	(23,600)	0
Recoveries	0	0	0	0	0
Less unobligated balance, SOY	0	0	0	0	0
Plus unobligated balance, EOY	0	0	0	0	0
Unobligated balance, rescission	0	0	0	0	0
Total Budget Authority	0	0	0	0	0

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**Department of Commerce
National Oceanic and Atmospheric Administration
Office of Oceanic and Atmospheric Research
Budget Estimates, Fiscal Year 2024**

Executive Summary

For FY 2024, NOAA requests a total of \$786,275,000 and 796 FTE/ 885 positions for the Office of Oceanic and Atmospheric Research, a net decrease of \$5,688,000 and a net increase of 5 FTE/ 6 positions in program changes.

Oceanic and Atmospheric Research (OAR) is NOAA's central research Line Office charged with improving the understanding of changes in the Earth's environment. OAR integrates and conducts research across NOAA to advance NOAA's mission by providing better forecasts and improving understanding of the Earth and its processes. OAR conducts research on ocean acidification, aquaculture, severe weather, climate, and deep sea environments. OAR also develops technology that is transitioned into operations at other NOAA Line Offices or that improves the scope and efficiency of our observing systems. OAR also provides information to individuals, businesses, and communities to reduce vulnerability to extreme weather and climate, prepare for drought and water resource challenges, protect and preserve coasts and coastal infrastructure from inundation, and identify and manage risks to marine ecosystems and the services they provide.

OAR's Organizational Components:

OAR operates through a national network of laboratories, other university-based research institutes, and specialized programs. These centers of expertise collaborate across NOAA's weather, climate, and ocean research to apply an integrated approach to global and local scientific challenges. OAR consists of the following organizational components:

OAR Laboratories:

OAR has ten laboratories across the United States providing the research foundation for NOAA products and services that support decision making by policymakers and the public. These laboratories collaborate with numerous external partners, including NOAA-funded Cooperative Institutes at academic and scientific institutions.



Map displays the location of OAR's ten laboratories. There are four laboratories at the Earth System Research Laboratories location in Boulder, CO.

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OAR's labs include:

Air Resources Laboratory, College Park, Maryland

Air Resources Laboratory conducts research on atmospheric dispersion, atmospheric chemistry, climate composition, and the complex behavior of the atmosphere near the Earth's surface, providing weather forecasters' direct access to dispersion estimates of airborne hazardous materials to predict the transport of acid rain, volcanic ash, wildfires, air chemistry, mercury contamination, and radioactive material.

Atlantic Oceanographic and Meteorological Laboratory, Miami, Florida

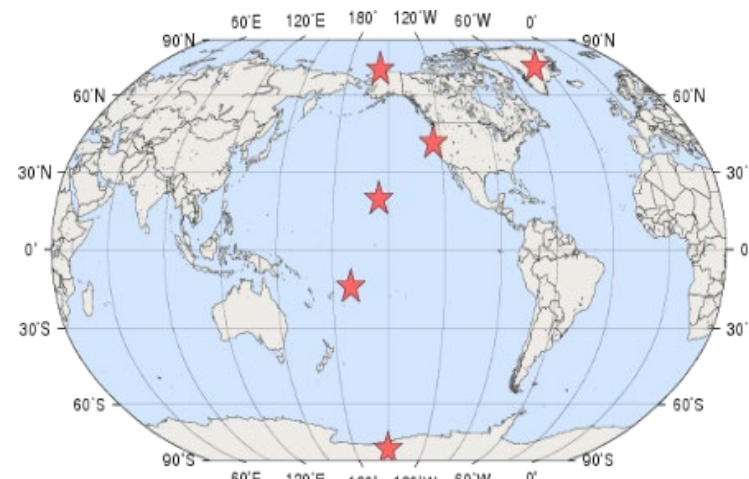
Atlantic Oceanographic and Meteorological Laboratory conducts research that protects coastal populations and ecosystems with more accurate forecasting of hurricanes, better understanding of the role of oceans in climate, and protection from environmental degradation.

Chemical Sciences Laboratory, Boulder, Colorado

One of four laboratories within Earth System Research Laboratories that pursue a broad and comprehensive understanding of the Earth system, including the atmosphere, ocean, and the climate system, Chemical Sciences Laboratory focuses on quantifying manmade and natural emissions, understanding processes that alter the atmosphere's composition and the distribution of pollutants, and offering information and practical applications to local decision makers and the public.

Global Monitoring Laboratory, Boulder, Colorado

One of four laboratories within Earth System Research Laboratories that pursue a broad and comprehensive understanding of the Earth system, including the atmosphere, ocean, and the climate system, Global Monitoring Laboratory sustains long-term observation of atmospheric compounds from over 100 sites around the world and identifies emerging trends in compound location and concentration. It also validates the NASA and NOAA satellite data of greenhouse gases, ozone, radiation, aerosols, and many other atmospheric compounds.



Among other observation networks, Global Monitoring Laboratory operates 6 Atmospheric Baseline Observatories, strategically located across the globe, that collect high quality, long-term atmospheric data used by more than 500 external partners and stakeholders.

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Global Systems Laboratory, Boulder, Colorado

One of four laboratories within Earth System Research Laboratories that pursue a broad and comprehensive understanding of the Earth system, including the atmosphere, ocean, and the climate system, Global Systems Laboratory improves weather and water by developing and integrating next-generation Earth system models at storm-to-global scales and advances new modeling.

Physical Sciences Laboratory, Boulder, Colorado

One of four laboratories within Earth System Research Laboratories that pursue a broad and comprehensive understanding of the Earth system, including the atmosphere, ocean, and the climate system, Physical Sciences Laboratory conducts physical science research that advances NOAA's abilities to observe, understand, and predict the physical behavior of the Earth system, improving forecasts and seasonal outlooks.

Geophysical Fluid Dynamics Laboratory, Princeton, New Jersey

Geophysical Fluid Dynamics Laboratory modeling research provides the foundation for our Nation's weather prediction, seasonal forecasting and ocean modeling.

Great Lakes Environmental Research Laboratory, Ann Arbor, Michigan

Great Lakes Environmental Research Laboratory develops information and tools for coastal decision makers managing 95 percent of our country's surface freshwater. Great Lakes Environmental Research Laboratory advances forecasts of environmental change in the Great Lakes through environmental observation, ecosystem process studies, and integrated modeling.

National Severe Storms Laboratory, Norman, Oklahoma

National Severe Storms Laboratory focuses on understating the causes of severe weather, such as tornadoes, flash floods, hail, damaging winds, and winter weather, in order to improve the lead time and accuracy of severe weather forecasts and warnings.

Pacific Marine Environmental Laboratory, Seattle, Washington

Pacific Marine Environmental Laboratory explores the complex physical and geochemical processes operating in the world's oceans, including the processes driving ocean circulation and the global climate system.

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NOAA Cooperative Institutes:

NOAA Cooperative Institutes (CIs) are long-term collaborations between NOAA and academic and scientific institutions dedicated to advancing oceanic and atmospheric research. CIs are co-located with one or more NOAA facilities to promote scientific exchange and technology transfer. Each CI is competitively selected to address a specific research theme within NOAA's mission, such as weather forecast improvement or ecosystem forecasting. These partnerships help maximize scientific breadth, quality, productivity, and return on investment. NOAA currently supports 16 CIs consisting of 80 universities and research institutions across 34 states, the District of Columbia, the U.S. Territories, and Canada.

NOAA's Cooperative Institutes and their host institution are:

- CI for Climate, Ocean and Ecosystem Studies, University of Washington
- CI for Earth System Research and Data Science, University of Colorado, Boulder
- CI for Great Lakes Research, University of Michigan
- CI for Marine and Atmospheric Research, University of Hawaii
- CI for Marine and Atmospheric Studies, University of Miami
- CI for Marine, Earth, and Atmospheric Systems, Scripps Institution of Oceanography, University of California, San Diego
- CI for Marine Ecosystem Resources Studies, Oregon State University
- CI for Meteorological Satellite Studies, University of Wisconsin
- CI for Modeling the Earth System, Princeton University
- CI for Research in the Atmosphere, Colorado State University
- CI for Research to Operations in Hydrology, University of Alabama
- CI for Satellite Earth System Studies, University of Maryland, College Park
- CI for Severe and High-Impact Weather Research and Operations, University of Oklahoma
- CI for the North Atlantic Region, Woods Hole Oceanographic Institution
- Northern Gulf Institute, Mississippi State University
- Ocean Exploration Cooperative Institute, University of Rhode Island

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OAR Programs:

OAR Programs manage competitive and noncompetitive awards for intramural and extramural research that focus on specific topics and emerging areas of research. They also foster collaboration across NOAA, with other agencies, and academic institutions.

OAR's programs include:

Climate Program Office

CPO supports activities that advance our understanding of Earth's climate system and helps communities apply this knowledge to mitigate risks and improve community resilience and preparedness throughout the Nation.

Global Ocean Monitoring and Observing Program

Global Ocean Monitoring and Observing Program provides long-term, high quality, global ocean observations and information products to researchers, forecasters, and other stakeholders to inform and prepare society for environmental challenges.

National Sea Grant College Program

The National Sea Grant College Program is a Federal-state partnership that focuses on maintaining resilient communities and economies, sustainable fisheries and aquaculture, healthy coastal ecosystems, and environmental literacy and workforce development.

Ocean Acidification Program

The Ocean Acidification Program aims to improve understanding of how ocean chemistry is changing, how variable that change is by region, and how ocean acidification affects marine life, people, and the economy.

Ocean Exploration and Research

Ocean Exploration and Research, the only Federal program dedicated to ocean exploration, leads efforts to explore and characterize deep-water areas of the U.S. and other poorly known ocean areas so the Nation can successfully manage its oceanic resources.

Weather Program Office

Weather Program Office improves predictions and warnings for the public and weather sensitive U.S. industries by facilitating cutting-edge research and transitioning this research to NWS operations.

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Significant Adjustments:

Inflationary Adjustments

NOAA's FY 2024 Base includes a net increase of \$9,825,000 and 0 FTE/ 0 positions to account for the full funding requirement for certain inflationary adjustments to current programs for OAR activities. This includes inflationary increases for labor and non-labor activities including benefits and rent charges from the General Services Administration.

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PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)**

		2022		2023		2024		2024		Increase/Decrease	
		Actual		Enacted		Base		Estimate		from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
OCEANIC AND ATMOSPHERIC RESEARCH (OAR)											
Climate Research	Pos/BA	292	210,199	302	224,150	302	227,572	303	231,343	1	3,771
	FTE/OBL	271	204,621	281	224,150	281	227,572	282	231,343	1	3,771
Weather & Air Chemistry Research	Pos/BA	303	206,753	313	166,416	313	169,341	317	168,630	4	(711)
	FTE/OBL	257	152,664	270	166,416	270	169,341	273	168,630	3	(711)
Ocean, Coastal, and Great Lakes Research	Pos/BA	239	252,206	240	251,500	240	254,722	240	255,281	0	559
	FTE/OBL	207	239,827	218	251,500	218	254,722	218	255,281	0	559
Innovative Research & Technology	Pos/BA	18	18,382	20	19,231	20	19,487	21	22,521	1	3,034
	FTE/OBL	14	17,797	18	19,231	18	19,487	19	22,521	1	3,034
NOAA Community Project Funding/	Pos/BA	0	19,079	0	20,841	0	20,841	0	0	0	(20,841)
NOAA Special Projects	FTE/OBL	0	19,079	0	20,841	0	20,841	0	0	0	(20,841)
TOTAL OAR - ORF	Pos/BA	852	706,619	875	682,138	875	691,963	881	677,775	6	(14,188)
	FTE/OBL	749	633,988	787	682,138	787	691,963	792	677,775	5	(14,188)
Systems Acquisition	Pos/BA	3	193,044	4	100,000	4	100,000	4	108,500	0	8,500
	FTE/OBL	2	74,723	4	100,000	4	100,000	4	108,500	0	8,500
TOTAL OAR - PAC	Pos/BA	3	193,044	4	100,000	4	100,000	4	108,500	0	8,500
	FTE/OBL	2	74,723	4	100,000	4	100,000	4	108,500	0	8,500
TOTAL OAR	Pos/BA	855	899,663	879	782,138	879	791,963	885	786,275	6	(5,688)
	FTE/OBL	751	708,711	791	782,138	791	791,963	796	786,275	5	(5,688)

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PROGRAM DECREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>
NOAA Community Project Funding/	Pos./BA	0	20,841	0	0	0	(20,841)
NOAA Special Projects	FTE/OBL	0	20,841	0	0	0	(20,841)

Terminate NOAA Community Project Funding/NOAA Special Projects (-\$20,841, 0 FTE/0 Positions) - This program change removes funding for one-time congressionally directed projects provided in the FY 2023 enacted bill.

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Activity: Climate Research

Goal Statement

The mission of the Climate Research in OAR is to monitor and understand Earth's climate system to predict potential changes in global climate, as well as understand and communicate to the public and decision-makers near-term, regional climate variations that are of societal and economic importance. The long-term observing, monitoring, research, and modeling capabilities performed in OAR's Climate Research provide the science that Americans need to understand how, where, and when Earth's conditions are changing.

Base Program

OAR's climate research laboratories, programs, and partners are key contributors to advancing understanding of Earth's climate system through interdisciplinary, integrated scientific research, and leveraging the resulting knowledge, data, and systems to enhance society's ability to plan and respond to climate variability and climate change. NOAA's Climate Program Office (CPO) network of partners, specialists, and principal investigators are working to integrate and transition research findings from CPO-sponsored research and development projects into applications designed to help communities and businesses build resilience to climate-related impacts and extreme events.

NOAA's competitive research programs fund climate science, assessments, decision support research, modeling improvements, and transition of research and capacity-building activities in four complementary and important areas:

- Observations and monitoring
- Process understanding and analysis
- Modeling, predictions, and projections
- Societal interactions and communications

The following three Subactivities are included in the Climate Research Portfolio:

- Climate Laboratories & Cooperative Institutes: OAR's Laboratories and Cooperative Institutes primarily support Earth System science research, modeling, and technology development and maintain long-term atmospheric observation networks and

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infrastructure, including a network of tall towers and the Atmospheric Baseline Observatories which collect data on the atmosphere's composition.

- Regional Climate Data & Information: OAR supports activities that improve resilience and preparedness throughout the Nation with research that advances our understanding of climate-related risks and vulnerabilities across sectors and regions and with the development of tools to enable more informed decision making.
- Climate Competitive Research: OAR funds high-priority climate science through a competitive selection process to advance understanding of the Earth's climate system and climate impacts on society.

NOAA's climate research activities are authorized under the *National Climate Program Act* (15 U.S.C. §§ 2901-2908), the *Global Change Research Act* (15 U.S.C. §§ 2921-2961), the *Weather Research and Forecasting Innovation Act* (15 U.S.C. § 8501), and the *National Integrated Drought Information System Reauthorization Act* (P.L. 115-423; 15 U.S.C. § 8511-8521).

Statement of Operating Objectives

Schedule and Milestones:

FY 2024 – FY 2028

Climate Laboratories and Cooperative Institutes

- Publish updates on Annual Greenhouse and Ozone Depleting Gas Indices
- Apply new Earth system modeling for tipping point prediction in global estuarine, coastal, and benthic ecosystems
- Deploy and maintain an array of 1,200 surface drifters
- Maintain and augment 38 moorings that measure carbon dioxide and ocean acidification
- Complete one to two cruises that will collect important ocean chemistry data while servicing moorings and collecting information on coastal and deep ocean currents
- Long term global records of greenhouse gases (GHG), stratospheric ozone, and aerosols
- Increase NOAA's global geographic predictive capacity for extreme events, and improve predictive capabilities over the contiguous U.S.
- Expand GHG network in spatial and temporal extent and resolution through enhancements in ground, tower, aircraft and balloon borne measurements within the U.S. continental and globally

Regional Climate Data & Information

- Improve drought indicators and indices in support of the Regional Drought Early Warning Information System
- Conduct climate training for tribal communities in the Southern U.S.

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- Lead and support the quadrennial National Climate Assessment and the Scientific Assessment of Ozone Depletion, under the Montreal Protocol on Substances that Deplete the Ozone Layer
- Test experimental drought indicators based on decision making needs in the National Integrated Drought Information System Pilot regions

Climate Competitive Research

- Expand Earth system data collection for cryospheric, boundary layer properties, hydrometeorological, and oceanic process studies
- Increase, from two to five, the cumulative number of science-based adaptation tools and technologies that are used by NOAA partners and stakeholders to improve ecosystem-based management of fisheries
- Improve understanding of key physical processes that are needed to advance precipitation prediction skill
- Conduct stakeholder engagements to match needs with current modeling capabilities and projections

Deliverables:

Climate Laboratories and Cooperative Institutes

- Long term global records of atmospheric compounds, up to 55 trace gases, stratospheric ozone, aerosols, and surface radiation
- Updated status of South Pole ozone hole

Regional Climate Data & Information

- Forty total interoperable drought systems accessible through the U.S. Drought Portal
- Increased skill and capacity among stakeholders in businesses and communities to build resilience to climate-related impacts
- Climate training workshops and reports directed to the needs of resource managers
- Develop regional networks of scientists and decision makers working together to co-generate tailored research and products focused on key climate risks for the region and the decision needs of vulnerable and underserved communities

Climate Competitive Research

- Supported projects—ranging from advancing the understanding and prediction of drought to building resilience in coastal communities—conducted by universities, other research institutions, and other Federal agencies

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Explanation and Justification

Line Item		2022 Actual		2023 Enacted		2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Climate Laboratories & Cooperative Institutes	Pos/BA	208	91,932	213	104,102	213	106,131
	FTE/OBL	194	91,541	201	104,102	201	106,131
Regional Climate Data & Information	Pos/BA	28	46,567	29	47,932	29	48,470
	FTE/OBL	31	45,240	29	47,932	29	48,470
Climate Competitive Research	Pos/BA	56	71,700	60	72,116	60	72,971
	FTE/OBL	46	67,840	51	72,116	51	72,971
Total Climate Research	Pos/BA	292	210,199	302	224,150	302	227,572
	FTE/OBL	271	204,621	281	224,150	281	227,572

In 2022, the United States experienced 18 weather/climate disaster events with losses exceeding \$1 billion each to affect the United States. These events included 1 drought event, 1 flooding events, 11 severe storm events, 3 tropical cyclone events, 1 wildfire event, and 1 winter storm event. Overall, these events resulted in the deaths of 474 people and had significant economic effects on the areas impacted. OAR science has been at the forefront of improving our understanding of the causes of extremes, characterizing the drivers of predictability of extremes, and improving the prediction of extremes across timescales. OAR scientists have worked to understand the drivers of tropical cyclone variability and change over time; how severe weather is modulated by climate phenomena such as the El Niño Southern Oscillation and Madden Julian Oscillation; how winter storms are responding to changes in the winter jet stream and water vapor in the atmosphere; how drought varies in response to remote and local climate influences; and how wildfires relate to meteorology, changes in the land surface, and drought. OAR’s scientists and funding programs have worked to advance not only the understanding of these events but also our ability to predict them farther in advance to mitigate impacts on lives and property, and monitor them to better describe their evolution and magnitude.

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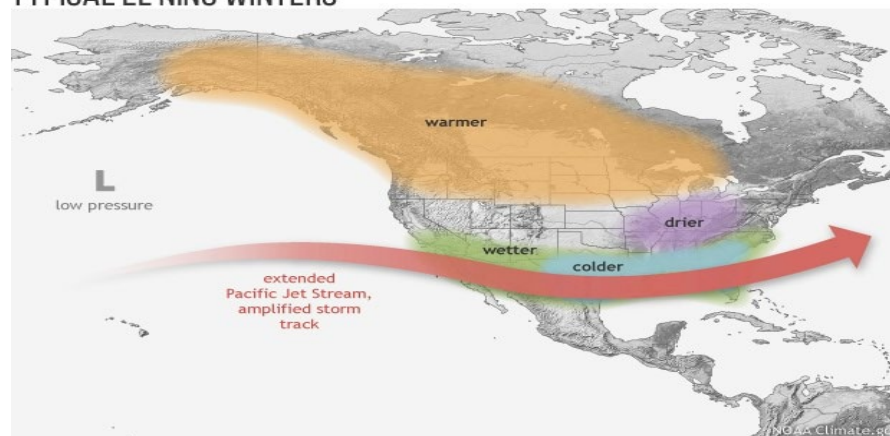
In broader context, the total cost of U.S. billion-dollar disasters over the last 5 years (2018-2022) is \$595.5 billion, with a 5-year annual cost average of \$119.1 billion. 2022 marks the eighth consecutive year (2015-22) in which 10 or more separate billion-dollar disaster events have impacted the U.S. The U.S. has sustained 341 weather and climate disasters since 1980 where overall damages/costs reached or exceeded \$1 billion (including CPI adjustment to 2022). The total cost of these 341 events exceeds \$2.475 trillion. The 1980–2022 annual average is 7.9 events (CPI-adjusted); the annual average for the most recent 5 years (2018–2022) is 17.8 events (CPI-adjusted). Climate change is also increasing the frequency and intensity of certain types of extreme weather that lead to billion-dollar disasters—most notably the rise in vulnerability to drought, lengthening wildfire seasons in the Western states, and the potential for extremely heavy rainfall becoming more common in the eastern states. Sea level rise is amplifying hurricane storm surge flooding. Given all these compounding hazard risks, there is an increased need to focus on where we build, how we build, and investing in infrastructure updates that are designed for a 21st century climate.¹

¹ NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2022). <https://www.ncdc.noaa.gov/billions/>, DOI: [10.25921/stkw-7w73](https://doi.org/10.25921/stkw-7w73)

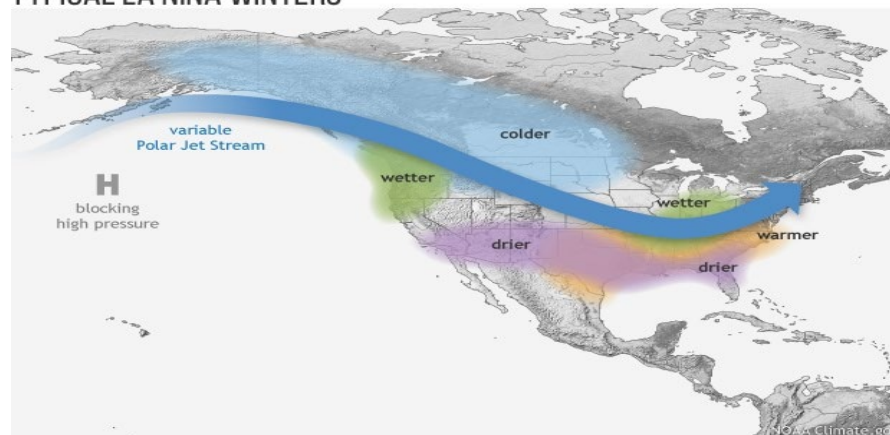
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Climate Research continues to sustain its investments and partnerships in global ocean observation and monitoring systems and participated in scientific field campaigns, like "Years of the Maritime Continent" — a 2-year joint research project to improve understanding and prediction of variability over the Indo-Pacific Ocean region, and how that influences weather patterns around the world. Climate Research has advanced use of autonomous robotic ocean profiling instruments such as Deep Argo and Saildrones. Ocean observations led to assessments of ocean acidification impacts to coral reefs and fisheries and to sea level change risks that improved coastal community preparedness. Climate Research-sponsored field campaigns also conducted research on impacts to air quality from urban emissions and wildfires, which can adversely impact human health and the nation's economy due to reduced productivity. In its continuing efforts to help bolster the nation's economy and meet stakeholders' need for science-based decision support, Climate Research enhanced its Regional Drought Early Warning Systems and expanded its online "Climate Explorer" tool, whereby decision makers can access maps and graphs of downscaled climate projections of decision-relevant variables for their county, like the annual numbers of days above or below critical temperature, precipitation, and high-tide flooding thresholds. Similar tools were developed to improve heat risk information and address other health impacts.

TYPICAL EL NIÑO WINTERS



TYPICAL LA NIÑA WINTERS



NOAA Climate Research

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(Dollar amounts in thousands)

OAR's Climate Research is collaborative and crosscutting and therefore is often funded through multiple Subactivities. Some cross-cutting themes include:

Global Observations

To better document and understand global processes, OAR provides an array of observational capabilities. For example, OAR's four Atmospheric Baseline Observatories have been collecting 250 measurements of atmospheric trends for over 50 years such that measurements conducted in the 1960s are exactly comparable to those made today and 100 years from now. These observations and supplemental measurements help identify trends and anomalies in the atmosphere, like radioactive dust releases and transport of mercury in the air from China to the U.S., and their impacts. With this information, decision-makers are better able to address global atmospheric challenges. For example, OAR's long-term and on-going measurements of ozone, ultraviolet radiation, and ozone-depleting compounds help policymakers identify successes and needs to repair the ozone layer. OAR also supports the Global Ocean Observing System including the drifting buoy network, Argo profiling floats, tropical moored arrays in the Atlantic, and ocean carbon networks, and continually researches new climate observing strategies.

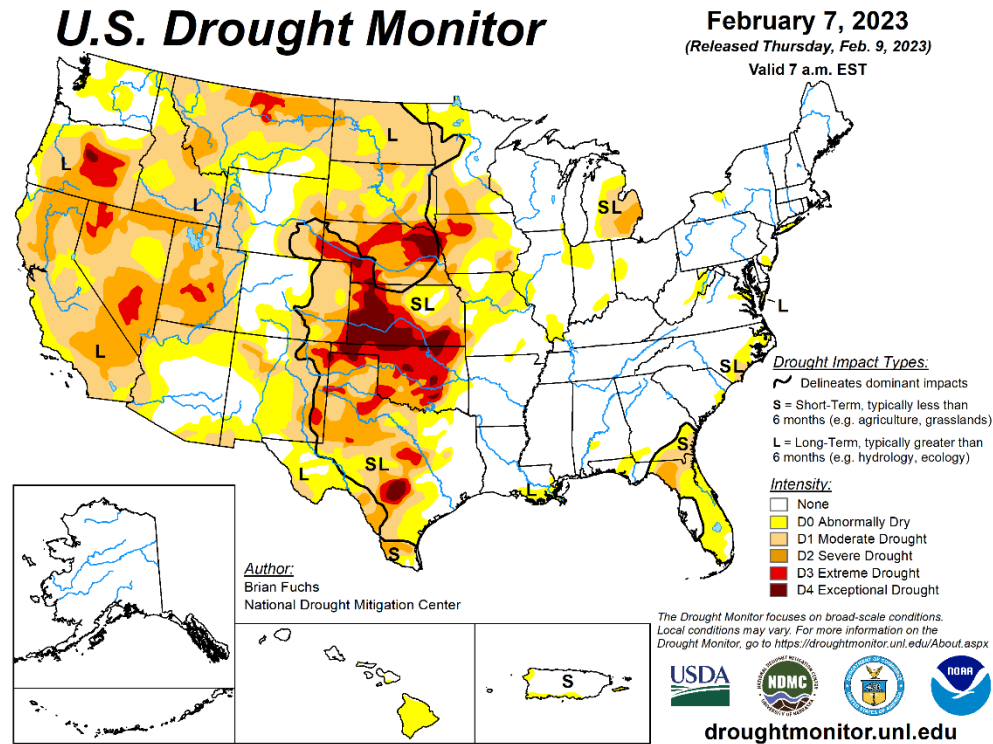
Predicting Future Change

OAR's Climate Research predicts future change to inform decision making. The Earth System comprises many physical, chemical and biological processes that need to be dynamically integrated to better predict their behavior over scales from local to global and periods of minutes to millennia. OAR research produces state-of-the-art models of the Earth System to better predict climate extremes and variability impacting the U.S., such as changes in the risk for heavy rainfall and snow events during an El Niño, frequency of high-impact weather events, and ocean dynamics like the Meridional Overturning Circulation.

Assessing Impacts

OAR Climate Research provides in-depth analysis of climate change impacts on the U.S. OAR assesses the multitude of ways climate change is already affecting and will increasingly affect the lives of Americans. For example, the National Climate Assessment details the changes various geographic regions and economic sectors are experiencing and can expect to experience in the future. Past assessments have included studies of how climate impacts tornadoes, sea level, and drought. This research is pointing to more effective ways to meet environmental management and policy goals while avoiding costly overregulation.

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The U.S. Drought Monitor (pictured above) is a weekly map based on measurements of climatic, hydrologic, and soil conditions as well as reported impacts and observations collected from more than 350 contributors around the U.S.

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Supporting Decisions

OAR Climate Research also delivers resources and tools to foster resilience and preparedness throughout the U.S. and abroad, across sectors and regions. In particular, the NOAA-led National Integrated Drought Information System, established by the *National Integrated Drought Information System Act of 2006* and amended in the *National Integrated Drought Information System Reauthorization Act of 2018*, provides accessible drought information for the Nation through improved drought monitoring and forecasting capabilities. The NOAA Climate.gov Portal provides easy public access to NOAA and its partners' climate data and information services. Climate.gov also hosts and supports the U.S. Climate Resilience Toolkit (toolkit.climate.gov). Additionally, the Climate Mapping for Resilience and Adaptation tool serves as a centralized hub of information to aid in planning and implementing climate resilience in Federally-funded projects and programs.

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PROGRAM INCREASE FOR 2024**
(Dollar amounts in thousands)

		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Climate Laboratories and Cooperative Institutes	Pos./BA	213	106,131	213	107,251	0	1,120
	FTE/Obl.	201	106,131	201	107,251	0	1,120

Sustained Atmospheric Observations Increase (+\$1,120, 0 FTE/ 0 Positions) – This request proposes an increase to support and enhance NOAA’s atmospheric observing systems.

This increase will enhance NOAA’s capabilities for greenhouse gas monitoring by: 1) developing an evaluation of GHG emissions and changes in emissions at various scales; and 2) providing a more robust understanding of the allowable cumulative GHG emissions to limit global warming at different future levels by taking into account likely changes in natural GHG sinks, sources in the ocean, land, and atmosphere. NOAA will coordinate with other Federal partners to conduct GHG measurement and modeling and competitively utilize and incorporate expertise from the extramural research community to help quantify actual emissions, and assess carbon-climate feedbacks and the magnitude of permissible emissions to support the U.S. government in implementing its commitments towards mitigation of climate change.

Schedule and Milestones:

FY 2024 - FY 2028

- Enhance regional GHG observing systems with more sites, more samples per site, and higher temporal resolution to better enable regional to continental monitoring of emissions across the U.S. (FY 2024)
- Enhance global GHG observing system to reinvigorate baseline Global Greenhouse Gas Reference Network and fill observational gaps in the tropics, Arctic, and oceans (FY 2024)
- Build out a transformative measurement network to enhance network detectability by using commercial aircraft, fossil fuel tracers, boundary layer supersites for model and satellite evaluation and process understanding (FY 2024-2028)

Deliverables:

FY 2024 - FY 2028

- Expand GHG network in spatial and temporal extent and resolution through enhancements in ground, tower, aircraft and balloon borne measurements within the U.S. continental and globally

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(Dollar amounts in thousands)

- Reduce GHG measurement cost, footprint and manpower while preserving accuracy and precision to operationalize GHG measurements on multiple platforms
- Improve process understanding leading to reduced uncertainties in estimates of natural and manmade emissions through multi-tracer studies using atmospheric data

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Performance Measures	2024	2025	2026	2027	2028
Annual number of measurement days with aircraft and at ground-based and tall-tower sites distributed across the continental U.S. and globe					
With Increase	8,000	9,000	10,000	11,000	12,500
Without Increase	7,200	7,000	6,800	6,500	6,200
Number of studies detailing trends and variability in natural GHG sources and sinks to be considered in reassessing target emissions initiatives					
With Increase	1	2	3	3	3
Without Increase	0	0	0	0	0
Outyear Costs:					
Direct Obligations	1,120	1,120	1,120	1,120	1,120
Capitalized	663	663	663	663	663
Uncapitalized	457	457	457	457	457
Budget Authority	1,120	1,120	1,120	1,120	1,120
Outlays	694	694	694	694	694
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Climate Research
Subactivity: Climate Laboratories and Cooperative Institutes

Object Class		2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1	Full-time permanent compensation	22,756	23,803	25,041	25,041	0
11.3	Other than full-time permanent	586	586	586	586	0
11.5	Other personnel compensation	426	426	426	426	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	23,768	24,815	26,053	26,053	0
12	Civilian personnel benefits	8,564	8,958	9,424	9,424	0
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	705	705	705	705	0
22	Transportation of things	682	682	682	682	0
23	Rent, communications, and utilities	0	0	0	0	0
23.1	Rental payments to GSA	0	0	0	0	0
23.2	Rental Payments to others	0	0	0	44	44
23.3	Communications, utilities and misc charges	0	0	0	0	0
24	Printing and reproduction	104	104	104	105	1
25.1	Advisory and assistance services	302	302	302	302	0
25.2	Other services from non-Federal sources	15,954	20,402	20,532	20,637	105
25.3	Other goods and services from Federal sources	3,189	3,189	3,189	3,189	0
25.4	Operation and maintenance of facilities	0	0	0	0	0
25.5	Research and development contracts	0	0	0	116	116
25.6	Medical care	0	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0	0
26	Supplies and materials	4,035	4,035	4,035	4,102	67
31	Equipment	1,571	1,571	1,571	2,013	442
32	Lands and structures	925	925	925	925	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	31,740	38,412	38,607	38,952	345
42	Insurance claims and indemnities	0	0	0	0	0
43	Interest and dividends	2	2	2	2	0
44	Refunds	0	0	0	0	0
99	Total obligations	91,541	104,102	106,131	107,251	1,120

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Operations, Research, and Facilities
PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Regional Climate Data & Information	Pos./BA	29	48,470	30	51,976	1	3,506
	FTE/Obl.	29	48,470	30	51,976	1	3,506

Enhancing Regional and Community Resilience by Scaling Up Climate Adaptation Partnerships (CAP) Program (+\$3,506.1 FTE/ 1 Position) – This request proposes an increase to work with regions and communities towards lasting and equitable climate adaptation capacities and solutions. The proposal builds on and extends the proven capabilities of the CAP program (formally known as Regional Integrated Sciences and Assessments, or RISA) to advance adaptation measures and resilience planning at regional and local scales, while prioritizing environmental justice.

Through this initiative, NOAA will expand the CAP program, while providing more robust support for those regions already benefiting from a CAP team. The CAP program will add one additional regional teams, while supporting more in-depth research into key climate risks and adaptation approaches. This initiative will focus on the complexity of climate impacts, generating deeper understanding of the connections between social structures and stressors and the distributions of risk across climatic events. CAP teams and projects engage with communities and decision-makers over time to co-identify and co-produce regionally relevant climate and adaptation research and generate innovative solutions that support future wellbeing across the nation. NOAA will coordinate closely with non-Federal partners and other Federal agencies, including the Departments of the Interior and Agriculture, to ensure its efforts are not duplicative and are appropriately targeted and scaled.

Schedule and Milestones:

FY 2024

- Initiate process for the expansion of one additional CAP region and support CAP network activities that connect regions to help accelerate adaptation around national priorities

FY 2025 - FY2028

- Expand to add one additional CAP region and continue to support CAP network activities that connect regions to help accelerate adaptation around national priorities

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Deliverables

- Develop regional networks of scientists, decision makers, and practitioners working together to co-generate tailored research and products, including regional climate and risk assessments, focused on key climate risks for the region (e.g., coastal inundation, extreme heat, water resource stress, etc.) and the decision needs of vulnerable and underserved communities
- Establish new partnerships for existing and new teams by the end of FY24 so communities will have a foundation for engagement in FY25 and beyond.
- Develop new knowledge for and in collaboration with communities and practitioners to adapt more effectively to climate change and extreme events

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(Dollar amounts in thousands)**

Performance Measures	2024	2025	2026	2027	2028
<hr/>					
Cumulative number of CAP teams to provide comprehensive, nationwide research, partnerships and services to stakeholders.					
With Increase	12	13	13	13	13
Without Increase	12	12	12	12	12
Outyear Costs:					
Direct Obligations	3,506	3,506	3,506	3,506	3,506
Capitalized	150	150	150	150	150
Uncapitalized	3,356	3,356	3,356	3,356	3,356
Budget Authority	3,506	3,506	3,506	3,506	3,506
Outlays	2,174	2,174	2,174	2,174	2,174
FTE	1	1	1	1	1
Positions	1	1	1	1	1

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE PERSONNEL DETAIL**

Activity: Climate Research
 Subactivity: Regional Climate Data and Information
 Program Change: Enhancing Regional and Community Resilience by Scaling Up Climate Adaptation Partnership (CAP) Program

<u>Title</u>	<u>Grade</u>	<u>Number</u>	<u>Annual Salary</u>	<u>Total Salaries</u>
Program Manager	ZP-III	1	78,592	\$78,592
Total		<u>1</u>		<u>78,592</u>
Less lapse	25.00%	<u>(0)</u>		<u>(19,648)</u>
Total full-time permanent (FTE)		1		58,944
2023 Pay Adjustment (5.2%)				<u>3,065</u>
				62,009
<u>Personnel Data Summary</u>				
Full-time Equivalent Employment (FTE)				
Full-time permanent		<u>1</u>		
Total FTE		1		
Authorized Positions:				
Full-time permanent		<u>1</u>		
Total Positions		1		

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Climate Research
Subactivity: Regional Climate Data and Information

Object Class		2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1	Full-time permanent compensation	3,056	3,197	3,363	3,425	62
11.3	Other than full-time permanent	32	32	32	32	0
11.5	Other personnel compensation	2	2	2	2	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	3,090	3,231	3,397	3,459	62
12	Civilian personnel benefits	1,149	1,202	1,265	1,284	19
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	68	68	68	68	0
22	Transportation of things	69	69	69	69	0
23	Rent, communications, and utilities	0	0	0	0	0
23.1	Rental payments to GSA	195	195	195	195	0
23.2	Rental Payments to others	0	0	0	0	0
23.3	Communications, utilities and misc charges	82	82	82	82	0
24	Printing and reproduction	10	10	10	10	0
25.1	Advisory and assistance services	3,526	3,526	3,526	3,526	0
25.2	Other services from non-Federal sources	3,820	4,819	4,943	4,943	0
25.3	Other goods and services from Federal sources	1,035	1,035	1,035	1,035	0
25.4	Operation and maintenance of facilities	0	0	0	0	0
25.5	Research and development contracts	0	0	0	150	150
25.6	Medical care	0	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0	0
26	Supplies and materials	352	352	352	352	0
31	Equipment	162	162	162	162	0
32	Lands and structures	0	0	0	0	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	31,682	33,181	33,366	36,641	3,275
42	Insurance claims and indemnities	0	0	0	0	0
43	Interest and dividends	0	0	0	0	0
44	Refunds	0	0	0	0	0
99	Total obligations	45,240	47,932	48,470	51,976	3,506

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Operations, Research, and Facilities
PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Climate Competitive Research	Pos./BA	60	72,971	60	75,116	0	2,145
	FTE/Obl.	51	72,971	51	75,116	0	2,145

Precipitation Prediction Grand Challenge Increase (+\$2,145, 0 FTE/ 0 Position) – This request proposes an increase to enhance the skill of precipitation predictions across weather and climate timescales in a research environment and for potential transition to operations.

Through this initiative, NOAA will improve understanding of key physical processes operating in the atmosphere and on land, especially over complex terrain, identify ways to improve model representations of these processes, and reduce the systematic biases in NOAA models, which will lead to the demonstration of improved precipitation forecast skill. This initiative will focus on key research areas, including conducting process studies and global modeling experiments targeting key model deficiencies that limit precipitation prediction skill. Research efforts will improve NOAA’s predictive capability of OAR’s Earth System Model and the research version of the Unified Forecast System especially for precipitation excesses and deficiency. NOAA will also support data set development, model evaluation, and testing of data assimilation systems. This will better integrate observations and allow modeling communities to evaluate and reduce model biases and improve precipitation skill. NOAA will engage Laboratories, Centers, and Cooperative Institutes across NOAA, as well as private and academic research communities through competitive grants and in partnership with other U.S. Federal agencies in the U.S. Global Change Research Program and the international research community.

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(Dollar amounts in thousands)

Schedule and Milestones:

FY 2024

- Engage NOAA Laboratories, Centers, Cooperative Institutes and the private and academic research communities, and partner with Federal agencies in the U.S. Global Change Research Program and the international research community, on the development of research efforts including process studies, dataset evaluation and improvements, and global modeling experiments
- Provide grants and other assistance to improve understanding of key physical processes operating in the atmosphere and on land, identify ways to improve model representations of these processes, and reduce the systematic biases in NOAA models

FY 2025 - FY 2028

- Continue support for multiple-year research projects to address key processes that are needed to advance precipitation skill (FY 2024 - 2028)
- Work with the broad national and international community to implement multi-disciplinary, multi-agency process studies targeting key deficiencies in forecast systems that limit precipitation prediction skill (FY 2025)

Deliverables:

- Deliver research efforts to improve NOAA's predictive capability of OAR's Earth System Model and the research version of the Unified Forecast System (FY 2025)
- Conduct collaborative research projects with partners and document the individual project final reports of the results, with data archived at open archives such as NOAA's National Centers for Environmental Information (FY 2026)
- Develop coherent, testable hypotheses for major precipitation systematic errors in partnership with the U.S. and international communities, and fund research projects to test these hypotheses and to explore productive algorithmic changes to address them (FY 2027)
- Support projects that synthesize existing field observations for more effective applications to prediction model development and improvement (FY 2027)

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Operations, Research, and Facilities
PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)**

Performance Measures	2024	2025	2026	2027	2028
<hr/>					
Cumulative reduction of the bias in U.S. seasonal precipitation simulations in OAR Earth System models by margins that are statistically significant					
With Increase	1%	3%	4%	5%	6%
Without Increase	1%	2%	3%	4%	5%
Cumulative number of research studies on key land/atmosphere processes that advance precipitation skill and the uptake of the results from those studies into precipitation models					
With Increase	6	7	9	11	15
Without Increase	3	5	7	9	13
Outyear Costs:					
Direct Obligations	2,145	2,145	2,145	2,145	2,145
Capitalized	0	0	0	0	0
Uncapitalized	2,145	2,145	2,145	2,145	2,145
Budget Authority	2,145	2,145	2,145	2,145	2,145
Outlays	1,330	1,330	1,330	1,330	1,330
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Climate Research
Subactivity: Climate Competitive Research

Object Class		2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1	Full-time permanent compensation	4,697	4,913	5,168	5,168	0
11.3	Other than full-time permanent	328	328	328	328	0
11.5	Other personnel compensation	37	37	37	37	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	5,062	5,278	5,533	5,533	0
12	Civilian personnel benefits	1,811	1,894	1,992	1,992	0
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	198	198	198	198	0
22	Transportation of things	69	69	69	69	0
23	Rent, communications, and utilities	0	0	0	0	0
23.1	Rental payments to GSA	836	836	836	836	0
23.2	Rental Payments to others	354	354	354	354	0
23.3	Communications, utilities and misc charges	950	950	950	950	0
24	Printing and reproduction	57	57	57	57	0
25.1	Advisory and assistance services	3,146	3,146	3,146	3,146	0
25.2	Other services from non-Federal sources	6,395	7,986	8,187	8,187	0
25.3	Other goods and services from Federal sources	504	504	504	504	0
25.4	Operation and maintenance of facilities	0	0	0	0	0
25.5	Research and development contracts	45	45	45	45	0
25.6	Medical care	0	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0	0
26	Supplies and materials	1,035	1,035	1,035	1,035	0
31	Equipment	1,051	1,051	1,051	1,051	0
32	Lands and structures	164	164	164	164	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	46,162	48,548	48,849	50,994	2,145
42	Insurance claims and indemnities	0	0	0	0	0
43	Interest and dividends	1	1	1	1	0
44	Refunds	0	0	0	0	0
99	Total obligations	67,840	72,116	72,971	75,116	2,145

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM DECREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Climate Competitive Research	Pos./BA	60	72,971	60	69,971	0	(3,000)
	FTE/Obl.	51	72,971	51	69,971	0	(3,000)

Water in the West (-\$3,000, 0 FTE/ 0 Positions) – This request decreases congressionally directed funding received in the FY 2023 appropriations for the Cooperative Institute for Research to Operations in Hydrology for the Water in the West Initiative. This work includes funding for modeling of snow and hydrologic processes in complex, mountainous terrain (sublimation, melting, refreezing, redistribution), hydroclimate prediction services to strengthen co-management of atmospheric river and drought risk, and research to applications work to accelerate co-production and application of hydroclimate products and services.

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(Dollar amounts in thousands)

	2024	2025	2026	2027	2028
Outyear Costs:					
Direct Obligations	(3,000)	(3,000)	(3,000)	(3,000)	(3,000)
Capitalized	0	0	0	0	0
Uncapitalized	(3,000)	(3,000)	(3,000)	(3,000)	(3,000)
Budget Authority	(3,000)	(3,000)	(3,000)	(3,000)	(3,000)
Outlays	(1,860)	(1,860)	(1,860)	(1,860)	(1,860)
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Climate Research
Subactivity: Climate Competitive Research

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1 Full-time permanent compensation	4,697	4,913	5,168	5,168	0
11.3 Other than full-time permanent	328	328	328	328	0
11.5 Other personnel compensation	37	37	37	37	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	5,062	5,278	5,533	5,533	0
12 Civilian personnel benefits	1,811	1,894	1,992	1,992	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	198	198	198	198	0
22 Transportation of things	69	69	69	69	0
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	836	836	836	836	0
23.2 Rental Payments to others	354	354	354	354	0
23.3 Communications, utilities and misc charges	950	950	950	950	0
24 Printing and reproduction	57	57	57	57	0
25.1 Advisory and assistance services	3,146	3,146	3,146	3,146	0
25.2 Other services from non-Federal sources	6,395	7,986	8,187	8,187	0
25.3 Other goods and services from Federal sources	504	504	504	504	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	45	45	45	45	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	1,035	1,035	1,035	1,035	0
31 Equipment	1,051	1,051	1,051	1,051	0
32 Lands and structures	164	164	164	164	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	46,162	48,548	48,849	45,849	(3,000)
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	1	1	1	1	0
44 Refunds	0	0	0	0	0
99 Total obligations	67,840	72,116	72,971	69,971	(3,000)

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JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Activity: Weather and Air Chemistry Research

Goal Statement

Weather & Air Chemistry Research continually improves capabilities to provide more accurate and timely warnings and forecasts of various high-impact weather, water, and air quality events by prioritizing improvements in weather data observation, modeling, computing, forecasting, and warnings for the protection of life and property, for the enhancement of the national economy.

Base Program

OAR's weather research laboratories, programs, and partners are key contributors to advancing the NWS prediction capabilities. NOAA also focuses resources on better understanding and providing information on seasonal (3 months to 2 years) and sub-seasonal (2 weeks to 3 months) outlooks for farmers, fishermen, emergency responders, other industry workers, and the American people regarding what to expect in two weeks, next month, or next season. In addition, scientists working within OAR's Weather & Air Chemistry Research study atmospheric chemistry to accurately characterize atmospheric composition and predict meteorological processes to more effectively understand their role in severe weather.

The following two Subactivities are included in Weather & Air Chemistry Research:

- Weather Laboratories & Cooperative Institutes: OAR's Laboratories & Cooperative Institutes primarily support weather forecasting improvement and air chemistry research, modeling, and technology development.
- Weather & Air Quality Research Programs: Primarily encourages cooperation with external experts in weather and air chemistry research by improving predictions and warnings for the public and weather sensitive U.S. industries with cutting-edge research, analysis techniques, and observing platforms.

NOAA's weather research activities are authorized under the *Weather Service Modernization Act* (Title VII, 15 U.S.C. § 313 note, §§ 701-709), the *National Oceanic and Atmospheric Administration Authorization Act* (Title I, § 108, 15 U.S.C. § 313 note), the *Weather Research and Forecasting Innovation Act* (15 U.S.C. § 8501), and the *National Integrated Drought Information System (NIDIS) Reauthorization Act* (P.L. 115-423; 15 U.S.C. § 8511-8521).

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(Dollar amounts in thousands)

Statement of Operating Objectives

Schedule and Milestones:

FY 2024 - FY 2028

Weather Laboratories & Cooperative Institutes

- High-quality hurricane observations from airborne experiments for use in hurricane regional model data assimilation and evaluation

Weather & Air Chemistry Research Programs

- Advance radar capabilities to better estimate precipitation in the cool season using dual polarization techniques in operational radar's Multi Radar Multi Sensor
- Complete annual competitive grant process to select U.S. Weather Research Program-funded and demonstration projects
- Evaluate Advanced Technology Demonstrator as a proof-of-concept for phased array radar
- Review industry proposals for phased array radar pre-production contract award, provided that NOAA accepts phased array radar as its solution for its future radar system
- Test/evaluation of dual-polarization panel characteristics and performance on phased array radar systems including the Advanced Technology Demonstrator
- Improved tornado warning decision performance evaluated and quantified in collaboration with NWS forecasters within the Hazardous Weather Testbed
- Prepare internal report on responses from Rotating Planar Phased Array Radar Request for Information to inform Request for Proposals
- Prepare solicitation documents for Rotating Planar Phased Array Radar system

Deliverables:

Weather Laboratories & Cooperative Institutes

- Tsunami observation, mitigation, and forecast tools
- Probabilistic products incorporated into flash flood forecasting system
- A total of 100,000 stations feeding observations data to the Meteorological Assimilation Data Ingest System
- Improved skill and reliability of flood and water supply forecasts

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(Dollar amounts in thousands)

Weather & Air Chemistry Research Programs

- Prototype phased array radar products available for transfer into NOAA operations

Line Item		<u>Explanation and Justification</u>					
		2022		2023		2024	
		Actual		Enacted		Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Weather Laboratories & Cooperative Institutes	Pos/BA	283	128,330	283	93,156	283	95,367
	FTE/OBL	233	94,393	243	93,156	243	95,367
U.S. Weather Research Program	Pos/BA	12	49,453	20	39,100	20	39,497
	FTE/OBL	15	27,559	17	39,100	17	39,497
Tornado Severe Storm Research/Phased Array Radar	Pos/BA	3	16,935	6	20,916	6	21,109
	FTE/OBL	4	17,875	6	20,916	6	21,109
Joint Technology Transfer Initiative	Pos/BA	5	12,035	4	13,244	4	13,368
	FTE/OBL	5	12,837	4	13,244	4	13,368
Total Weather & Air Chemistry Research	Pos/BA	303	206,753	313	166,416	313	169,341
	FTE/OBL	257	152,664	270	166,416	270	169,341

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JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Overall, OAR's Weather Research supports:

- Research and development that provides the Nation with accurate and timely warnings and forecasts of high-impact weather events and their broader impact on issues of societal concern such as weather and air chemistry; and
- Research that provides the scientific basis for informed management decisions about weather, water, and air chemistry.

NOAA's Global Ensemble Forecast System (GEFS) underwent significant upgrades to expand its capabilities and improve weather forecasting. NOAA uses the GEFS to produce medium-range weather forecasts and to issue watches and warnings during high-impact weather events, including hurricanes, blizzards, and extreme heat and cold. With the upgrade, the National Weather Service can deliver its first-ever numerical weather predictions three and four weeks in advance, extending the forecast length from 16 to 35 days and providing more lead time for decision making. GEFS now uses the Finite-Volume Cubed-Sphere dynamical core, which was added to the Global Forecast System model in 2019. GEFS resolution increased from approximately 33km to 25km, and the number of individual forecasts input into the ensemble has increased from 21 to 31. The changes will allow models to run at a higher resolution of detail and provide better accuracy. The atmospheric composition model in the GEFS upgrade that integrates weather and aerosol forecasting based on the Finite-Volume Cubed-Sphere framework is the result of more than five years of model development at NOAA.

The 2022 Atlantic hurricane season produced 14 named storms (winds of 39 mph or greater), including eight hurricanes (winds of 74 mph or greater) of which two were major hurricanes (winds of 111 mph or greater). The 2022 season saw three hurricane landfalls along the coast of the U.S. mainland. One of these hurricanes, Hurricane Ian, made landfall first as a Category 4 storm in Cayo Costa, Florida, and again as a Category 1 in Georgetown, South Carolina. As a Category 4 with 150 mph maximum sustained winds, Hurricane Ian tied for the fifth-strongest hurricane ever to make landfall in the U.S. Scientists at NOAA's Atlantic Oceanographic and Meteorological Laboratory successfully launched the Altius 600 small uncrewed aircraft system. With support from OMAO's Uncrewed Systems Operations Center, scientists launched the instrument from NOAA's P-3 Hurricane Hunter into the core of Hurricane Ian hours before landfall, transmitting back data of wind speeds as high as 216 mph at an altitude of 2,150 feet. Forecasters and researchers relied on this invaluable data and other sources before, during, and after storms throughout this destructive hurricane season.²

OAR's Weather Research Portfolio is collaborative and crosscutting and therefore is often funded through multiple Subactivities.

² <https://www.noaa.gov/news-release/damaging-2022-atlantic-hurricane-season-draws-to-close>

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JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)



Each spring, during prime time for severe thunderstorms and tornadoes, the NOAA Hazardous Weather Testbed hosts experiments that bring together researchers, forecasters and academics to test new technologies. Forecasters and researchers get to walk in each other's shoes.

also test new concepts and tools with forecasters in simulated settings and with real-time forecasts. This collaborative approach promotes effective transfer of research into forecasting and warning operations.

Earlier Warnings

Currently, NWS does not issue warnings for local severe weather until they see an early signal on radar, or the weather hazard is spotted. This approach provides the public with an average tornado warning lead time of 9 minutes. However, hospitals, nursing homes, large venue operators, aviation officials, and others require 30 minutes of lead time or more to move citizens to safety. Through its Warn-On-Forecast project, OAR is working to combine high-resolution surface satellite and radar data into a set of analyses allowing computer models to predict specific weather hazards 30-60 minutes before they form. This would enable decision-makers to take more effective action to mitigate damage and reduce injuries and loss of life.

Some cross-cutting themes include:

Tornado Severe Storm Research / Phased Array Radar

OAR is working to couple weather forecast model information with dual-polarized radar observations to better determine the type and intensity of precipitation, and add the ability to classify hail size and detect tornado debris. Other radar research includes developing phased array radar, which can reduce the time to scan a weather system from 4-5 minutes to less than one minute, providing earlier weather predictions.

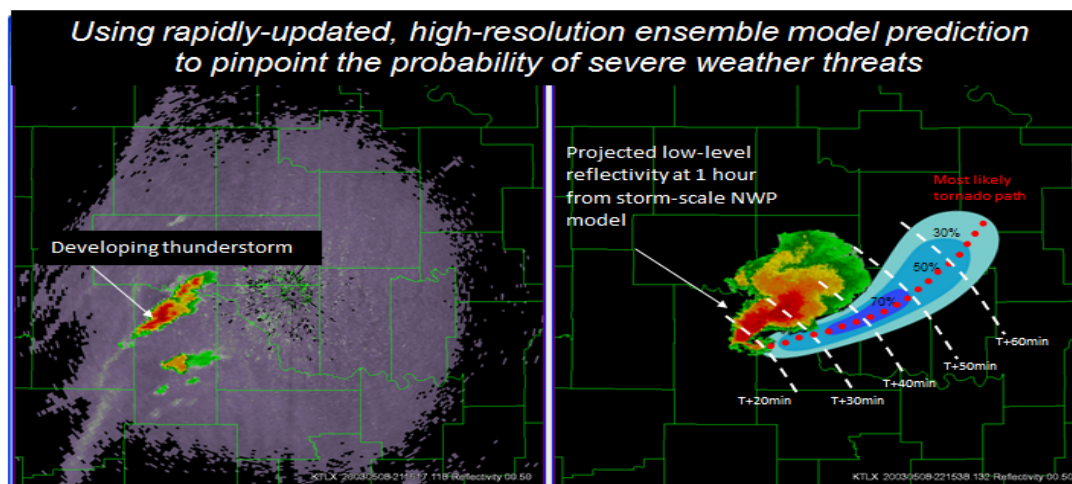
Forecaster and Researcher Collaboration

Researchers and forecasters work side-by-side throughout the year in the NOAA Hazardous Weather Testbed (HWT) to develop, test, and evaluate new forecast and warning strategies. Participants explore innovative radar and satellite technologies, decision support systems, and new weather and water prediction models. Each year, the HWT draws as many as 60 researchers and forecasters together for six to eight weeks to review emerging ideas and answer the question, "What do forecasters need?" HWT scientists

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U.S. Weather Research Program

Through a competitive grant program, the U.S. Weather Research Program provides continuous improvements to understand, predict, and communicate information associated with hazardous weather, air quality and seasonal to sub-seasonal events. Results of this research are transferred to NWS after demonstration in several NOAA testbeds. Projects are selected using a peer-review process with NWS participation.



Earth Prediction Innovation Center

The *National Integrated Drought Information System Reauthorization Act of 2018* expands Section 102(b) of the Weather Research and Forecasting Innovation Act of 2017 to include the Earth Prediction Innovation Center (EPIC) for advancing weather modeling skill and international leadership in the area of numerical weather prediction, and directs NOAA's U.S. Weather Research Program to carry out the activities of EPIC. The Act directs NOAA to create a true community global weather research modeling system that is accessible by the public and utilizes innovative strategies to host and manage the modeling system. EPIC leverages existing NOAA resources to accelerate advances to the Unified Forecast System, a community-based, coupled comprehensive Earth system model-based analysis and prediction system designed to meet NOAA's operational forecast mission to protect life and property and improve economic growth.

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VORTEX-USA

The *Weather Research and Forecasting Innovation Act of 2017* (P.L. 115-25) authorized the implementation of a tornado warning improvement and extension program, codified in the *Consolidated Appropriations Act, 2021* (P.L. 116-260), as VORTEX-USA. The National Severe Storms Laboratory and the Weather Program Office are collaborating to build the program with the aim of reducing the loss of life and economic damage caused by tornadoes, including expanding atmospheric observations, advancing radar technology, and improving the delivery of actionable weather information. VORTEX-USA continues the work of the VORTEX-SE program, closely coordinating with this broader initiative.

Improved Flood & Drought Predictions

Accurate rain and snowfall predictions help water and emergency managers to better balance water supply needs. Partnering with NWS and other Federal, state, and local water resource agencies, OAR researches the extreme precipitation and weather conditions that can lead to droughts or flooding by evaluating new observations and modeling tools to improve these forecasts. Floods and flash floods kill more people each year than any other severe weather hazard, and a few extra minutes of notice can make a big difference in reducing deaths and economic loss. This is why NOAA is testing an experimental flash flood and intense rainfall forecasting tool. The Warn-on-Forecast System,³ or WoFS, provides high-resolution information and can update quickly. Ultimately, the new tool will help forecasters issue flash flood warnings earlier.

The prediction system proved its usefulness in July 2019 when parts of the Northeast and mid-Atlantic were inundated with intense rainfall. The storms resulted in flooded roads during rush hour, stranded motorists, cancelled and delayed flights, power outages and property damage. Forecasters used WoFS as they observed the perfect conditions for flash flooding over the I-95 corridor, and the experimental system showed up to five inches of rain in some areas. The guidance provided through WoFS gave forecasters more confidence to use the phrase “flash flooding likely” when they issued area forecasts.

³ <https://www.nssl.noaa.gov/projects/wof/>



A Warn-on-Forecast product showing conditions for flash flooding over the I-95 corridor.

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Air Chemistry

Whether it is fine particulate matter, or other airborne substances, air pollution can have a significant impact on the environment and human health. OAR Weather Research & Air Chemistry provides a strong scientific understanding of these air chemistry problems to help all stakeholders make effective management decisions. With long-term monitoring of chemicals like mercury, nitrogen and other compounds, OAR provides data to identify sources and evaluate the effectiveness of emission controls.

Data from these observations, along with model evaluations and other studies, help improve predictions of where airborne substances come from and where they will go. NWS uses OAR-developed air chemistry models to issue air quality warnings so that people can limit their exposure to air pollution. OAR's atmospheric dispersion models also predict impacts during emergencies, like the 2019 Texas chemical plant explosion and fire.

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(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Weather Laboratories and Cooperative Institutes	Pos./BA	243	95,367	247	98,156	4	2,789
	FTE/Obl.	283	95,367	286	98,156	3	2,789

Global Reanalysis Capability (+\$2,789, 3 FTE/ 4 Positions) – This request proposes an increase to develop a state-of-the-art global reanalysis capability that is critical to improving the understanding and prediction of high impact weather events, environmental change, and climate impacts. Reanalysis combines historical observations with modern Earth system models to generate a spatially and temporally complete history of the Earth system. The proposal modernizes and extends the nation’s coupled Earth system reanalysis which is an essential digital infrastructure that supports NOAA’s operational and research mission as well as the rapidly growing weather and climate enterprise. This digital resource will also support the development of machine learning and artificial intelligence applications that use reanalysis datasets to enhance the value of NOAA operational prediction systems. This proposed reanalysis program will use a balanced investment in personnel and high performance computing resources to support the needed research and development to produce next-generation reanalysis datasets. This capability will improve the understanding and prediction of high impact weather events, trends in extreme events, changes in water security, human health impacts, coastal inundation risk, climate impacts on marine ecosystems and fisheries, catastrophic infrastructure failure vulnerabilities, and environmental change in under-observed polar regions.

Schedule and Milestones:

FY 2024

- Recruit and hire reanalysis subject matter experts
- Conduct workshop to get input from stakeholders on needs for coupled global reanalysis
- Develop a plan for a 30-year coupled global reanalysis dataset targeted to support the Unified Forecast System global forecast system and seasonal forecast system
- Prototype and test a 30-year, low-resolution, coupled global reanalysis system in the cloud

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FY 2025 – FY 2028

- Transition to a fully Joint Effort for Data assimilation Integration-based data assimilation system using a prototype version of the seasonal forecast system
- Apply machine learning and artificial intelligence approaches to reprocessed observations from NOAA and the European Organization for the Exploitation of Meteorological Satellites
- Develop a strongly-coupled data assimilation capability
- Prototype a next-generation coupled Earth system reanalysis capability

Deliverables

- Increased staffing of subject matter expertise to produce a next-generation coupled Earth system reanalysis capability
- Demonstration of the ability to produce a 30-year, low-resolution, coupled global reanalysis system in the cloud
- Development and implementation of an improved strongly-coupled data assimilation methodology
- Demonstration of a next-generation coupled Earth system reanalysis capability
- Next-generation coupled Earth system reanalysis data and products provided to public and downstream users

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Performance Measures

	2024	2025	2026	2027	2028
<hr/>					
Cumulative number of years of a state-of-the-art fully coupled global reanalysis capability based on NOAA's flagship Unified Forecast System					
With Increase	0	5	10	20	30
Without Increase	0	0	0	0	0
Outyear Costs:					
Direct Obligations	2,789	2,789	2,789	2,789	2,789
Capitalized	1,167	1,167	1,167	1,167	1,167
Uncapitalized	1,622	1,622	1,622	1,622	1,622
Budget Authority	2,789	2,789	2,789	2,789	2,789
Outlays	1,726	1,726	1,726	1,726	1,726
FTE	3	4	4	4	4
Positions	4	4	4	4	4

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PROGRAM CHANGE PERSONNEL DETAIL**

Activity: Weather Research
Subactivity: Weather Research Laboratories and Cooperative Institutes
Program Change: Global Reanalysis Capability

<u>Title</u>	<u>Grade</u>	<u>Number</u>	<u>Annual Salary</u>	<u>Total Salaries</u>
Physical Scientist (Boulder, CO)	ZP-III	2	98,000	\$196,000
Physical Scientist (Boulder, CO)	ZP-IV	2	125,000	\$250,000
Total		4		446,000
Less lapse	25.00%	(1)		(111,500)
Total full-time permanent (FTE)		3		334,500
2024 Pay Adjustment (5.2%)				15,387
				349,887
<u>Personnel Data Summary</u>				
Full-time Equivalent Employment (FTE)				
Full-time permanent		3		
Total FTE		3		
Authorized Positions:				
Full-time permanent		4		
Total Positions		4		

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Weather Research
Subactivity: Weather Laboratories & Cooperative Institutes.

Object Class		2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1	Full-time permanent compensation	28,453	29,762	31,310	31,660	350
11.3	Other than full-time permanent	163	163	163	163	0
11.5	Other personnel compensation	530	530	530	530	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	29,146	30,455	32,003	32,353	350
12	Civilian personnel benefits	9,706	10,152	10,680	10,785	105
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	458	458	458	458	0
22	Transportation of things	92	92	92	92	0
23	Rent, communications, and utilities	0	0	0	0	0
23.1	Rental payments to GSA	4,725	4,725	4,725	4,725	0
23.2	Rental Payments to others	3,035	3,035	3,035	3,035	0
23.3	Communications, utilities and misc charges	1,197	1,197	1,197	1,197	0
24	Printing and reproduction	126	126	126	126	0
25.1	Advisory and assistance services	697	697	697	697	0
25.2	Other services from non-Federal sources	11,716	10,519	10,573	11,740	1,167
25.3	Other goods and services from Federal sources	2,131	2,131	2,131	2,131	0
25.4	Operation and maintenance of facilities	0	0	0	0	0
25.5	Research and development contracts	309	309	309	309	0
25.6	Medical care	0	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0	0
26	Supplies and materials	1,881	1,881	1,881	1,881	0
31	Equipment	1,535	1,535	1,535	1,535	0
32	Lands and structures	0	0	0	0	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	27,637	25,842	25,923	27,090	1,167
42	Insurance claims and indemnities	0	0	0	0	0
43	Interest and dividends	2	2	2	2	0
44	Refunds	0	0	0	0	0
99	Total obligations	94,393	93,156	95,367	98,156	2,789

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PROGRAM DECREASE FOR 2024
 (Dollar amounts in thousands)

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Weather Laboratories and Cooperative Institutes	Pos./BA	243	95,367	243	91,867	0	(3,500)
	FTE/Obl.	283	95,367	283	91,867	0	(3,500)

VORTEX-Southeast (-\$3,500, 0 FTE/ 0 Positions) – This request decreases congressionally directed funding for VORTEX-Southeast activities received in the FY 2023 appropriations. The *Weather Research and Forecasting Innovation Act of 2017* (Public Law 115-25) authorized the implementation of a tornado warning improvement and extension program, codified in the Consolidated Appropriations Act, 2021, as VORTEX-USA. The National Severe Storms Laboratory and the Weather Program Office are collaborating to build the program with the aim of reducing the loss of life and economic damage caused by tornadoes, including expanding atmospheric observations, advancing radar technology, and improving the delivery of actionable weather information. VORTEX-USA continues the work of the VORTEX-Southeast program, closely coordinating with this broader initiative.

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(Dollar amounts in thousands)

	2024	2025	2026	2027	2028
Outyear Costs:					
Direct Obligations	(3,500)	(3,500)	(3,500)	(3,500)	(3,500)
Capitalized	(280)	(280)	(280)	(280)	(280)
Uncapitalized	(3,220)	(3,220)	(3,220)	(3,220)	(3,220)
Budget Authority	(3,500)	(3,500)	(3,500)	(3,500)	(3,500)
Outlays	(2,170)	(2,170)	(2,170)	(2,170)	(2,170)
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Weather Research
Subactivity: Weather Laboratories & Cooperative Institutes.

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1 Full-time permanent compensation	28,453	29,762	31,310	31,310	0
11.3 Other than full-time permanent	163	163	163	163	0
11.5 Other personnel compensation	530	530	530	530	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	29,146	30,455	32,003	32,003	0
12 Civilian personnel benefits	9,706	10,152	10,680	10,680	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	458	458	458	458	0
22 Transportation of things	92	92	92	92	0
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	4,725	4,725	4,725	4,725	0
23.2 Rental Payments to others	3,035	3,035	3,035	3,035	0
23.3 Communications, utilities and misc charges	1,197	1,197	1,197	1,197	0
24 Printing and reproduction	126	126	126	126	0
25.1 Advisory and assistance services	697	697	697	697	0
25.2 Other services from non-Federal sources	11,716	10,519	10,573	10,573	0
25.3 Other goods and services from Federal	2,131	2,131	2,131	2,131	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	309	309	309	309	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	1,881	1,881	1,881	1,881	0
31 Equipment	1,535	1,535	1,535	1,535	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	27,637	25,842	25,923	22,423	(3,500)
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	2	2	2	2	0
44 Refunds	0	0	0	0	0
99 Total obligations	94,393	93,156	95,367	91,867	(3,500)

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JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Activity: Ocean, Coastal, and Great Lakes Research

Goal Statement

The Ocean, Coastal, and Great Lakes Research in OAR provides science to coastal communities from a wide network of university partners, develops technology to advance the Nation's oceans and Great Lakes observations, and coordinates multi-partner ocean exploration missions to characterize our natural resources and improve our understanding of the changes occurring in the oceans and Great Lakes.

Base Program

OAR's ocean, coastal, and Great Lakes laboratories, programs, and partners have been key contributors to advancing NOAA's NMFS, NOS, and NWS by providing research to better understand our oceans and Great Lakes natural resources and the influence of the oceans and Great Lakes on the Earth's weather and climate through technological advancements in modeling, computing, observing, and information dissemination.

The following seven Subactivities are included in the Ocean, Coastal, and Great Lakes Research portfolio:

- Ocean Laboratories & Cooperative Institutes: Primarily supports foundational ocean observation networks and research, modeling, and technology development at OAR's laboratories and cooperative institutes.
- National Sea Grant College Program: Established by Congress through the National Sea Grant College Program Act, the National Sea Grant College Program is a Federal-state partnership that turns research into actions that support science-based sustainable practices. This partnership ensures that coastal communities remain engines of economic growth. The Sea Grant programs form a dynamic national network of more than 300 participating institutions represented by more than 2,300 scientists, engineers and outreach experts based at universities across the country.
- Sea Grant Aquaculture Research: Guided by the National Aquaculture Act of 1980, advances this industry through aquaculture research and extension as well as supporting the National Sea Grant Marine Aquaculture Grant Program. This is the largest and most comprehensive U.S. government grant program dedicated to supporting marine aquaculture development. These grants tackle some of the top challenges to marine aquaculture like reducing fishmeal and fish oil in aquaculture feeds, increasing seafood safety and quality, diversifying species and products.

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- Ocean Exploration and Research: Established by Congress through the Ocean Exploration Act, Ocean Exploration and Research is the only Federal organization dedicated to ocean exploration.
- Integrated Ocean Acidification (OA) authorized under the Federal Ocean Acidification Research and Monitoring Act to better understand ocean acidification and the consequences of OA on marine resources to enable communities to mitigate, prepare, and adapt to changes.
- Sustained Ocean Observations and Monitoring: A global system for observations, modeling, and analysis of marine and ocean variables to support operational ocean services worldwide.
- National Oceanographic Partnership Program (NOPP): This OAR funding line was established in FY 2019 to advance ocean science research through the program established under 10 U.S.C. 7901 and to continue support for Ocean Joint Technology Transfer Initiative projects funded in FY 2018.

Statement of Operating Objectives

Schedule and Milestones:

FY 2024 - FY 2028

Ocean Laboratories & Cooperative Institutes

- Continue collection and analysis of acoustic data from Ocean Noise Reference Stations, in coordination with NMFS and NOS
- Demonstrate/test new ocean observing/communication technologies

National Sea Grant College Program

- Hold local and regional state program requests for proposals
- Continue to ensure accountability to NOAA aligned program plans through external Performance Review Panels

Sea Grant Aquaculture Research

- Provide competitive research grants, extension services, and research partnerships that support aquaculture's industry development and technology transfer grants to support the aquaculture industry
- Fund development and transfer of new and improved technologies to local communities; improvement of aquaculture practices; advancement of aquaculture production; and support for extension activities that contribute to both economic and environmental community resilience

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Ocean Exploration and Research

- Develop an annual extramural competition for conducting the next phase of research into the potential resources and natural habitats in areas identified through the Extended Continental Shelf Mapping Initiative
- Develop an annual extramural competition for the exploration of unknown and poorly known ocean areas where there is a high potential for discovery

Integrated Ocean Acidification

- Conduct OA coastal observing and process research cruises and deploy OA sensors on NOAA research and volunteer observing ships
- Develop a coastal early-warning system that can identify episodic low pH events and alert managers of potentially impacted resources
- Partner with the U.S. Integrated Ocean Observing System (IOOS) Marine Sensor Program to develop marine sensors that can assist coastal industries with both scientific and monitoring capacity
- Optimize observing systems in each of the eight large marine ecosystem regions
- Increase number of living marine resources characterized for vulnerability to ocean acidification

Sustained Ocean Observations and Monitoring

- Maintain NOAA's contribution of 1500 active Argo ocean profiling floats and implement Deep (6000 meters) Argo array
- Maintain Global Ocean Observing System (GOOS)

National Oceanographic Partnership Program

- Projects focused on improving NOAA's operational efficiency and resource management responsibilities, including activities designed to support the blue economy

Deliverables:

Ocean Laboratories & Cooperative Institutes

- Technical Report to describe current and chemical distributions in coastal waters in relation to known point sources, to assess relative strengths of land-based sources of pollution over southeast Florida reef tracks
- Pre-operational forecast products to alert the over two million coastal Lake Erie residents of algal toxins in drinking water
- An annual, synthetic, ecosystem-based assessment of the eastern Bering Sea for the North Pacific Fisheries Management Council

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National Sea Grant College Program

- Continue to leverage state and other partners
- Assist coastal communities to adopt sustainable development principles
- Create and transfer decision-support tools/technologies to coastal managers
- Support Sea Grant activities to restore degraded ecosystems
- Provide coastal resource managers with information/training in local hazard resiliency, and hazard mitigation tools, techniques, and best practices

Sea Grant Aquaculture Research

- Continue to provide economic and marketing research to increase profitability and environmental stability of aquaculture businesses
- Identify common policies to ensure uniform regional governance and permitting
- Increase domestic production through research and extension efforts for currently farmed and promising new species
- Provide research and technical assistance to ensure the safety and quality of aquaculture products to meet public demand

Ocean Exploration and Research

- Complete Bureau of Ocean Energy Management-NOAA Partnership expedition to explore and characterize habitats and ecosystems in the Arctic and other key areas within the U.S. Exclusive Economic Zone
- Increased number of telepresence-enabled systematic expeditions providing opportunities to engage a multitude of shore-based stakeholders and other users in real-time ocean exploration

Integrated Ocean Acidification

- Regional biogeochemical and ecological models

Sustained Ocean Observations and Monitoring

- 1,000 drifting buoys deployed annually
- 250 Argo array buoys deployed annually

National Oceanographic Partnership Program

- Transition research into operational applications

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JUSTIFICATION OF PROGRAM AND PERFORMANCE**

(Dollar amounts in thousands)

Explanation and Justification

Line Item		2022		2023		2024	
		Actual		Enacted		Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Ocean Laboratories & Cooperative Institutes	Pos/BA	131	39,939	131	39,500	131	40,476
	FTE/OBL	103	39,214	111	39,500	111	40,476
National Sea Grant College Program	Pos/BA	20	85,608	20	80,000	20	80,720
	FTE/OBL	19	75,300	20	80,000	20	80,720
Sea Grant Aquaculture Research	Pos/BA	4	13,223	4	14,000	4	14,129
	FTE/OBL	2	13,227	4	14,000	4	14,129
Ocean Exploration and Research	Pos/BA	38	41,873	38	46,000	38	46,567
	FTE/OBL	31	43,088	36	46,000	36	46,567
Integrated Ocean Acidification	Pos/BA	14	15,555	14	17,000	14	17,214
	FTE/OBL	17	15,570	14	17,000	14	17,214
Sustained Ocean Observations and Monitoring	Pos/BA	31	54,239	32	52,500	32	53,091
	FTE/OBL	34	51,658	32	52,500	32	53,091
National Oceanographic Partnership Program	Pos/BA	1	1,769	1	2,500	1	2,525
	FTE/OBL	1	1,770	1	2,500	1	2,525
Total Ocean, Coastal, and Great Lakes Research	Pos/BA	239	252,206	240	251,500	240	254,722
	FTE/OBL	207	239,827	218	251,500	218	254,722

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(Dollar amounts in thousands)

Overall, OAR's Ocean, Coastal, and Great Lakes Research supports:

- Improving understanding of the physics, chemistry, and ecology of oceanic, coastal, and Great Lakes systems, including changes in these environments and the impacts of stressors such as changes in temperature, changes in ocean and Great Lakes chemistry, pollution, and invasive species;
- Improving predictive capability for oceanic, coastal, and Great Lakes processes, including developing predictive models for ecosystems, and coupling these with physical and biogeochemical models to create comprehensive Earth System Models;
- Translating ocean, coastal, and Great Lakes science into services through tools developed for resource managers, policy makers and the public, and through increased education and outreach; and
- Developing and using cutting edge technology for understanding and exploring the ocean, coasts and Great Lakes.

In 2020, NOAA's Harmful Algal Bloom (HAB) daily forecasts got a boost from a new model, developed by scientists at NOAA's Great Lakes Environmental Research Lab, which allows scientists to better understand and predict the size of the bloom. Forecasters can use the new model to predict how extensively the bloom has spread from the lake's surface to its floor. HABs can be a thin scum on the lake surface or they can mix evenly throughout the water column. Previous HAB forecast models relied heavily on satellite imagery, but those images can only show how concentrated the algal bloom is on the surface of the lake. Knowing how the blooms are vertically distributed throughout the lake's depths improves the accuracy and usefulness of the forecasts. Anglers, boaters, and beach goers use the improved forecast prior to an excursion to Lake Erie. Drinking water plants along Lake Erie are alerted when to expect algal blooms near their water intakes which allows facility managers to better regulate the amount of chemical treatment to use, saving taxpayer money.



As part of New Jersey Sea Grant Consortium's project, New Jersey oyster farmer Tommy Burke of Sloop Point Oysters assists New Jersey Division of Fish and Wildlife staff with loading his oysters on a boat for planting at a restoration site. Credit: Lisa Calvo | New Jersey Sea Grant Consortium

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(Dollar amounts in thousands)

Much of the research performed within OAR's Ocean, Coastal, & Great Lakes Research is collaborative and crosscutting and therefore is often funded through multiple sub-activities. Some cross-cutting themes include:

Ecosystems Research

OAR Laboratories and Cooperative Institutes conduct research on ecological processes, and provide data to develop models critical to understanding ecosystem structure and function in important and economically significant environments in the oceans and the Great Lakes, including coral reefs, deep sea hydrothermal vents, and fish and shellfish habitat. Through observations, laboratory, and field experiments researchers also develop models to forecast impacts of multiple stressors, such as invasive species and nutrient runoff, on water quality, food webs, and fishery productivity. This work supports the development of new models, forecasting tools, and applications to evaluate and mitigate impacts to present and future ecosystem stressors.

Integrated Marine and Ocean Processes

OAR carries out interdisciplinary scientific investigations of the physics of ocean currents and water properties, and on the role of the ocean in extreme weather events, and ecosystems. The tools used to carry out these studies range from sensors on deep ocean moorings to satellite-based instruments to measurements made on research and commercial shipping vessels and autonomous vehicles, and include data analysis and numerical modeling. NOAA scientists and partners conduct innovative research and develop numerical models to predict the physical, chemical, biological, and ecological response in the oceans and Great Lakes due to weather, climate, and human-induced changes. The forecast models and quantitative tools developed by researchers allow scientists, coastal resource managers, policy makers, and the public to make informed decisions for optimal management of oceans and Great Lakes resources. The ocean, coasts, and Great Lakes are closely tied to the Earth's atmosphere, and a sound understanding of ocean-earth interactions is essential for better management of marine resources and improved ocean and weather services.



Photo shows a HAB developing in Lake Erie. The NOAA Great Lakes HAB and Hypoxia program is a collaborative effort between Great Lakes Environmental Research Laboratory and Cooperative Institute scientists. The team uses an integrated approach to understand the ecosystem dynamics and environmental drivers of HABs and hypoxia in the Great Lakes to improve prediction and mitigation strategies.

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JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Resilient Communities and Economies

OAR’s Ocean, Coastal and Great Lakes Research works through the National Sea Grant College Program to develop vibrant and resilient coastal economies that use comprehensive planning to make informed strategic decisions; improve coastal water resources that sustain human health and ecosystem services; and adapt to the impacts of coastal hazards.

SEA GRANT BY THE NUMBERS*



**Metrics are direct results of Sea Grant work between February 1, 2021, and January 31, 2022, as reported by Sea Grant programs in Summer 2022. Jobs refer to jobs created or sustained as a result of Sea Grant efforts. Economic benefit refers to market and non-market value of Sea Grant’s work; value of jobs and businesses (\$572.6M) as well as total leveraged funds (\$157.8M) and value of volunteer hours (\$6.2M). Businesses refers to the number of businesses created or sustained as a result of Sea Grant efforts⁴.*

Sustainable Fisheries and Aquaculture

The National Sea Grant Marine Aquaculture Grant Program is the only U.S. government grant program dedicated to supporting marine aquaculture development. OAR’s marine aquaculture work ensures safe, secure and sustainable supplies of domestic seafood and decreases reliance on seafood imports through aquaculture research, extension, and grants. As a part of the cross-NOAA Program, OAR works with aquaculture partners in the NMFS and the NOS in coordination with state fisheries managers, seafood processors, fishing associations and consumer groups. These grants tackle some of the top challenges to marine aquaculture like reducing fishmeal and fish oil in aquaculture feeds, increasing seafood safety and quality, diversifying species and products. OAR’s aquaculture competition is authorized under the National Aquaculture Act of 1980.

⁴ <https://seagrants.noaa.gov/Our-Work>

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Ocean Exploration

OAR leads efforts to explore and characterize deep-water areas of the U.S. Exclusive Economic Zone, Extended Continental Shelf, and other poorly known ocean areas and phenomena. Since its commissioning in 2008, the *Okeanos Explorer*, NOAA's ship assigned to exploration, has mapped over a million square kilometers of the seafloor at high resolution. Data collected from ocean exploration expeditions have been critical for science-based decisions on issues like deepwater fisheries management, potential oil and gas development or deep-sea mining, marine protected area establishment and management, determination of the U.S. Extended Continental Shelf, and nautical charting.

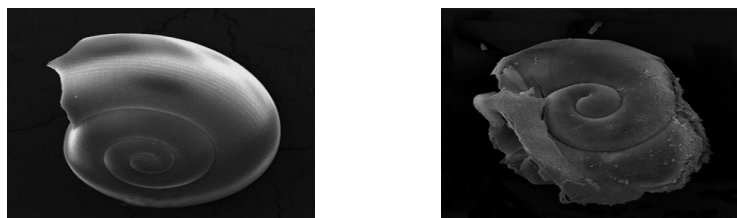


In 2021 the NOAA Ocean Exploration and Research Program celebrated 20 years of NOAA exploration. The Program was established in April 2001 in response to the recommendations and challenges set forth in the Report of the President's Panel for Ocean Exploration and in recognition of the value such a program could provide to NOAA and the Nation. Since then NOAA's Ocean Exploration and Research Program has been involved in collecting data and information that have been used in decisions to protect some of our Nation's most important marine places. Pictured Left: From June 30 through July 29, 2021, NOAA and partners conducted the 2021 North Atlantic Stepping Stones: New England and Corner Rise Seamounts expedition, a telepresence-enabled ocean exploration expedition on NOAA Ship *Okeanos Explorer* to collect critical baseline information about unknown and poorly understood deepwater areas off the eastern U.S. coast and high seas.

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(Dollar amounts in thousands)

Ocean Chemistry and Ocean Acidification

Research across OAR labs, programs, and Cooperative Institutes aims to improve our understanding of how, and how fast, ocean chemistry is changing, how variable that change is by region, and what impacts these changes are having on marine life, people, and the local, regional, and national economies. OA refers to changes in the chemistry of the ocean due to rising atmospheric carbon dioxide; currently, ocean chemistry is changing faster than any period in the past 55 million years. OAR's Ocean Acidification Program (OAP) maintains long-term OA monitoring, conducts research to enhance the conservation of marine ecosystems sensitive to OA, and promotes OA educational opportunities. By better understanding and predicting OA, OAP also informs national and international carbon mitigation discussions and enables local communities to better prepare, mitigate, and adapt to changes caused by OA.



Impacts to a pteropod's shell in seawater that is too acidic (images above). The left panel shows a shell collected from a live pteropod from a region in the Southern Ocean where acidity is low. The shell on the right is from a pteropod collected in a region where the water is more acidic. Photo credits: (left) Bednaršek et al. 2012; (right) Nina Bednaršek.

Sustained Ocean Observations and Monitoring (SOOM)

SOOM supports NOAA's contribution to the sustained GOOS by maintaining over 3,950 platforms that report environmental weather/climate information to global prediction centers and researchers. GOOS is a permanent global system for observations, modeling, and analysis of marine and ocean variables to support operational ocean services worldwide. The IOOS is the U.S. regional contribution to GOOS. SOOM activities contribute unique and essential global measurements and capabilities to the IOOS enterprise. SOOM's contribution helps describe the present state of the oceans, monitors long-term changes, supports operational services worldwide and is the basis for forecasting climate variability and change. SOOM also supports research to develop new data products from these observations to address a broad range of stakeholder needs.

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(Dollar amounts in thousands)

National Oceanographic Partnership Program

The NOPP was established by Public Law 104-201 to “coordinate and strengthen national oceanographic efforts by identifying and carrying out partnerships among Federal agencies, academia, industry, and other members of the oceanographic scientific community in the areas of data, resources, education, and communication.” With an increasing amount of research and development spending occurring within the private sector relative to the federal government, NOPP is a unique catalyst for participation by non-governmental organizations and industry in federal ocean research and education projects. NOAA has been investing

Previous NOPP successes include creation of a comprehensive national ocean observing network, air/ocean modeling improvements and transitions, and innovative marine technology solutions. Future efforts under discussion include:

- Reducing plastic waste in the oceans
- Comprehensive mapping and characterization of the U.S. Exclusive Economic Zone
- Development of next-generation autonomous and remote (air and satellite) marine data collection systems
- New discoveries of ocean resources and marine habitat dynamics that are gleaned from existing marine information databases.
- Seamless national oceanographic and marine information systems that provide transparent access and advanced data management and analysis tools

**Department of Commerce
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PROGRAM INCREASE FOR 2024**
(Dollar amounts in thousands)

		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
National Oceanographic	Pos./BA	1	2,525	1	3,084	0	559
Partnership Program (NOPP)	FTE/Obl.	1	2,525	1	3,084	0	559

National Oceanographic Partnership Program Increase (\$559, 0 FTE/ 0 Position) – NOAA proposes an increase to support the interagency NOPP, increasing the stable dedicated funding source that is used to leverage other NOAA programs for this extramural, competitively-awarded partnership-based research program.

This increase will enhance NOAA’s funding currently executed through NOPP. Capability will be further increased by using the availability of NOPP funds as an incentive to leverage other NOAA programs. Previous NOPP successes include creation of a comprehensive national ocean observing network, air/ocean modeling improvements and transitions, and innovative marine technology solutions.

Schedule and Milestones

FY 2024

- Identification of NOPP topics and partners
- Continuation of awards within NOPP Broad Agency Announcement process
- Continuation of awards for projects independent of Broad Agency Announcement process

FY 2025–2028

- Continuation of project awards
- Development and funding of new awards as warranted

Deliverables

- Continued support of NOPP research projects that engage and leverage industry and other federal agency investment
- Increase in availability of marine data, data-derived information, and ability to use that information to realize high priority economic benefits

Department of Commerce
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Operations, Research, and Facilities
PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)

Performance Measures	2024	2025	2026	2027	2028
Cumulative number of projects supported using leveraged NOAA program funding and other federal agency resources					
With Increase	6	6	6	6	6
Without Increase	4	4	4	4	4
Outyear Costs:					
Direct Obligations	559	559	559	559	559
Capitalized	0	0	0	0	0
Uncapitalized	559	559	559	559	559
Budget Authority	559	559	559	559	559
Outlays	347	347	347	347	347
FTE	0	0	0	0	0
Positions	0	0	0	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Ocean, Coastal, and Great Lakes Research
Subactivity: National Oceanographic Partnership Program

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1 Full-time permanent compensation	53	55	58	58	0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	53	55	58	58	0
12 Civilian personnel benefits	22	23	24	24	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	0	0	0	0	0
22 Transportation of things	0	0	0	0	0
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental Payments to others	0	0	0	0	0
23.3 Communications, utilities and misc charges	0	0	0	0	0
24 Printing and reproduction	0	0	0	0	0
25.1 Advisory and assistance services	711	711	711	711	0
25.2 Other services from non-Federal sources	251	542	551	551	0
25.3 Other goods and services from Federal sources	0	0	0	0	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	5	5	5	5	0
31 Equipment	6	6	6	6	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	722	1,158	1,170	1,729	559
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total obligations	1,770	2,500	2,525	3,084	559

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National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Activity: Innovative Research & Technology

Goal Statement

The Innovative Research and Technology accelerates the adoption and transition of advanced computing and technology throughout NOAA. Innovative Research and Technology supports High Performance Computing (HPC) initiatives through major improvements in weather and climate forecasting, ecosystem and ocean modeling, and environmental information dissemination.

Base Program

Innovative Research and Technology efforts provide NOAA with necessary computational and network resources required to support continued advances in environmental modeling capabilities. The purpose of the High Performance Computing and Communications program is to improve the accuracy and timeliness of NOAA's short-term weather warnings, seasonal forecasts, hurricane forecast improvements, as well as regional and global climate and weather predictions that are heavily dependent on major advances. Timely and responsive dissemination of NOAA's services and information requires full use of modern network and communication technologies.

The following Subactivities are included in Innovative Research & Technology:

- High Performance Computing and Communications: Supports the computing requirements for NOAA's modeling and research missions.
- Uncrewed Systems: Supports the advancement of research and evaluation for operational readiness of a full spectrum of NOAA (aircraft and maritime) Uncrewed Systems (UxS) mission concepts.

Statement of Operating Objectives

Schedule and Milestones:

FY 2024 - FY 2028

- Complete migration of at least one operational model and one research model to next-generation architecture software structure

Department of Commerce
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JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

- Test impact of assimilation of new and proposed satellite observations using observing system simulation experiment and observing system experiment approaches using the operational Hurricane Weather Research and Forecast hybrid data assimilation system to improve hurricane intensity guidance
- Quantitative evaluation of (a) (statistically) downscaled climate projections for the U.S. and (b) their suitability for use in climate impacts and decision-making applications published in the peer-reviewed literature
- Participate in the Networking and information Technology Research and Development Program interagency activities
- Research and development (R&D) to support new and ongoing projects to advance operational readiness of UxS within NOAA

Deliverables:

- HPC System availability – 97 percent of computational hours made available to scientists
- 11 HPC and advanced networking R&D projects
- Conduct directed research and proposal solicitations for R&D related to promising new UxS concepts and technologies across all NOAA Line Offices
- Increase staffing capacity to effectively manage the R&D and transition activities

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
JUSTIFICATION OF PROGRAM AND PERFORMANCE**
(Dollar amounts in thousands)

Explanation and Justification

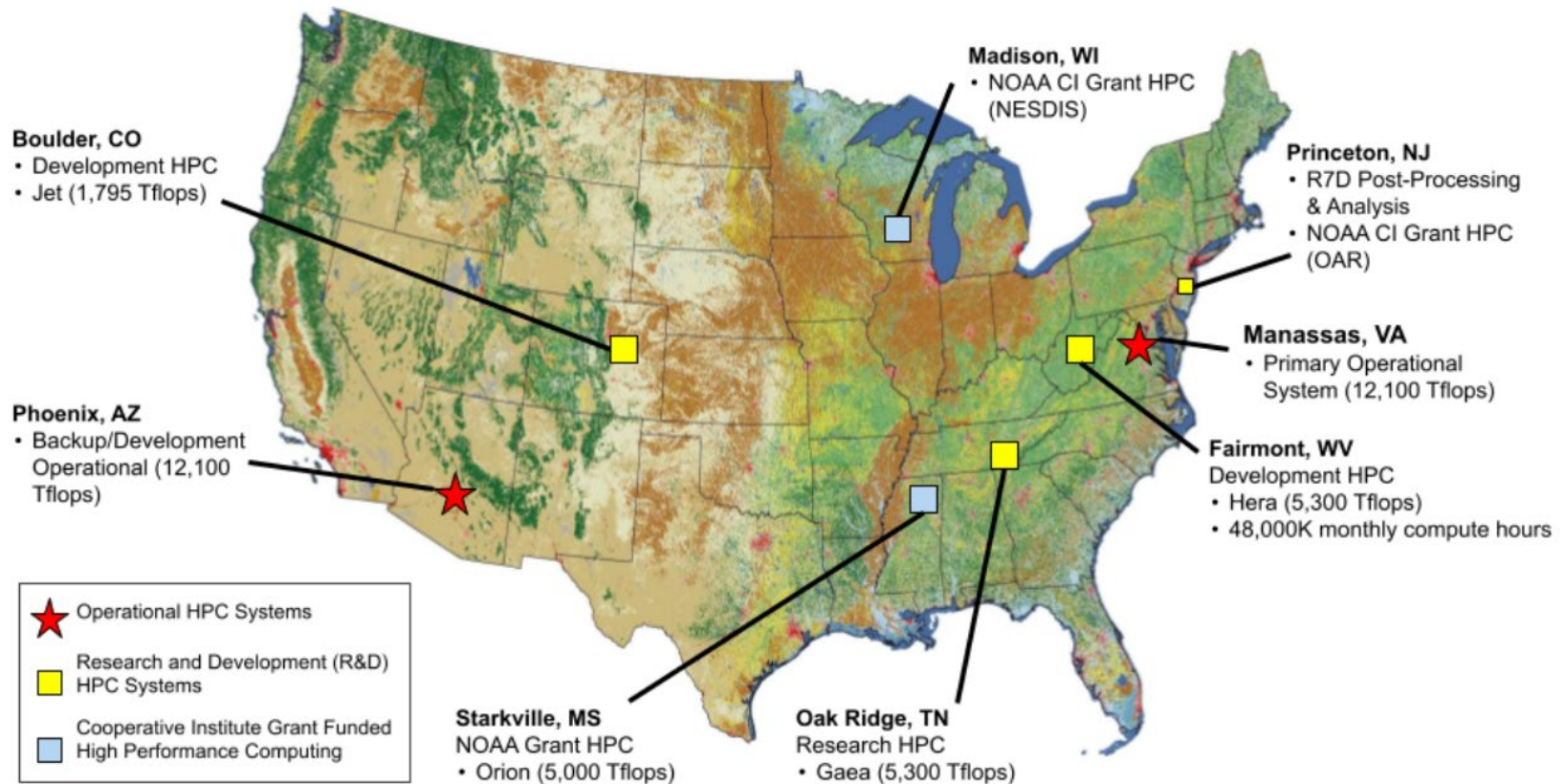
Line Item		2022		2023		2024	
		Actual		Enacted		Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
High Performance Computing Initiatives	Pos/BA	18	17,883	17	18,231	17	18,467
	FTE/OBL	14	17,797	16	18,231	16	18,467
Uncrewed Systems	Pos/BA	0	499	3	1,000	3	1,020
	FTE/OBL	0	0	2	1,000	2	1,020
Total, Innovative Research & Technology	Pos/BA	18	18,382	20	19,231	20	19,487
	FTE/OBL	14	17,797	18	19,231	18	19,487

High Performance Computing Initiatives

HPC Initiatives, established through the *High-Performance Computing Act of 1991* (P.L. 102-194), improve the accuracy and timeliness of NOAA's short-term weather warnings, forecasts, hurricane forecast improvements, as well as regional and global climate and ecosystem predictions. HPC Initiatives provide necessary computational and network resources required to advance in environmental modeling capabilities across NOAA. In fact, every NOAA line office uses R&D HPC systems. Benefits of HPC Initiatives include:

- Improvements in short-term warning and weather forecast systems and models,
- Enabling scientists to attack long-lead time problems associated with the physical processes that govern the behavior of the atmosphere and ocean,
- Maintaining NOAA's leadership position in understanding climate with applications towards critical issues such as hurricanes, drought, sea-level rise, and
- Accelerating modeling and simulation activities and providing relevant decision support information on a timely basis for programs.

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JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)



Updated: September 20, 2022

Department of Commerce
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JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Uncrewed Systems

The Uncrewed Systems program allows NOAA to strategically move innovative R&D of UxS forward and through the transition process into NOAA operations, applications, and commercialization. The program invests in new concepts and technologies with an eye to the future. Broad usage of UxS across NOAA will more efficiently support NOAA's mission requirements of science, service, and stewardship and transform the ways that we understand and predict changes in climate, weather, oceans, and coasts for societal and economic benefits.

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Uncrewed Systems	Pos./BA	3	1,020	4	4,054	1	3,034
	FTE/Obl.	2	1,020	3	4,054	1	3,034

Uncrewed Systems Increase (+\$3,034, 1 FTE/ 1 Positions) – This request proposes an increase to advance research and evaluation for operational readiness of a full spectrum of NOAA (aircraft and maritime) UxS mission concepts.

The use of uncrewed aircraft and maritime systems has significant potential to improve the quality and timeliness of NOAA science, products, and services while reducing costs. Robust R&D is critical for the successful transition of promising initial concepts to operational readiness. UxS technologies are not and will not become broadly ready for operational use within NOAA without dedicated, long term funding for R&D, and achieving the potential offered by UxS requires sustained R&D support.

These funds will move notional ideas to testable technologies and finalize mature, transition ready projects into operational use within NOAA. NOAA will use these resources for directed research and proposal solicitations for R&D related to UxS concepts and technologies to support missions across NOAA's Line Offices and for bridging technologies into regular operational use. Research will be solicited and supported via both internal NOAA competitions and external Federal funding opportunities available to academic and Federal partners. The resources will further support efforts for completing transition-to-operation activities including preparations for acceptance by receiving offices. The UxS Research Transition Office will provide NOAA with targeted logistical and technical support for the complicated final step of transitioning UxS technologies into operational use across the organization. It will work closely with OMAO's Uncrewed Systems Operations Center, which focuses on the operational use of UxS across NOAA's mission areas, to ensure effective transition of new UxS technologies into NOAA operations. In addition, it will provide the leadership to continue to identify and develop the technologies that NOAA needs to ensure we are prepared to take advantage of the potential offered by UxS.

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)**

Schedule and Milestones:

FY 2024

- Provide dedicated R&D support evaluating and advancing the operational readiness of a full spectrum of NOAA UxS mission concepts encompassing both aircraft and maritime systems

FY 2025 - FY 2028

- Shepherd UxS R&D activities through their transition to operation including preparation for acceptance by receiving offices
- Develop a bridging program to fund targeted activities required to bring mature UxS technologies into regular operational use
- Continue R&D to support new and ongoing projects to advance operational readiness of UxS within NOAA

Deliverables:

- Conduct directed research and solicit proposals for R&D and transition to operations of promising new UxS concepts and technologies across all NOAA Line Offices
- Increase staffing capacity to effectively manage the R&D and transition activities

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)

Performance Measures	2024	2025	2026	2027	2028
<hr/>					
Number of UxS mission concepts (both aircraft and maritime systems) transitioning to operations or applications					
With Increase	2	3	3	4	5
Without Increase	0	1	1	1	2
Number of additional NOAA observational systems and mission concepts utilizing UxS					
With Increase	10	15	15	20	25
Without Increase	2	3	3	4	6
Outyear Costs:					
Direct Obligations	3,034	3,034	3,034	3,034	3,034
Capitalized	1,000	1,000	1,000	1,000	1,000
Uncapitalized	2,034	2,034	2,034	2,034	2,034
Budget Authority	3,034	3,034	3,034	3,034	3,034
Outlays	1,881	1,881	1,881	1,881	1,881
FTE	1	1	1	1	1
Positions	1	1	1	1	1

**Department of Commerce
National Oceanic and Atmospheric Administration
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PROGRAM CHANGE PERSONNEL DETAIL**

Activity: Innovative Research and Technology
Subactivity: Uncrewed Systems
Program Change: Uncrewed Systems Increase

<u>Title</u>	<u>Grade</u>	<u>Number</u>	<u>Annual Salary</u>	<u>Total Salaries</u>
Admin. Prg. Specialist	ZA-2	1	50,643	50,643
Total		1		50,643
Less lapse	25.00%	(0)		(12,661)
Total full-time permanent (FTE)		1		37,982
2024 Pay Adjustment (5.2%)				1,975
				39,957
<u>Personnel Data Summary</u>				
Full-time Equivalent Employment (FTE)				
Full-time permanent		1		
Total FTE		1		
Authorized Positions:				
Full-time permanent		1		
Total Positions		1		

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National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Innovative Research and Technology
Subactivity: Uncrewed Systems

Object Class		2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1	Full-time permanent compensation	0	268	268	308	40
11.3	Other than full-time permanent	0	0	0	0	0
11.5	Other personnel compensation	0	0	0	0	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	0	268	268	308	40
12	Civilian personnel benefits	0	80	80	93	13
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	0	18	18	36	18
22	Transportation of things	0	0	0	0	0
23	Rent, communications, and utilities	0	0	0	0	0
23.1	Rental payments to GSA	0	0	0	0	0
23.2	Rental Payments to others	0	18	18	36	18
23.3	Communications, utilities and misc charges	0	22	22	44	22
24	Printing and reproduction	0	0	0	0	0
25.1	Advisory and assistance services	0	0	0	0	0
25.2	Other services from non-Federal sources	0	94	94	594	500
25.3	Other goods and services from Federal sources	0	35	35	70	35
25.4	Operation and maintenance of facilities	0	0	0	0	0
25.5	Research and development contracts	0	94	94	594	500
25.6	Medical care	0	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0	0
26	Supplies and materials	0	12	12	24	12
31	Equipment	0	0	0	0	0
32	Lands and structures	0	0	0	0	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	0	379	379	2,255	1,876
42	Insurance claims and indemnities	0	0	0	0	0
43	Interest and dividends	0	0	0	0	0
44	Refunds	0	0	0	0	0
99	Total obligations	0	1,020	1,020	4,054	3,034

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisitions, and Construction
JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Activity: Systems Acquisition

Goal Statement

Research Supercomputing:

Research Supercomputing provides sustained capability to the NOAA Research and Development (R&D) High Performance Computing System (HPC) to advance Earth system science and accelerate the development of regional and sub-regional information products and services.

Research Acquisitions and Management:

NOAA requires the acquisition and management of large scale research infrastructure in order to deliver the science and technology that establishes the basis of NOAA's climate, weather, and ocean products and services. By investing in this infrastructure, NOAA is investing in the future of the Nation by improving our ability to predict potential changes in global climate, provide earlier warnings about severe weather, and understand our oceans and Great Lakes natural resources and their influence on the Earth's weather and climate.

Base Program

NOAA's R&D HPC provides computational resources to support advances in environmental modeling crucial for understanding critical Earth system modeling issues. NOAA's environmental modeling enterprise underpins most of NOAA's products and services to the Nation. NOAA's R&D HPC assets are part of the critical infrastructure required for NOAA to accomplish its mission. NOAA's R&D HPC supports the NOAA user base in the geospatial and ecosystems research communities across the Agency. However, demand for HPC compute resources outweighs the supply currently. NOAA is exploring ways of mitigating this shortfall through other means such as cloud computing. NOAA currently has several pilots examining if cloud could be a possible solution to fill the supply and demand gap. Additionally, NOAA's research infrastructure is critical for the study of Earth's systems to better support NOAA's mission to understand and predict changes in climate, weather, ocean and coasts. This research will allow NOAA to make great strides in improving observations for severe weather, including fire weather, hurricanes, and flooding and eventually feed into observational forecasts.

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisitions, and Construction
JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Statement of Operating Objectives

Schedule and Milestones and Deliverables:

FY 2024 - FY 2028

- High-resolution Earth System Model integrations publicly available for use in regional decision-making through federated data services
- Exploratory application of Earth System Models and subsequent demonstration of Earth System modeling applications using exascale high-performance computing platforms, which would be capable of at least one exaflop, or a thousand petaflops
- High-resolution integrations for prediction of seasonal tornado risks at multi-month lead times
- Improved credibility of projections of changes of important climatic quantities, such as regional climate change and extreme events, to allow society to efficiently plan for and adapt to climate change
- Capability to develop and provide decadal prototype forecasts and predictions made with high-resolution coupled climate model
- NOAA's environmental modeling applications able to utilize performance increases available through fine-grain architectures
- Sustain NOAA's R&D HPC computational resources which support advances in environmental modeling crucial for understanding critical Earth system modeling issues
- Prepare and carry out acquisition activities for rotating enhancement of current computational resources and infrastructure to return to a three-year technology refresh cycle within the established Research Supercomputing funding
- Acquire a dual polarization Phased Array Radar (PAR) to demonstrate and evaluate advanced techniques needed to perform the rapid updates required with a rotating planar array

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisitions, and Construction
JUSTIFICATION OF PROGRAM AND PERFORMANCE**

(Dollar amounts in thousands)

Explanation and Justification

Line Item		2022		2023		2024	
		Actual		Enacted		Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Research Supercomputing/CCRI	Pos/BA	3	178,059	4	70,000	4	70,000
	FTE/OBL	2	71,174	4	70,000	4	70,000
Research Acquisitions and Management	Pos/BA	0	14,985	0	30,000	0	30,000
	FTE/OBL	0	3,549	0	30,000	0	30,000
Total, Systems Acquisition	Pos/BA	3	193,044	4	100,000	4	100,000
	FTE/OBL	2	74,723	4	100,000	4	100,000

NOAA’s R&D HPC provides computational resources to support advances in environmental modeling crucial for understanding critical Earth system modeling issues. This investment includes the supercomputing systems, associated storage devices, advanced data communications, hardware and software engineering services, security, and necessary data center space. NOAA currently operates three R&D HPCs:

- Gaea – Located at Oak Ridge National Laboratory in Oak Ridge, Tennessee, Gaea is primarily used for long-term climate and weather predictions and projections. Gaea powers research into the relationship between climate change and extreme weather. Gaea enables scientists to better understand the relationship between the atmosphere’s chemical makeup and climate as well as the ocean’s role in climate.
- Hera – Located in Fairmont, West Virginia, HERA more than doubles the previous Theia system with a total capacity of 2.7 petaflops. It supports development of weather modeling across OAR and NWS to improve the prediction of high-impact weather events and evaluate potential future directions for models and data assimilation.
- Jet – Located at the David Skaggs Research Center in Boulder, Colorado, Jet primarily supports the HPC needs of the Hurricane Forecast Improvement program, numerical weather prediction, and other weather research..

NOAA’s R&D HPC also provides software engineering support and associated tools to re-architect NOAA’s applications to run efficiently on next generation fine-grain HPC architectures. Through a focused effort, engineers investigate and test new algorithms, train existing NOAA developers with new coding techniques, and assist these developers in accelerating the re-architecting of

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NOAA's applications. These software engineering efforts allow NOAA to take advantage of next-generation research computing technologies, but also help NOAA to more efficiently use its existing high performance computing assets.

NOAA's Research Acquisitions and Management program provides NOAA with the ability to acquire large-scale infrastructure for its world-class research which benefit the Nation. This program will acquire a rotating planar Phased Array Radar to perform risk reductions studies that will inform the NWS decision regarding their current radar system. PAR is a promising technology that could advance NOAA's current radars from 1988-based technology to radars that would be viable well into the 21st century and improve weather forecasts by improving warning times. Under the *Infrastructure Investment and Jobs Act of 2021*, NOAA's Research Acquisitions and Management Program is procuring mobile precipitation radars and Uncrewed Aircraft Systems platforms and sensors, in addition to constructing boundary layer profilers and mobile observation facilities. These activities will contribute to our understanding of wildfires and help to improve wildfire forecasts in the future.

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		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Research Acquisitions and Management	Pos./BA	0	30,000	0	40,000	0	10,000
	FTE/OBL	0	30,000	0	40,000	0	10,000

Phased Array Radar Research and Development Follow-On Plan (+\$10,000, 0 FTE/ 0 Positions) – This request will allow NOAA to acquire a dual polarization PAR to demonstrate and evaluate advanced techniques needed to perform the rapid updates required with a rotating planar array. This critical step would allow NOAA to evaluate dual polarization PAR technology to meet NOAA's weather radar requirements. PAR is a promising technology that could advance NOAA's current radars from 1988-based technology to radars that would be viable well into the 21st century. This request is part of an integrated effort to prepare for a formal Radar Acquisition Management Program and decision point in 2028 with the objective to evaluate the capabilities of PAR as a replacement for the current NEXRAD radar network by 2040.

Schedule and Milestones:

- FY 2024: Award contract and begin production of the Rotating Planar PAR demonstration prototype
- FY 2025: Begin development of Evaluation Test Plan
- FY 2026: Complete Evaluation Test Plan for the Rotating Planar PAR prototype
- FY 2026: Proposed installation of the Rotating Planar PAR prototype
- FY 2027: Preliminary evaluation of the Rotating Planar PAR capabilities
- FY 2028: Deliver report on Rotating Planar PAR capabilities to NWS

Deliverables:

- Report on analysis of RFI responses and recommendations for desired characteristics for Rotating Planar PAR prototype
- Evaluation Test Plan for the Rotating Planar PAR
- Report documenting the preliminary evaluation of the prototype Rotating Planar PAR

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Performance Measures	2024	2025	2026	2027	2028
Cumulative number of all-digital rotating PAR prototypes developed.					
With Increase	0	0	0	1	1
Without Increase	0	0	0	0	0
Outyear Costs:					
Direct Obligations	10,000	(30,000)	(30,000)	(30,000)	(30,000)
Capitalized	10,000	(30,000)	(30,000)	(30,000)	(30,000)
Uncapitalized	0	0	0	0	0
Budget Authority	10,000	(30,000)	(30,000)	(30,000)	(30,000)
Outlays	3,500	(10,500)	(10,500)	(10,500)	(10,500)
FTE	0	0	0	0	0
Positions	0	0	0	0	0

Outyear Funding Estimates:

Research Acquisitions and Management	2023 & Prior	2024	2025	2026	2027	2028	CTC	Total
Change from 2024 Base	N/A	10,000	(30,000)	(30,000)	(30,000)	(30,000)	N/A	N/A
Total Request	30,000	40,000	0	0	0	0	N/A	70,000

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Systems Acquisition
Subactivity: Research Acquisitions and Management

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1	Full-time permanent compensation	0	0	0	0
11.3	Other than full-time permanent	0	0	0	0
11.5	Other personnel compensation	0	0	0	0
11.8	Special personnel services payments	0	0	0	0
11.9	Total personnel compensation	0	0	0	0
12	Civilian personnel benefits	0	0	0	0
13	Benefits for former personnel	0	0	0	0
21	Travel and transportation of persons	0	0	0	0
22	Transportation of things	6	6	6	6
23	Rent, communications, and utilities	0	0	0	0
23.1	Rental payments to GSA	0	0	0	0
23.2	Rental Payments to others	0	0	0	0
23.3	Communications, utilities and misc charges	0	0	0	0
24	Printing and reproduction	0	0	0	0
25.1	Advisory and assistance services	0	0	0	0
25.2	Other services from non-Federal sources	96	26,547	26,547	36,547
25.3	Other goods and services from Federal sources	0	0	0	0
25.4	Operation and maintenance of facilities	0	0	0	0
25.5	Research and development contracts	0	0	0	0
25.6	Medical care	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0
26	Supplies and materials	556	556	556	556
31	Equipment	1,967	1,967	1,967	1,967
32	Lands and structures	0	0	0	0
33	Investments and loans	0	0	0	0
41	Grants, subsidies and contributions	924	924	924	924
42	Insurance claims and indemnities	0	0	0	0
43	Interest and dividends	0	0	0	0
44	Refunds	0	0	0	0
99	Total obligations	3,549	30,000	30,000	40,000

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		2024 Base		2024 Estimate		Decrease from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Research	Pos./BA	4	70,000	4	68,500	0	(1,500)
Supercomputing/CCRI	FTE/OBL	4	70,000	4	68,500	0	(1,500)

Research and Development (R&D) High Performance Computing (HPC) (-\$1,500, 0 FTE/ 0 Positions) – This request decreases directed funding to develop artificial intelligence systems to support preprocessing of dense observation datasets. These activities support extraction of the most useful information for inclusion in data assimilation for model initialization.

	2024	2025	2026	2027	2028
Outyear Costs:					
Direct Obligations	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)
Capitalized	(525)	(525)	(525)	(525)	(525)
Uncapitalized	0	0	0	0	0
Budget Authority	(1,500)	(1,500)	(1,500)	(1,500)	(1,500)
Outlays	(930)	(930)	(930)	(930)	(930)
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Systems Acquisition
Subactivity: Research Supercomputing/CCRI

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1 Full-time permanent compensation	394	412	412	412	0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	394	412	412	412	0
12 Civilian personnel benefits	118	124	124	124	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	0	0	0	0	0
22 Transportation of things	0	0	0	0	0
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental Payments to others	0	0	0	0	0
23.3 Communications, utilities and misc charges	506	506	506	506	0
24 Printing and reproduction	0	0	0	0	0
25.1 Advisory and assistance services	531	531	531	531	0
25.2 Other services from non-Federal sources	15,716	15,239	15,239	15,239	0
25.3 Other goods and services from Federal	46,597	46,591	46,591	46,591	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	274	274	274	274	0
31 Equipment	3,917	3,917	3,917	2,417	(1,500)
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	3,121	2,406	2,406	2,406	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total obligations	71,174	70,000	70,000	68,500	(1,500)

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Executive Summary

For FY 2024, NOAA requests a total of \$1,380,086,000 and 4,407 FTE/ 4,544 positions for the National Weather Service (NWS) including a net decrease of \$23,771,000 and a net increase of 2 FTE/ 3 positions in program changes.

The FY 2024 budget submission continues to work towards making the United States a Weather-Ready Nation (WRN). The NWS is transforming into a more nimble, flexible, and mobile agency that works eye-to-eye with critical decision makers to provide impact-based decision support services (IDSS) and life-saving products and services to the emergency management community and the public as they prepare for and respond to oncoming weather, water and climate events.

Extended drought, extreme heat, severe flooding, unprecedented wildfires, violent tornadoes, massive hurricanes, record-breaking snowfall, and periodic extreme cold temperatures have all combined to cause frequent multi-billion dollar weather disasters. In 2022, communities across the U.S. experienced 18 weather, water, and climate disasters with losses exceeding \$1 billion each as the influence of climate change is realized on the weather time scale.¹ As embodied in the NWS Strategic Plan, “Building a Weather-Ready Nation,” the NWS is transforming to meet changing and increasing needs for weather, water, and climate forecasts and warnings, and transforming the way people receive, understand, and act on our information. With 122 Weather Forecast Offices, 13 River Forecast Centers, nine National Centers, and other support offices, most of them operating 24 hours, 7 days a week, 365 days a year, the NWS collects and analyzes more than 6.3 billion observations per day and releases about 1.5 million forecasts and 50,000 warnings each year. In alignment with the *Weather Research and Forecasting Innovation Act of 2017* (P.L. 115-25), NWS will work to better serve partners through IDSS; develop a flexible, nimble, and empowered workforce; improve our infrastructure; enhance the effectiveness of forecasting in support of IDSS and enable rapid response during high impact events, and support continuous improvements through innovation.

As the nation continues to experience a growing number of record-breaking extreme weather and water events, NWS must also ensure that its products and services, including IDSS, reach everyone in the country, regardless of socio-economic status, race, language, or other factors that might lead to inequitable access. NWS aims to protect an increasingly vulnerable American population by delivering life-saving decision support services, and meeting the needs of historically underserved and socially vulnerable communities so that every community is ready, responsive, resilient in the face of extreme weather and water events. In 2022 and 2023, NWS conducted research and pilot demonstrations of potential tools and techniques, such as automated artificial intelligence and machine learning, to facilitate automatic translations of NWS products into Spanish. These efforts will lay the groundwork to

¹ NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2022). <https://www.ncdc.noaa.gov/billions/>, DOI: [10.25921/stkw-7w73](https://doi.org/10.25921/stkw-7w73)

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scale automated translations to additional languages in support of other Limited English Proficient populations. As directed in Executive Order (EO) 13985: Advancing Racial Equity and Support for Underserved Communities Through the Federal Government, NWS is working to recognize and redress inequities in policies and programs that serve as barriers to equal opportunity. Building upon the 2021 Service Equity Assessment, NWS completed its Service Equity Action Plan in 2022 with the goal of improved engagement with historically underserved and socially vulnerable communities to facilitate provision of relevant weather, water, and climate information, products, and services.

Provision of IDSS to all communities in an equitable manner is the only way to fully meet the mission of the NWS and realize the vision of a WRN.

Through FY 2022, NWS has made several improvements:

- To better serve our partners and leverage the best of our employees' talents at the national and local level, the NWS has defined a Collaborative Forecast Process (CFP) to guide field demonstration plans. The CFP ensures NWS provides weather, water, and climate data forecasts and warnings for the protection of life and property and the enhancement of the national economy in the most efficient and effective way possible. These elements all establish the building blocks for CFP. NWS conducted a Quantitative Precipitation Forecast CFP demonstration in FY 2022 and also completed plans for a Winter Weather CFP.
- NWS initiated execution and integration of Bipartisan Infrastructure Law funds that will further strengthen our ocean observation and Automated Surface Observing Systems infrastructure, further enhance flood inundation and water modeling, allow for Advanced Weather interactive Processing System to be moved to the cloud, and improve capabilities related to wildfire detection and monitoring.
- The new Weather and Climate Operational Supercomputing System, which went live in June 2022, will allow NWS to expand its current computing power by more than 200 percent and continue to optimize its ability to provide accurate and timely weather forecasts.
- NWS will strengthen its ability to provide robust, secure, flexible and high-capacity services to the nation by continuing to implement the resilient Integrated Dissemination Program (IDP), an on-premise private cloud located in Boulder, CO, and College Park, MD. This includes the replacement of NWSChat with a commercial-off-the-shelf solution that provides the required bandwidth, security and reliability to support both NWS staff and our partners during high impact events.

NWS is focused on enhancing the protection of life and property by empowering our people, improving our infrastructure, and looking towards the future. Going forward in FY 2024, NWS will maintain recent investments to optimize the IDP in accordance with the plan

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provided to Congress. The investments in IDP will allow NWS to reliably and quickly deliver critical observations, model guidance, forecasts, and watch and warning information to NWS meteorologists, emergency management partners, the Weather Enterprise, and the public. In addition, NWS will address critical improvements needed to its Tsunami Warning Program to ensure mission delivery. Tsunamis, while relatively rare events, are unpredictable and extremely high impact with potentially disastrous consequences to life and property along the already vulnerable U.S. coastlines. NWS will focus on unification of its Tsunami Warning Centers through a Common Analytic System to ensure seamless Continuity of Operations and mitigate risk of operational failure, as well as Information Technology / Information Security investments to meet rigorous FISMA (High) Information Security requirements.

Significant Adjustments:

Inflationary Adjustments

NOAA's FY 2024 Base includes a net increase of \$39,850,000 and 0 FTE/ 0 positions to account for the full funding requirement for certain inflationary adjustments to current programs for NWS activities. This includes inflationary increases for labor and non-labor activities including benefits and rent charges from the General Services Administration.

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PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)**

		2022		2023		2024		2024		Increase/Decrease	
		Actual		Enacted		Base		Estimate		from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
National Weather Service (NWS)											
Observations	Pos/BA	724	239,198	725	251,462	725	258,207	725	253,462	0	(4,745)
	FTE/OBL	690	243,450	712	251,462	712	258,207	712	253,462	0	(4,745)
Central Processing	Pos/BA	226	105,850	231	110,500	231	113,100	234	112,367	3	(733)
	FTE/OBL	217	104,730	221	110,500	221	113,100	223	112,367	2	(733)
Analyze, Forecast and Support	Pos/BA	2,946	560,493	2,989	589,500	2,989	613,733	2,989	609,983	0	(3,750)
	FTE/OBL	2,871	558,717	2,918	589,500	2,918	613,733	2,918	609,983	0	(3,750)
Dissemination	Pos/BA	88	105,123	93	116,979	93	118,771	93	121,218	0	2,447
	FTE/OBL	83	98,122	85	116,979	85	118,771	85	121,218	0	2,447
Science and Technology Integration	Pos/BA	470	196,861	471	178,952	471	183,432	471	178,952	0	(4,480)
	FTE/OBL	433	174,737	438	178,952	438	183,432	438	178,952	0	(4,480)
NOAA Community Project Funding/ NOAA Special Projects	Pos/BA	0	3,881	0	7,265	0	7,265	0	0	0	(7,265)
	FTE/OBL	0	3,731	0	7,265	0	7,265	0	0	0	(7,265)
TOTAL NWS - ORF	Pos/BA	4,454	1,211,406	4,509	1,254,658	4,509	1,294,508	4,512	1,275,982	3	(18,526)
	FTE/OBL	4,294	1,183,487	4,374	1,254,658	4,374	1,294,508	4,376	1,275,982	2	(18,526)
Systems Acquisition	Pos/BA	34	176,345	31	95,849	31	95,849	31	94,104	0	(1,745)
	FTE/OBL	25	116,058	30	95,849	30	95,849	30	94,104	0	(1,745)
Construction	Pos/BA	2	12,766	1	13,500	1	13,500	1	10,000	0	(3,500)
	FTE/OBL	0	9,620	1	13,500	1	13,500	1	10,000	0	(3,500)
TOTAL NWS - PAC	Pos/BA	36	189,111	32	109,349	32	109,349	32	104,104	0	(5,245)
	FTE/OBL	25	125,678	31	109,349	31	109,349	31	104,104	0	(5,245)
TOTAL NWS	Pos/BA	4,490	1,400,517	4,541	1,364,007	4,541	1,403,857	4,544	1,380,086	3	(23,771)
	FTE/OBL	4,319	1,309,165	4,405	1,364,007	4,405	1,403,857	4,407	1,380,086	2	(23,771)

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		2024 Base		2024 Estimate		Decrease from 2024 Base	
		<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>
NOAA Community Project Funding/ NOAA Special Projects	Pos./BA FTE/OBL	0	7,265	0	0	0	(7,265)
		0	7,265	0	0	0	(7,265)

Terminate NOAA Community Project Funding/NOAA Special Projects (-\$7,265, 0 FTE/ 0 Positions) - This program change removes funding for one-time congressionally directed projects provided in the FY 2023 enacted bill.

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Activity: Observations
Subactivity: Observations

Goal Statement

NWS relies on environmental and climatological observations, from the surface of the sun to the bottom of the sea, to meet its forecast and warnings mission. NWS integrates *in situ* and remotely-sensed data from satellites and radars, NOAA systems, commercial sources, Federal, and international partners in support of statutory mandates and the Department of Commerce 2022-2026 Strategic Plan, Strategic Objective 3.1: Increase the impact of climate data and services for decision makers through enhanced service delivery and improved weather, water, and climate forecasts.

Base Program

Funding from this Activity is used to operate and maintain all NWS observing systems, evaluate observational requirements, engineer technical solutions, perform systems development and testing, and purchase additional observational data from select third-party vendors. Together, these systems and the additional data provide critical infrastructure that enable forecasters to identify emerging threats, characterize their severity, and provide detailed warnings and forecasts.

Observing systems must support warning and forecasting in all mission service areas of the NWS including aviation weather, severe weather, space weather, marine weather, tropical weather, fire weather, climate and more. All of these systems measure different phenomena from different perspectives, such as ground or air or remote sensing, and they all complement each other to form a holistic picture of the environment. By gathering information from multiple sources, NWS ensures the most complete data picture possible.

Specific activities in Observations include:

- Manage operations and maintenance of NWS observational systems;
- Provide holistic, ongoing assessments/analyses of the observing systems portfolio to optimize resource allocation;
- Identify, support, and manage NWS' observation requirements;
- Seek solutions to fulfill NWS' observation requirements;
- Develop a strategy to maximize effectiveness while minimizing cost; and,
- Coordinate NWS' observing system activities within NOAA and with its partners.

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Statement of Operating Objectives

Schedule and Milestones:

FY 2024 – FY 2028

- Sustain the tri-agency Next Generation Weather Radar (NEXRAD) radar network in support of severe weather warnings and forecasts
- Sustain the radiosonde, NOAA profiler, and aircraft reporting networks in support of upper air observations and modeling
- Sustain the tri-agency Automated Surface Observing System (ASOS) in support of aviation, climate, and other services
- Operate and maintain Coastal Weather Buoys, Coastal Marine Automated Networks (C-MAN), Pacific Ocean Tropical Atmosphere Ocean (TAO) buoy array, and Deep-ocean Assessment and Reporting of Tsunamis (DART) in support of marine, tropical, and tsunami warnings and forecasts
- Sustain data processing of the National Solar Observatory's Global Oscillation Network Group (GONG) and observatory in support of space weather warnings and forecasts
- Sustain the Cooperative Observer Program (COOP) in support of climate and other services
- Develop, test, and deploy NEXRAD Radar Product Generator and Radar Data Acquisition Software Builds
- Develop, test, and deploy Terminal Doppler Weather Radar (TDWR) Supplemental Product Generator (SPG) Builds
- Develop, test, and deploy NOAA Profiler Network Software Builds
- Sustain the Meteorological Assimilation Data Ingest System
- Transition legacy General Services Administration circuits supporting NEXRAD and ASOS to the Enterprise Infrastructure Solutions

Deliverables:

- Support operations of 122 NEXRAD systems at 96 percent availability
- Support operations of 45 Federal Aviation Administration (FAA) TDWR SPG systems
- Support operations of 102 radiosonde stations in the United States and its territories, and Pacific Island nations, maintaining 90 percent availability
- Support operations and maintenance of 308 NWS, 570 FAA, and 78 Department of Defense (DoD) ASOS units under a reimbursable funding agreement at 96 percent availability
- Support operations of 104 Coastal Weather Buoys systems at 80 percent availability
- Support operations of 43 C-MAN stations at 80 percent availability
- Support operations of 39 DART buoys at 70 percent availability

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- Support operations of the TAO buoy array at 70 percent availability
- Continuity of GONG data to the Space Weather Prediction Center
- Support operations of three Wind Profiler systems in Alaska at 96 percent availability
- Support transition of the Multi-Radar/Multi-System sustainment to NWS
- Oversee continued observational data purchasing
- Leverage data flow from aircraft observations commercial data purchases
- Maintain National Mesonet Program Office and leverage data flow from commercial environmental data purchases
- Leverage data flow from commercial lightning data purchases
- Leverage data flow from ship, vessel, or other marine surface meteorological and oceanographic observations data purchases
- Support strategic and tactical ice analysis services for the tri-agency U.S. National Ice Center by leveraging data from foreign satellite data purchases and providing support for the International Arctic Buoy Program
- Increase interoperability of observation data formats with key international partners
- Provide maintenance, repair, quality assurance, and warehousing of new and reconditioned parts;
- Develop and maintain software for observing systems;
- Perform system and operational tests and evaluation of alternative systems; and,
- Continue the transition of legacy circuits supporting NEXRAD and ASOS inventory to the Enterprise Infrastructure Solutions

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Explanation and Justification

		2022 Actual		2023 Enacted		2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Observations	Pos/BA	724	239,198	725	251,462	725	258,207
	FTE/OBL	690	243,450	712	251,462	712	258,207

In FY 2024, the Observations portfolio will support the observing systems, such as the NEXRAD, ASOS, and radiosondes that collect data necessary to provide weather forecasts, warnings, and outlooks. They will also operate and maintain multiple networks of weather/ocean buoys, and develop, test and deploy software builds for the NEXRAD Radar Product Generator and Radar Data Acquisition, the TDWR SPG, and the NOAA Profiler Network.

In FY 2023, NWS is maintaining an average C-MAN and weather buoy availability rate of 80 percent, TAO and DART buoy availability of 65 percent, a NEXRAD system availability rate of 96 percent, radiosonde system availability of 90 percent, and an ASOS system availability rate of 96 percent. In FY 2023, NWS will continue to maintain its critical observing systems while improving their sustainability through configuration management and sustaining engineering.

Under Observations, NWS maintains the following programs to accomplish this activity:

Upper Air Observations Program provides a vertical profile of meteorological data across the Earth’s atmosphere. To provide humidity, pressure, and other data that inform weather forecasts, NWS operates a radiosonde network, acquires observations from private and commercial aircraft, acquires lightning data from commercial vendors, and operates a wind profiler network in Alaska. In addition, the program provides for critical, terrestrial-based space weather observations.

- Each year, NWS launches over 78,000 radiosondes from locations throughout the United States (U.S.) and its territories, including the Caribbean and Pacific Island nations. Radiosondes provide atmospheric profiles of pressure, temperature, relative humidity, and winds aloft. These data are critical inputs for NWS weather prediction models and forecaster operations supporting severe storm, aviation and marine forecasts, and climate and other research uses. Radiosondes also serve to provide a critical reference for satellite-sounding data, enabling a global picture of the atmosphere.
- The Aircraft Based Observations program procures vertical atmospheric profiles of wind and temperature from 3,500 aircraft providing a vertical profile similar to a rawinsonde. Aircraft record wind and temperature observations every few seconds, on

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ascent and descent near airports, and at cruise level, a wind and temperature observation is provided every 14 minutes. Additionally, a subset of 135 of the 3,500 aircraft are equipped with a high-quality water vapor instrument NWS developed and installed in partnership with industry to collect data over the continental U.S. Aircraft-based observation profiles are the most important source of observations for the skill of hourly high-resolution numerical weather prediction over the continental U.S., and the third most important for global numerical weather prediction.

- The Alaskan NOAA Profiler Network consists of three Doppler radar sites providing continuous vertical wind profile data. The most critical use of the Alaska profiler network is to support the production of aviation warnings of volcanic ash, which can cause catastrophic engine failure for aircraft in flight.
- NWS supports the National Solar Observatory's GONG, which consists of six ground-based observatories strategically placed around the globe so that at least one site has the opportunity to observe the sun at all times.

Radar Observations Program provides meteorological data about winds, clouds, and precipitation that provide real-time information to forecasters for issuing severe weather warnings, with guidance on storm impacts, quantitative precipitation estimates and severity. To produce timely and accurate storm data, NWS operates 122 NEXRADs and acquires supplementary radar data from other sources.

- NEXRAD is a tri-agency weather radar system with NWS, the DoD, and FAA. NEXRAD is the primary tool used by NOAA's meteorologists for issuing warnings for flash floods, tornadoes, and severe thunderstorms.
- NWS leverages other radar data sources such as the FAA's TDWR to supplement the NEXRAD network to ensure adequate national radar coverage.

Surface Observations Program provides meteorological data at the Earth's surface. To provide on-the-ground observations, NWS operates the ASOS, the COOP, and the National Mesonet Program.

- ASOS is the Nation's primary surface weather observing network supporting aviation operations and the needs of the meteorological, hydrological, and climatological research communities. ASOS is a tri-agency automated surface observation system with NWS, FAA, and DoD and consists of 956 operational systems.
- COOP is a network of volunteer observers providing a significant and cost-effective source of climate and weather data. The COOP data are the primary data utilized in the NWS snowfall forecast guidance.
- The National Mesonet Program is a network of automated weather stations located in areas most susceptible to severe weather and data sparse regions and installed closely together to gather "mesoscale meteorological" observations such as temperature, humidity, lightning, and atmospheric pressure. Due to their proximity to each other, Mesonet data can identify small-scale features at the surface that can indicate rapidly deteriorating weather conditions not shown by other observations.

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Marine Observations Program provides real-time meteorological, oceanographic, climatological and tsunami in-situ observations in the open ocean and coastal zones surrounding the United States and the equatorial Pacific Ocean. NWS operates the Weather and Ocean Platform network, the TAO buoy array, the DART buoy networks which includes the Voluntary Observing Ship (VOS) program.

- The Coastal Weather Buoys and C-MAN stations are meteorological and ocean observing platforms that provide real-time, in-situ, marine meteorological, oceanographic, and geophysical observations. The 93 moored Coastal Weather Buoys and 40 land-based C-MAN stations operate in the coastal U.S. and offshore waters from the western Atlantic, Gulf of Mexico, and Caribbean Sea to the western Pacific around Hawaii, to the Bering Sea, and in the Great Lakes. The buoys and C-MAN stations provide forecasters and the public with frequent, high-quality marine observations for forecast and warning preparation (including for hurricanes) and to verify forecasts after they are produced. Other users rely on the observations and forecasts for commercial and recreational activities.
- The TAO buoy array in the equatorial Pacific Ocean is designed for the study of sub-seasonal to seasonal and year-to-year climatic variations related to El Niño and the Southern Oscillation that can have tremendous impact on the Nation's weather. These data are used to produce NWS' seasonal outlooks. Like shorter-term forecasting, the study of this variability enables more rapid prediction of climate anomalies that may result in hazardous weather conditions within the United States. The array consists of 55 moored ocean buoys and four Acoustic Doppler Current Profilers.
- The DART buoy network, located along the 'ring of fire' throughout the Pacific Ocean, and in the Atlantic Ocean, Caribbean Sea, and Gulf of Mexico, collects observational data that is used by NWS' Tsunami Warning Center to prepare and refine tsunami watches and warnings covering all U.S. territories and coastal states.
- The VOS program obtains meteorological and oceanographic observations from ships in both coastal and high seas areas to improve tropical and marine watches and warnings, as well as global weather models, and informs local ocean surface conditions. The VOS program is supported by NWS Port Meteorological Officers located at twelve major port cities across the country.

Systems Engineering and Support provides systems acquisition, engineering, and logistics support for NWS mission critical observing systems, as well as the functional expertise necessary to design, acquire, test, and provide life cycle support. Actions include:

- Performing system engineering and acquisition to support operational weather systems.
- Planning, coordinating, and implementing hardware modifications, retrofits, and rehabilitation programs to meet changing program requirements and improve system performance.
- Directing product identification, configuration control, auditing, and status accounting for all systems that are under formal

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NWS Configuration Management control.

- Prescribing and managing efficient logistics for stocking levels (i.e., level of stock needed to balance the need for the part, without carrying the overhead of having unneeded items on hand) and ensuring procurement of initial and replenishment spares for depot-level stock (i.e. required level of on-hand spare parts inventory needed to repair a particular system or system component).
- Warehousing and shipment of supplies and replacement parts for NWS observing systems to support maintenance and repair.
- Supports NOAA-owned Sterling Field Support Center which is a critical facility on 230 acres for testing and evaluating quality of weather instruments, direct operational field support for several observing systems, training support. Site also serves as the alternate location for Emergency Continuity of Operations ("Site B") for NOAA and NWS Headquarters.

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(Dollar amounts in thousands)

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Observations	Pos./BA	725	258,207	725	253,462	0	(4,745)
	FTE/OBL	712	258,207	712	253,462	0	(4,745)

Reduce National Mesonet Program (-\$4,745, 0 FTE/ 0 Positions) – With this decrease, NWS will sustain a core set of ongoing activities and procurement of non-Federal surface and near-surface mesonet observational data from external partners. This request reduces the additional resources provided in the FY 2023 appropriations for the National Mesonet Program. This program change was taken to fund other NOAA priorities.

**Schedule and Milestones:
FY 2024-2028**

- Sustain the highest priority requirements to the National Mesonet Program capabilities and infrastructure to continue availability at 99 percent or greater of observations purchased under this program

Deliverables:

- Maintain the core of the National Mesonet Program and high-quality observations that support severe weather watches and warnings
- Maintain at least 99 percent availability of observational data within this program

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Performance Measures	2024	2025	2026	2027	2028
Number of high-quality Mesonet observation platforms					
With Decrease	7,312	7,312	7,312	7,312	7,312
Without Decrease	7,500	7,500	7,500	7,500	7,500
Outyear Costs:					
Direct Obligations	(4,745)	(4,745)	(4,745)	(4,745)	(4,745)
Capitalized	(4,745)	(4,745)	(4,745)	(4,745)	(4,745)
Uncapitalized	-	-	-	-	-
Budget Authority	(4,745)	(4,745)	(4,745)	(4,745)	(4,745)
Outlays	(2,942)	(2,942)	(2,942)	(2,942)	(2,942)
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Observations
Subactivity: Observations

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2023 Base
11.1 Full-time permanent compensation	74,484	77,677	80,784	80,784	0
11.3 Other than full-time permanent	98	101	105	105	0
11.5 Other personnel compensation	2,459	2,566	2,669	2,669	0
11.7 NOAA Corps	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	77,041	80,344	83,558	83,558	0
12 Civilian personnel benefits	32,492	33,372	34,039	34,039	0
13 Benefits for former personnel	37	38	39	39	0
21 Travel and transportation of persons	740	771	789	789	0
22 Transportation of things	3,324	3,465	3,547	3,547	0
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	6,089	6,190	6,337	6,337	0
23.2 Rental Payments to others	3,753	3,918	4,011	4,011	0
23.3 Communications, utilities and misc charges	11,480	11,973	11,458	11,458	0
24 Printing and reproduction	24	25	26	26	0
25.1 Advisory and assistance services	27,036	28,088	28,650	28,650	0
25.2 Other services from non-Federal sources	52,720	53,537	55,406	50,661	(4,745)
25.3 Other goods and services from Federal sources	1,780	1,798	1,834	1,834	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	335	349	356	356	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	22,563	23,403	23,871	23,871	0
31 Equipment	1,104	1,141	1,164	1,164	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	2,921	3,041	3,113	3,113	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	11	9	9	9	0
44 Refunds	0	0	0	0	0
99 Total obligations	243,450	251,462	258,207	253,462	(4,745)

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Activity: Central Processing
Subactivity: Central Processing

Goal Statement

Central Processing is the second step in the NWS forecast process. Through this Activity, NWS ingests data obtained from observing infrastructure and delivers it in a usable form to NWS modelers and meteorologists in support of the Department of Commerce 2022-2026 Strategic Plan, Strategic Objective 3.1: Increase the impact of climate data and services for decision makers through enhanced service delivery and improved weather, water, and climate forecasts.

Base Program

Activities under Central Processing include managing the Weather and Climate Operational Supercomputing System (WCROSS), the Advanced Weather Interactive Processing System (AWIPS), hydrology information technology initiatives, and the information technology (IT) infrastructure that supports national centers and field operations. Together these ensure the uninterrupted flow of information from collection of observations to central guidance production and local access to all essential weather and climate data products.

Specific activities in Central Processing include:

- Operate NWS' IT processing infrastructure;
- Sustain reliability of NWS' IT processing by keeping infrastructure up to date;
- Identify NWS' processing requirements and gaps;
- Review NWS' processing system capabilities;
- Seek solutions to fulfill NWS processing requirements;
- Coordinate NWS' processing system activities across NOAA; and,
- Maintain a 24/7 help desk for all forecast systems.

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Statement of Operating Objectives

Schedule and Milestones:

FY 2024 – FY 2028

- Manage high performance computing usage, reliability, and resources including a major system upgrade
- Support scheduled improvements to National Centers for Environmental Prediction (NCEP) production suite
- Maintain updated AWIPS architecture and infrastructure at National Centers, Weather Forecast Offices (WFOs), River Forecast Centers (RFCs)
- Continue to improve flood lead time and accuracy improvement

Deliverables:

- WCOSS meeting or exceeding reliability metrics
- 43 million numerical prediction products produced per day for weather, climate, ocean, river, and space-weather forecasts
- 4,011 operational Advanced Hydrologic Prediction System (AHPS) forecast locations
- AHPS performance meeting or exceeding flood lead time and accuracy goals
- National Center and Regional IT infrastructure that meets operational reliability goals through improved annual maintenance

Explanation and Justification

		2022		2023		2024	
		Actual		Enacted		Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Central Processing	Pos/BA	226	105,850	231	110,500	231	113,100
	FTE/OBL	217	104,730	221	110,500	221	113,100

In FY 2023, NWS began the operational transition of National Centers to use of AWIPS II enabling progress towards the implementation of a common operating picture from the national to local scale for greater efficiency in collaborative forecast processes. In FY 2022, NWS operationalized new service backup capabilities for its river forecast centers through the National Water Center. NWS completed the implementation of an initial operational capability of AWIPS Hazard Services in FY 2020 which simplified and modernized the software forecasters use to generate lifesaving watches and warnings. In FY 2022, NWS implemented further advancements to AWIPS Hazard Services enhancing warning capabilities for winter weather and non-precipitation hazards. AWIPS

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It is an underlying software design enhancement that enables the AWIPS software, NWS' primary forecasting software, to more rapidly integrate new data sources and forecast capabilities into operations while improving system maintainability. In FY 2020, NWS awarded a new WCOSS contract completing the transition of operations to new WCOSS supercomputers in FY 2022. In FY 2024, NWS will continue to integrate new forecast capabilities into AWIPS and will implement model improvements on high performance computing systems under a new WCOSS contract.

Central Processing maintains the following programs to accomplish this activity:

NCEP Central Operations (NCO) provides support for WCOSS including the software and infrastructure that forms the basis for predictions from NCEP Centers and WFOs through its Weather and Climate Computing Infrastructure Services program. The Weather and Climate Computing Infrastructure Services program provides the following services:

- Performs quality assurance of incoming observations and outgoing products;
- Transitions and disseminates numerical weather and climate prediction models from development into operational use by forecasters at NCEP and the WFOs;
- Performs 24/7 system maintenance and administration service;
- Performs software development for data processing, display, interaction, and product generation; and,
- Monitors the creation of all products in the NCEP production suite on a 24/7 basis.

Advanced Weather Interactive Processing System (AWIPS) is the information processing, display, and telecommunications system that is the cornerstone of NWS field operations. AWIPS provides the following services:

- Integrates and displays observing data (meteorological, hydrological, satellite, and radar) at NWS field offices;
- Processes and displays forecast data at operational sites;
- Provides an interactive communications system including the Satellite Broadcast Network to connect NWS field locations and allows a mechanism for external partners to access the data;
- Initiates the dissemination of weather and flood warnings and forecasts in a rapid and highly reliable manner; and,
- Provides the communication interface for the public to see NOAA's data.

Hydrology Information Technology Initiatives gather, integrate and utilize advanced and localized water and related observations to predict streamflow and produce water resources information to inform decisions, which optimize water use and mitigate the impacts of floods and droughts.

- The AHPS is a web-based suite of graphical river-forecast products that provide advanced information on the magnitude

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and likelihood of floods and droughts. Advanced river forecast information is provided at 4,011 locations throughout the United States to enable government agencies, private institutions, and individuals to make more informed decisions about risk-based policies and actions to mitigate the dangers posed by floods and droughts. This advanced forecast information includes uncertainty information generated by the Hydrologic Ensemble Forecast Service.

- Community Hydrologic Prediction System is the information technology infrastructure that all 13 RFCs use to develop and run operational hydrologic forecast models. This infrastructure generates data and information that water resource managers and emergency managers use to effectively respond to flooding events.

National Centers and Regional IT Infrastructure maintain the information technology infrastructure and standards that enable the National Centers and regional offices, including forecast offices, to effectively work together. This includes:

- Computing that occurs outside of AWIPS;
- Local area networking;
- Security; and
- Data center power and cooling

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PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Central Processing	Pos./BA	231	113,100	234	114,850	3	1,750
	FTE/OBL	221	113,100	223	114,850	2	1,750

Tsunami Unification - Addressing Information Security Risks (+\$1,750, 2 FTE/ 3 Positions) - This request will support unification of Tsunami Warning Centers (TWCs) operation procedures at the analytic level, thereby ensuring product consistency and 24/7 backup capabilities. IT and Information Security solutions are a prerequisite for a successful TWC unification. Currently, the TWCs do not meet the *Federal Information Security Management Act (FISMA)* requirements, posing an acute operational risk to NOAA’s TWC operations. This results in potentially losing Authority to Operate due to inherent, ongoing, and unmanageable information security risks. NOAA's TWC operational analysis, product generation and dissemination equipment are required to meet rigorous FISMA (High) Information Security requirements. Long-term hardware, software, and support solutions must be identified and implemented to safeguard systems and ensure operational integrity. This proposal identifies appropriate investments to implement and maintain FISMA (High) compliance at NOAA’s TWCs. This will be accomplished through a complete technology refresh of the TWCs to replace all end of life equipment to mitigate existing operational security risk and enable consistent operational processes for backup capabilities between TWCs.

Schedule and Milestones:

FY 2024 – FY 2028

- Complete technology refresh of TWCs to replace all end of life equipment mitigating existing operational security risk
- Implement matching systems infrastructure across both TWCs to enable consistent operational processes for backup capabilities
- On-board dedicated IT support at each of the TWCs to ensure proper oversight and ongoing security maintenance of systems

Deliverables

- Consistent systems infrastructure for complete backup capabilities across TWCs
- Secure FISMA (High) systems with routine on-going cyclical technology updates to maintain appropriate security risk levels

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Performance Measures	2024	2025	2026	2027	2028
Outstanding POAM items on operational systems					
With Increase	11	8	6	4	1
Without Increase	15	17	19	21	21
Automatic Failover/COOP (in % of operations that is capable of seamless backup/continuity of operations)					
With Increase	50%	65%	85%	100%	100%
Without Increase	45%	40%	35%	35%	35%
Outyear Costs:					
Direct Obligations	1,750	1,750	1,750	1,750	1,750
Capitalized	1,366	1,366	1,366	1,366	1,366
Uncapitalized	384	384	384	384	384
Budget Authority	1,750	1,750	1,750	1,750	1,750
Outlays	1,085	1,085	1,085	1,085	1,085
FTE	2	2	2	2	2
Positions	3	3	3	3	3

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PROGRAM CHANGE PERSONNEL DETAIL**

Activity: Central Processing
Subactivity: Central Processing
Program Change: Tsunami Unification - Addressing Information Security Risks

Title	Grade	Number	Annual Salary	Total Salaries
IT Specialist	13	3	120,044	360,132
Total		3		360,132
Less Lapse	25.00%	(1)		(90,033)
Total full-time permanent (FTE)		2		270,099
2024 Pay Adjustment (5.2%)				14,045
				284,144

Personnel Data Summary

Full-time Equivalent Employment (FTE)	
Full-time Permanent	2
Total FTE	2
Authorized Positions:	
Full-time Permanent	3
Total Positions	3

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(Direct Obligations amounts in thousands)

Activity: Central Processing
Subactivity: Central Processing

Object Class		2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1	Full-time permanent compensation	27,925	29,106	30,270	30,554	284
11.3	Other than full-time permanent	40	41	43	43	0
11.5	Other personnel compensation	826	863	898	898	0
11.7	NOAA Corps	0	0	0	0	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	28,791	30,010	31,211	31,495	284
12	Civilian personnel benefits	12,086	12,409	12,657	12,757	100
13	Benefits for former personnel	14	14	14	14	0
21	Travel and transportation of persons	68	71	72	72	0
22	Transportation of things	104	109	111	111	0
23	Rent, communications, and utilities	0	0	0	0	0
23.1	Rental payments to GSA	3,257	3,304	2,866	2,866	0
23.2	Rental Payments to others	0	0	0	0	0
23.3	Communications, utilities and misc charges	442	453	462	462	0
24	Printing and reproduction	1	1	1	1	0
25.1	Advisory and assistance services	11,031	11,552	11,783	11,783	0
25.2	Other services from non-Federal sources	31,336	34,162	35,138	35,388	250
25.3	Other goods and services from Federal sources	1,137	1,155	1,180	1,180	0
25.4	Operation and maintenance of facilities	0	0	0	0	0
25.5	Research and development contracts	0	0	0	0	0
25.6	Medical care	0	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0	0
26	Supplies and materials	12,625	13,224	13,488	13,488	0
31	Equipment	3,701	3,896	3,974	5,090	1,116
32	Lands and structures	0	0	0	0	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	134	137	140	140	0
42	Insurance claims and indemnities	0	0	0	0	0
43	Interest and dividends	3	3	3	3	0
44	Refunds	0	0	0	0	0
99	Total obligations	104,730	110,500	113,100	114,850	1,750

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(Dollar amounts in thousands)

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>
Central Processing	Pos./BA	231	113,100	231	110,617	0	(2,483)
	FTE/OBL	221	113,100	221	110,617	0	(2,483)

Eliminate Advanced Hydrologic Prediction Services System Expansion (-\$2,483, 0 FTE/ 0 Positions) –This program change is requested to support other NOAA priorities. This program change will eliminate the expansion and improvement of the Hydrologic Ensemble Forecasting System (HEFS) at AHPS forecast locations, delay enhancement to the cloud-based provision of hydrologic forecast and warning information, and significantly curtail needed stakeholder engagement on current and future hydrologic services.

Schedule and Milestones

FY 2024 - 2028

- Maintain availability of HEFS version 1.0 services

Deliverables

- HEFS services are sustained nationally at 3,300 AHPS water forecast service locations with GEFS version 13.
- Initial deployment of NWPS including Flood Inundation Mapping and National Water Model version 3.0 in FY 2024

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Performance Measures	2024	2025	2026	2027	2028
HEFS version 2.0 development percentage complete					
With decrease	0%	0%	0%	0%	0%
Without decrease	20%	40%	60%	80%	100%
Number of development and deployments of NWPS					
With decrease	1	0	0	0	0
Without decrease	1	1	1	1	1
Outyear Costs:					
Direct Obligations	(2,483)	(2,483)	(2,483)	(2,483)	(2,483)
Capitalized	(2,483)	(2,483)	(2,483)	(2,483)	(2,483)
Uncapitalized	0	0	0	0	0
Budget Authority	(2,483)	(2,483)	(2,483)	(2,483)	(2,483)
Outlays	(1,539)	(1,539)	(1,539)	(1,539)	(1,539)
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Central Processing
Subactivity: Central Processing

Object Class		2022	2023	2024	2024	Decrease
		Actual	Enacted	Base	Estimate	from 2024 Base
11.1	Full-time permanent compensation	27,925	29,106	30,270	30,270	0
11.3	Other than full-time permanent	40	41	43	43	0
11.5	Other personnel compensation	826	863	898	898	0
11.7	NOAA Corps	0	0	0	0	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	28,791	30,010	31,211	31,211	0
12	Civilian personnel benefits	12,086	12,409	12,657	12,657	0
13	Benefits for former personnel	14	14	14	14	0
21	Travel and transportation of persons	68	71	72	72	0
22	Transportation of things	104	109	111	111	0
23	Rent, communications, and utilities	0	0	0	0	0
23.1	Rental payments to GSA	3,257	3,304	2,866	2,866	0
23.2	Rental Payments to others	0	0	0	0	0
23.3	Communications, utilities and misc charges	442	453	462	462	0
24	Printing and reproduction	1	1	1	1	0
25.1	Advisory and assistance services	11,031	11,552	11,783	11,783	0
25.2	Other services from non-Federal sources	31,336	34,162	35,138	32,655	(2,483)
25.3	Other goods and services from Federal sources	1,137	1,155	1,180	1,180	0
25.4	Operation and maintenance of facilities	0	0	0	0	0
25.5	Research and development contracts	0	0	0	0	0
25.6	Medical care	0	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0	0
26	Supplies and materials	12,625	13,224	13,488	13,488	0
31	Equipment	3,701	3,896	3,974	3,974	0
32	Lands and structures	0	0	0	0	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	134	137	140	140	0
42	Insurance claims and indemnities	0	0	0	0	0
43	Interest and dividends	3	3	3	3	0
44	Refunds	0	0	0	0	0
99	Total obligations	104,730	110,500	113,100	110,617	(2,483)

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Activity: Analyze, Forecast and Support
Subactivity: Analyze, Forecast and Support

NWS' mission is to provide forecasts, warnings, and impact-based decision support services for the protection of life and property, and to support the national economy. The Analyze, Forecast and Support (AFS) Activity leverages innovations from the Science and Technology Integration (STI) Activity, and utilizes output and support services from the Observations, Central Processing, and Dissemination Activities by applying expertise to the observed data, model outputs, and dissemination systems, resulting in forecasts, warnings, and impact-based decision support services (IDSS) for the Nation in support of the Department of Commerce 2022-2026 Strategic Plan, Strategic Objective 3.1: Increase the impact of climate data and services for decision makers through enhanced service delivery and improved weather, water, and climate forecasts.

Base Program

NWS' national network of forecast offices, specialized centers, and associated workforce of meteorologists, hydrologists, climatologists, and space physicists is supported through the AFS Activity. This expert workforce monitors the weather, water, climate and space weather from our oceans to the surface of the sun, 24 hours a day, seven days a week. These professionals provide information using a collaborative forecast process that enables forecasts and warnings to benefit from the NWS' fully integrated forecast process. Forecasts globally support agriculture, transportation, energy production and water management among other missions and industries. Forecasts and warnings, provided days in advance of pending winter storms or hurricanes, wildland fire conditions, tornado outbreaks, heat waves or river floods, enable communities, industry, and emergency managers to plan effective preparation and response strategies. Warnings for high impact, rapidly evolving hazards such as solar storms, tornadoes, tsunamis, flash floods or ash plumes following volcanic eruptions, enable decision makers to keep the public out of harm's way to protect their lives and livelihoods.

NOAA's network of Weather Forecast Offices (WFOs), River Forecast Centers (RFCs), and specialized national centers house the NOAA equipment and expertise that results in weather forecasts, warnings, and the provision of IDSS. Like any other physical asset, this infrastructure must be maintained to support NWS' mission delivery and efforts to build a Weather-Ready Nation. Many of these facilities are required to operate 24 hours per day, 365 days per year. As such, NWS conducts facility condition assessments (FCAs) for all leased and owned facilities. At many locations, the FCA identifies issues that significantly affect operational readiness, service delivery, or occupant safety. The first assessment of all facilities was completed in FY 2019, which provided NWS with a comprehensive analysis of site conditions, itemized deferred maintenance requirements and costs, and the ten year projected life

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cycle cost for all NWS locations. After a temporary pause due to the pandemic, the FCA process restarted in FY 2022 to begin the cycle to update all of the facility assessments, which continued in FY 2023.

Statement of Operating Objectives

Schedule and Milestones:

FY 2024 – FY 2028

- Operate national network of 24/7 WFOs, that provide weather surveillance, IDSS, forecast and warning services
- Operate national network of RFCs that provide river stage, streamflow, water supply, and flood guidance
- Operate the National Centers for Environmental Prediction (NCEP) service centers that monitor the tropics, high seas, and national airspace, warn of space weather hazards, predict tornadoes, provide outlooks for subseasonal and seasonal conditions and develop and deliver foundational data sets
- Operate the National Water Center (NWC) 24/7 to support water resource decision support services across the Nation by providing analyses, forecasts, and inundation information and guidance for all water resources events, including flash flooding, riverine flooding, and water resources outlooks
- Operate NOAA's component of the interagency U.S. National Ice Center (USNIC) to support sea ice analysis and prediction
- Provide IDSS to core partners during routine and high impact events, which includes underserved and vulnerable communities
- Operate Tsunami Warning Centers to monitor and predict the development and onset of tsunamis along the Nation's coasts and coasts of other countries as agreed by treaty
- Provide weather and financial support to the Nations of the Pacific Island Compact

Deliverables:

- Operations of all WFOs, RFCs, National Centers, and Tsunami Warning Centers
- IDSS provided to local, regional and state partners and decision makers from WFOs, RFCs and National Centers
- Provision of field operational support from National Headquarters
- Operations and maintenance of Weather Service Offices (WSO) outside the continental United States that support the Nations of the Pacific Island Compact
- Operations and maintenance of WSOs and Data Collection Offices in Hawaii and Alaska as components of the national observation program
- Operational sea ice forecasts from the USNIC

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- Aviation weather forecasts for all identified airports and air routes
- Deployments of Incident Meteorologists to support decision makers at wildland fires
- Probabilistic prediction of extreme weather events in support for fire management of large fire outbreaks and growth
- Fire weather services, decision support and risk communications for underserved and vulnerable rural, Tribal, and Wildlife Urban Interface communities.
- Continued support of StormReady® and TsunamiReady® communities
- Street-level water information for every stream reach in the continental United States, hourly at 2.7 million locations
- Thirty percent of the U.S. population served by operational Flood Inundation Mapping Services
- Design a unified National Tsunami Warning System
- Incident meteorologists trained and deployment-ready
- Seasonal-to-Subseasonal IDSS tools deployed to support regional and local delivery of climate-based IDSS
- Initial Operating Capability reached on IDSS Management System
- Performance metrics for implementation of climate-based IDSS at NWS local offices defined
- Planning begun for a recruitment program that is inclusive of black, indigenous and, people of color students and responsive to the NWS Diversity and Inclusion goals
- Plain language utilized in hazard communication to support risk mitigation and decision-making

Explanation and Justification

		2022 Actual		2023 Enacted		2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Analyze, Forecast & Support	Pos/BA	2,946	560,493	2,989	589,500	2,989	613,733
	FTE/OBL	2,871	558,717	2,918	589,500	2,918	613,733

NWS issues forecasts and warnings, provides seasonal outlooks, and communicates the effects of changing weather, sub-seasonal to seasonal climate trends, and water resources information to the American public and to the weather/water/climate enterprise. Weather and water impact every sector of the economy, and businesses rely on NOAA’s information to improve commerce. Timely and accurate warnings for weather and water-related hazards – provided reliably and on time, every time – are necessary for public safety. NWS measures satisfaction with NOAA information and warning services through surveys of emergency managers, first responders, natural resource and water managers, public health professionals, industry, government, and the public. NWS then uses

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these results to inform service improvements.

In FY 2023, the NWC continued its evolution from Initial Operating Capability toward Full Operating Capability as directed in the *Consolidated Appropriations Act, 2022* (P.L. 117-103). Following the operational implementation of real-time Flood Inundation Mapping (FIM) services for the first 10% of the U.S. population, in FY 2024, the NWC will continue operational implementation and public dissemination of real-time FIM services for 30% of the continental U.S. NWC activities also include facilitating collaboration within the NWS, across NOAA, and among Federal water agencies to improve water resources situational awareness and decision support services. NWC continues to operate a centralized capability providing critical service backup and continuity of operations for NOAA's 13 RFCs. Additional collaborative activities include the NOAA Annual Spring Outlook, which helps communities prepare for the potential for flooding from mid-March through June. NWC maintains situational awareness before, during, and after all hydrologic events throughout the year, and leads the intra- and interagency coordination for significant national or multi-regional hydrologic events.

Moreover, NWC works with NCEP Centers, Regional Operations Centers, RFCs, WFOs, and core Federal agency partners including U.S. Geological Survey (USGS), U.S. Army Corps of Engineers (USACE), and Federal Emergency Management Agency (FEMA) to maintain a common operating picture to ensure coordinated and actionable water resources decision support services that inform both routine, high value and event-driven, high impact decisions.

Recognizing the gap in equitable water resources information, the NWS developed the concept of a continental domain, neighborhood-scale water resources model to deliver service equity for communities nationwide. NOAA's National Water Model (NWM), introduced in August 2016 as NOAA's first foray in leveraging High Performance Computing for hydrology, is a continental-scale water resources model that combines data from USGS stream gauges, reservoir release information from USACE and other reservoir operators, with outputs from NOAA's atmospheric weather models to significantly improve the spatial resolution and temporal frequency of streamflow and flood forecasts. The NWM simulates conditions for 3.4 million miles of rivers and streams nationwide every hour, expanding from the 110 thousand miles forecast today by RFCs. The model also improves NOAA's ability to meet the needs of stakeholders by providing more frequent and expanded streamflow information, as well as new forecast capabilities for soil moisture, evapotranspiration, runoff, snow water equivalent and other water resources parameters on a high-resolution grid nationwide. The NWC leads the transition of state-of-the-science improvements to national hydrologic forecasting and decision support operations through strong collaboration with the public, private, and academic sectors.

Following previous upgrades to the NWM, which expanded the domain to include Hawaii, the Great Lakes, Puerto Rico and the U.S.

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Virgin Islands, NWS continues to upgrade the model to improve and expand hydrologic information and services to previously underserved communities. In FY 2023, the NWM version 3.0 expanded the model domain to the Cook Inlet and Copper River Basins in Alaska and delivered comprehensive operational total water guidance for 120 million Americans living in coastal communities. These new total water forecasts in the coastal zone account for the combined impacts of riverine freshwater, surge, tide, and wave action through a coupling of the NWM with coastal estuary models.

In FY 2023, AFS took deliberate steps to increase its fire weather capabilities, including hiring additional deployment-ready incident meteorologists and supporting program staff to ensure NWS is able to meet the growing demand for on-site support for wildfire operations. The increase in both wildfire events and prescribed fire missions has resulted in a greater number of acres burned per year and a lengthened season for operational support. Land management agencies have increased legislative and strategic targets for annual fuel treatments. In addition, the demand for incident meteorologists is increasing beyond fire operations to other extreme events.

AFS maintains the following programs to accomplish this and other mission-critical activities:

Weather and Climate Services and Warnings provide real-time meteorological and subseasonal to seasonal climate products and services to emergency managers, public officials and the public, with an emphasis on reaching underserved/vulnerable communities. To achieve this requirement, NWS operates WFOs and other field offices within the continental U.S., Alaska, Hawaii, U.S. territories and in locations within the Pacific Island Compact.

- WFOs issue warnings, watches, advisories, statements, and forecasts for their geographic area of responsibility at multiple time scales, from alerting for immediate threats, to subseasonal and seasonal reports. WFOs operate full time 24/7/365. WFO forecasts include aviation, fire weather, marine, severe and tropical weather and the prediction of winter storms. WFOs also issue warnings for tornadoes, blizzards, large hail, flash floods (including ice jams and dam failures) and projected tsunami impacts. WFOs control broadcasts of weather information on the NOAA Weather Radio All Hazards stations, provide weather spotter training to communities, and foster close ties with both the media and the emergency management community. Staff at WFOs have a close relationship with local, state, territorial and native American government officials and emergency managers and provide IDSS and outreach to support their decision making both remotely (including underserved communities) and at their operations centers during hazardous conditions.
- WSOs and Data Collection Offices are located within Alaska and Pacific Regions and provide a collection of expert hydro-meteorological data in support of local, regional, national, and global weather, hydrologic, climatic, and warning programs. WSOs support the mission of their associated WFO through public service, education, and outreach. They differ from WFOs

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in that they do not issue forecasts or warnings, are responsible primarily for observations and data collection, and are not operated 24 hours a day.

- Through an interagency agreement with the FAA, NWS forecasters are embedded within all 21 Air Route Traffic Control Centers (called Center Weather Service Units) to provide direct decision support services to air traffic managers promoting aviation safety and supporting efficient airspace management.

National Centers provide specialized forecast guidance and products for NWS field offices and other direct users (such as the FAA's Air Traffic Control System Command Center, and FEMA) through the NCEP. Each National Center depends on data from the Observations Subactivity, model output from the supercomputers in Central Processing, dissemination infrastructure from the Dissemination Subactivity, and innovations from the Science and Technology Integration Subactivity to provide expert analysis and prediction services to the local WFO and RFC infrastructure and other core partners. The National Centers provide an integrated suite of numerical weather and environmental forecast guidance, at scales ranging from local to global, at various time frames. National Centers also issue watches and warnings that include tornado watches, hurricane watches and warnings, gale, storm, and hurricane-force wind warnings for large oceanic storms, aviation weather warnings and advisories for hazards to aircraft, space weather alerts, and seasonal predictions for El Niño and La Niña events. NWS Forecasters and the weather enterprise use this information and the suite of weather model output as the basis for consistent forecast products, advisories and warnings. The AFS Subactivity supports seven NCEP National Centers:

- **Aviation Weather Center (AWC)** delivers consistent, timely and accurate weather information to support safe air navigation for the world airspace system. AWC provides aviation warnings and forecasts of hazardous flight conditions (including volcanic ash), at all levels within domestic and international airspace, and has an embedded group of forecasters at the FAA's Air Traffic Control System Command Center.
- **Climate Prediction Center (CPC)** delivers real-time products and information on timescales from weeks two-to-four to sub-seasonal and seasonal, integrating observed weather with longer-term climate variability. This includes predictions for the onset and duration of El Niño and La Niña events, which can have a significant impact on the nation's weather from the potential extremes of flood, drought, excessive heat or cold, and severe weather. Application of CPC services provides social and economic benefits to agriculture, energy, transportation, water resources, and public health. CPC works with scientific partners around the world to understand and predict modes of natural global climate variability.
- **National Hurricane Center (NHC)** issues watches, warnings, forecasts and analyses of hazardous tropical weather (e.g.,

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tropical storms and hurricanes including storm surge), and offshore and high seas marine forecasts for a large part of the southwest North Atlantic (south of 30 degrees North), Caribbean Sea, Gulf of Mexico and the eastern North Pacific (east of 140 degrees West). NHC also leads a substantial education and outreach program on tropical hazards both domestically and internationally.

- **Ocean Prediction Center (OPC)** issues marine warnings, forecasts, and guidance for maritime users and continually monitors and analyzes maritime data for protection of life and property, safety at sea, and enhancement of economic opportunity. OPC issues gale, storm and hurricane-force wind warnings for the Atlantic and Pacific Oceans, north of 30 Degrees North. As part of OPC, NOAA's component of the interagency USNIC produces global snow cover and operational sea ice prediction products.
- **Space Weather Prediction Center (SWPC)** provides real-time monitoring and forecasting of solar and geophysical events and disturbances such as geomagnetic storms and solar flares. SWPC researchers and partners develop advanced models to improve understanding of the space weather environment and predict future events. Model improvements enable better prediction of these events and their potential impact on Earth. Impacts could include disruptions to satellite communications, impacts to the terrestrial electric grid and communication outages to cross polar airline flights. SWPC supports the Space Weather Operations, Research and Mitigation national space weather strategy and serves as an International Civil Aviation Organization Space Weather Center.
- **Storm Prediction Center (SPC)** provides forecasts and watches for tornadoes, severe thunderstorms, large hail, lightning, wildfire potential, and heavy precipitation for the United States.
- **Weather Prediction Center (WPC)** is responsible for preparing a variety of analyses, national guidance products, and reliable national forecasts through a collaborative forecast process that ensures consistency and accuracy. The WPC specializes in providing national temperature and quantitative precipitation forecasts and predictions of the impacts of winter storms.

Hydrologic Services and Warnings provides hydrologic data, analysis, forecast information, and decision support services through the NWC, RFCs, and WFOs to address the Nation's growing water resources challenges.

- NWS operates 13 RFCs. RFCs provide short range (deterministic) and long range (probabilistic) river level and streamflow forecasts, flash flood guidance, and water supply forecasts. RFCs deliver a set of water resource-related decision support

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services for regional, state, and local NWS core partners that facilitate decision making associated with water supply planning and events ranging from flash floods to drought. A wide range of users depend on these forecasts including those in emergency management, agriculture, hydroelectric dam operation, transportation, recreation, and water resources management. The forecast information is the basis for river and flash flood warnings, watches, and advisories issued by the WFOs.

- NWS operates 122 WFOs. WFOs assess and monitor the threat of flash and river flooding 24 hours a day 7 days a week to provide timely and accurate life-saving forecasts, warnings and decision support services. In addition, WFOs work with dam operators and the emergency management community to provide timely warnings for floods that result from infrastructure failure such as dam break and levee breaches. Moreover, WFOs routinely conduct local outreach and education to heighten public and partner awareness of flood risks and NWS hydrologic services.
- The NWC acts as a catalyst for interagency activities as they relate to the transformation of NOAA's water prediction capabilities and decision support services. Moreover, it serves as an operational forecasting center, which includes a FEMA Liaison Officer. To that end, NWC maintains situational awareness before, during, and after all hydrologic events, from floods to drought, and leads the agency/interagency coordination for significant national or multi-regional hydrologic events. The goal is to establish an integrated and common operating picture for water resources. Moreover, the NWC is focused on developing and improving new national water prediction capabilities such as the National Water Model and Flood Inundation Mapping, which simulates conditions for 3.4 million miles of rivers and streams nationwide every hour. A second new transformational hydrologic forecasting capability is the Hydrologic Ensemble Forecasting Service, which produces reliable and skillful ensemble streamflow forecasts at lead times ranging from one hour to one year, and is particularly useful for long-range water resource planning and risk-based water resources decision-making.

NOAA's Tsunami Warning Program provides reliable, 24/7 monitoring of seismic events that could generate a tsunami that could impact the Atlantic or Pacific coastlines. In the event of a tsunami, the program generates timely and precise warnings, predictions of wave impact times and heights, and operational tools for emergency managers and public officials to guide rapid, critical decisions in which lives and property are at stake. The program uses DART® moorings from the observations program as critical input and verification of tsunami forecasts.

Tsunami forecast modeling research seeks to develop faster and more reliable tsunami forecasts. Inundation modeling assists communities with their efforts to assess risk and mitigate potential impacts.

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Tsunami hazard mitigation grants have enabled partner states to support coastal communities with life-saving products and services such as coastal inundation maps, evacuation plans and maps, preparedness training and mitigation workshops, evacuation drills, warning infrastructure (e.g., sirens), and tsunami evacuation signs.

The program coordinates with a variety of national and international partners and is supported by the Pacific Tsunami Warning Center in Hawaii and the National Tsunami Warning Center in Alaska. Ongoing work in the Tsunami Warning Program includes

- performing innovative research to speed earthquake detection and improve the reliability of predictions of tsunami track, speed, height, onset times and potential coastal impact;
- issuing tsunami watches and warnings for all U.S. communities at risk and for international areas by agreement or compact; and
- increasing community preparedness and public tsunami education through the TsunamiReady™ program and outreach.

Pacific Island Compact is part of the U.S. Compact of Free Association with the Republic of the Marshall Islands, the Federated States of Micronesia, and the Republic of Palau in which the U.S. government provides basic government and commerce services including weather services to these island nations. The Compact provides the necessary funding to support the NWS WSOs and associated weather warning, forecast, and observation services for these islands. This continued investment preserves critical weather observation infrastructure and services necessary to support core NOAA mission responsibilities in the Pacific such as aviation, typhoon, and marine forecasts; climate monitoring; and support to U.S. Navy operations

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PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Increase from 2024 Base	
		<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>
Analyze, Forecast and Support	Pos./BA	2,989	613,733	2,989	615,983	0	2,250
	FTE/OBL	2,918	613,733	2,918	615,983	0	2,250

Tsunami Unification - Common Analytic System (+\$2,250, 0 FTE/ 0 Positions) – This request would support unification of Tsunami Warning Centers (TWCs) operation procedures at the analytic level, thereby ensuring product consistency and 24/7 backup capabilities. Tsunamis are unpredictable and have an extremely high impact with potentially disastrous consequences to life and property along the already vulnerable U.S. coastlines. The National Tsunami Warning Center (NTWC), located in Palmer, Alaska, and Pacific Tsunami Warning Center (PTWC), located in Honolulu, Hawai'i, currently operate independent tsunami detection, analysis and forecasting systems, and use different analytic techniques and methodologies. This results in discontinuities in operational products and services between TWCs. Continuity of operations is therefore incomplete, risky, and expensive due to dynamic and divergent systems.

With this funding, NWS would deploy a Common Analytic System at the NTWC and PTWC which would provide a common framework that supports the NWS One Event One Forecast strategic goal. This ensures seamless continuity of operations by eliminating discontinuities within existing systems, and providing the same guidance to all users, independent of location. This system will be designed, built and fielded as a collaborative effort between NWS and OAR, with input and long-term archival support from NESDIS.

Schedule and Milestones:

FY 2024 - FY 2028

- Integration of National Centers for Environmental Information databases into prototype analytic system
- Development of a Common Analytic System with seismic and non-seismic inputs
- Evaluate Common Analytic System within established testbed and proving ground
- Develop comprehensive training strategy for tsunami watchstanders on new system

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- Establish new hardware at Tsunami Warning Centers

Deliverables:

FY 2024 - FY 2028

- Functional and technical requirements for a Common Analytic System
- Common Analytic System Proving Ground established
- Test and Evaluation completed for a new Common Analytic System within an established NOAA testbed
- System Acceptance by Tsunami Warning Centers
- Complete System Integration between Tsunami Warning Centers

Performance Measures	2024	2025	2026	2027	2028
Automatic Failover/COOP (in % of operations that is capable of seamless backup/continuity of operations)					
With Increase	50%	65%	85%	100%	100%
Without Increase	45%	40%	35%	35%	35%
Outyear Costs:					
Direct Obligations	2,250	2,250	2,250	2,250	2,250
Capitalized	0	0	0	0	0
Uncapitalized	2,250	2,250	2,250	2,250	2,250
Budget Authority	2,250	2,250	2,250	2,250	2,250
Outlays	1,395	1,395	1,395	1,395	1,395
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Analyze, Forecast and Support
Subactivity: Analyze, Forecast and Support

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base	
11.1	Full-time permanent compensation	296,381	315,790	331,341	331,341	0
11.3	Other than full-time permanent	709	732	761	761	0
11.5	Other personnel compensation	26,624	27,512	28,612	28,612	0
11.7	NOAA Corps	0	0	0	0	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	323,714	344,034	360,714	360,714	0
12	Civilian personnel benefits	136,263	139,445	142,234	142,234	0
13	Benefits for former personnel	251	256	265	265	0
21	Travel and transportation of persons	824	2,158	2,236	2,236	0
22	Transportation of things	2,548	4,141	4,291	4,291	0
23	Rent, communications, and utilities	0	0	0	0	0
23.1	Rental payments to GSA	13,754	14,033	15,519	15,519	0
23.2	Rental Payments to others	3,812	3,963	4,106	4,106	0
23.3	Communications, utilities and misc charges	11,416	11,839	13,246	13,246	0
24	Printing and reproduction	38	41	42	42	0
25.1	Advisory and assistance services	18,213	19,131	19,514	19,514	0
25.2	Other services from non-Federal sources	30,250	32,470	33,119	33,119	0
25.3	Other goods and services from Federal sources	3,504	3,568	3,639	3,889	250
25.4	Operation and maintenance of facilities	0	0	0	0	0
25.5	Research and development contracts	0	0	0	0	0
25.6	Medical care	0	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0	0
26	Supplies and materials	5,841	5,975	6,095	6,095	0
31	Equipment	2,274	2,415	2,463	2,463	0
32	Lands and structures	24	26	27	27	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	5,986	6,000	6,218	8,218	2,000
42	Insurance claims and indemnities	1	1	1	1	0
43	Interest and dividends	4	4	4	4	0
44	Refunds	0	0	0	0	0
99	Total obligations	558,717	589,500	613,733	615,983	2,250

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PROGRAM DECREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		<u>Personnel</u> <u>Amount</u>		<u>Personnel</u> <u>Amount</u>		<u>Personnel</u>	<u>Amount</u>
Analyze, Forecast and Support	Pos./BA	2,989	613,733	2,989	607,733	0	(6,000)
	FTE/OBL	2,918	613,733	2,918	607,733	0	(6,000)

Terminate Tsunami Grant Program (-\$6,000, 0 FTE/ 0 Positions) – This program change is requested to support other NOAA priorities. This will terminate the National Tsunami Hazard Mitigation Program grant funding to state and territory education, awareness, and inundation and evacuation map development, and the TsunamiReady® Program. This proposal would eliminate the grants that support local infrastructure for critical IDSS.

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Analyze, Forecast and Support
Subactivity: Analyze, Forecast and Support

Object Class		2022	2023	2024	2024	Decrease
		Actual	Enacted	Base	Estimate	from 2024 Base
11.1	Full-time permanent compensation	296,381	315,790	331,341	331,341	0
11.3	Other than full-time permanent	709	732	761	761	0
11.5	Other personnel compensation	26,624	27,512	28,612	28,612	0
11.7	NOAA Corps	0	0	0	0	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	323,714	344,034	360,714	360,714	0
12	Civilian personnel benefits	136,263	139,445	142,234	142,234	0
13	Benefits for former personnel	251	256	265	265	0
21	Travel and transportation of persons	824	2,158	2,236	2,236	0
22	Transportation of things	2,548	4,141	4,291	4,291	0
23	Rent, communications, and utilities	0	0	0	0	0
23.1	Rental payments to GSA	13,754	14,033	15,519	15,519	0
23.2	Rental Payments to others	3,812	3,963	4,106	4,106	0
23.3	Communications, utilities and misc charges	11,416	11,839	13,246	13,246	0
24	Printing and reproduction	38	41	42	42	0
25.1	Advisory and assistance services	18,213	19,131	19,514	19,514	0
25.2	Other services from non-Federal sources	30,250	32,470	33,119	33,119	0
25.3	Other goods and services from Federal sources	3,504	3,568	3,639	3,639	0
25.4	Operation and maintenance of facilities	0	0	0	0	0
25.5	Research and development contracts	0	0	0	0	0
25.6	Medical care	0	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0	0
26	Supplies and materials	5,841	5,975	6,095	6,095	0
31	Equipment	2,274	2,415	2,463	2,463	0
32	Lands and structures	24	26	27	27	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	5,986	6,000	6,218	218	(6,000)
42	Insurance claims and indemnities	1	1	1	1	0
43	Interest and dividends	4	4	4	4	0
44	Refunds	0	0	0	0	0
99	Total obligations	558,717	589,500	613,733	607,733	(6,000)

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PROGRAM INCREASE FOR 2024**

(Dollar amounts in thousands)

Activity: Dissemination
Subactivity: Dissemination

Goal Statement

The ability to communicate warnings and forecasts to the American public is essential to protecting property and saving lives. To be effective, NWS requires a scalable, robust, secure, 24 hours a day, 7 days a week operational dissemination infrastructure with a combination of on-premise and public cloud components, an optimized network that meets capacity requirements, and a sophisticated suite of communications systems to meet varied customer needs in a timely, reliable, and authoritative manner in support of the Department of Commerce 2022-2026 Strategic Plan, Strategic Objective 3.1: Increase the impact of climate data and services for decision makers through enhanced service delivery and improved weather, water, and climate forecasts.

Base Program

The NWS transmits forecasts and warnings through the infrastructure provided by the Dissemination Activity. Dissemination maintains communication technology required by NWS to collect, tailor, and distribute data and products. The resilient Integrated Dissemination Program (IDP) infrastructure is an on-premise private cloud located in Boulder, CO, and College Park, MD. The IDP infrastructure collects and distributes watches, warnings, advisories, data, and products internally and externally. It provides information to multiple users in various formats including satellite broadcast and terrestrial (Earth-based) networks, internet, radio, and partner briefing webinars. Current major systems included in IDP are the NWS Geostationary Weather Satellite Antenna System, NWS web services, NOAA Weather Radio (NWR), the Emergency Managers Weather Information Network (EMWIN), and the extensive OneNWS Network, connecting NWS sites to each other and to NWS partners. The IDP infrastructure is the mission-critical communications hub that delivers information to different dissemination networks, such as to NWS offices, over the OneNWS Network, to the public with wireless emergency alerts through FEMA Integrated Public Alert and Warning System (IPAWS), and to emergency managers via EMWIN.

Building on the successes in the last few years of implementing robust geographically-diverse dissemination systems and upgrading the network infrastructure, including the increased bandwidth of the two data centers implemented in FY 2023, NWS will operationally maintain and operate the existing IDP application services. NWS will maintain an IDP system availability rate of 85 percent, providing 8x5 or 24x7 support (depending on application) to maintain existing infrastructure and dissemination services with application failover between IDP data centers in 30 minutes or fewer. With the additional funding received in FY 2022 and FY 2023,

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NWS will be able to migrate all remaining applications from the legacy web farm to either IDP or the public cloud.

In FY 2023, the NWS also demonstrated the use of the NOAA public cloud utility contract to provide GIS-based web services operationally. In addition, the NWS implemented a 24 hours a day 7 days a week support model for public cloud applications, including the new commercial-off-the-shelf solution, Slack, for NWSChat that will be implemented in FY 2023. With the additional funding received in FY 2023, the NWS will operationalize digital.weather.gov and graphical.weather.gov in the cloud, as well as begin work towards a more nimble, flexible and mobile weather.gov 2.0.

In FY 2024, NWS will continue to maintain an NWR system availability rate of 96 percent and have a maximum transit time for warning messages of one second or less for system latency at 1,030 locations. NWS will also continue to migrate the OneNWS Net and other circuits off of the GSA Networx contract to the new Enterprise Infrastructure Solutions (EIS) contract or to the NOAA N-Wave network.

To ensure a Weather-Ready Nation and optimize the delivery of scalable and agile dissemination capabilities, the NWS organized the Dissemination Subactivity around infrastructure, networks, web services, and other warning-delivery services.

In general, activities in the Dissemination portfolio will:

- Operate NWS' information technology (IT) dissemination infrastructure and services;
- Maintain and support a scalable and geographically diverse redundant NWS dissemination architecture consistent with, and part of, the NOAA enterprise architecture;
- Maintain a strategy to maximize effectiveness while minimizing cost;
- Maintain and operate NWS' dissemination system capabilities including IDP and NWS networks at 85 percent operational availability; and
- Sustain a support model for applications running in the public cloud.

Statement of Operating Objectives

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Schedule and Milestones:

FY 2024 – FY 2028

- Maintain existing Enterprise Geospatial and Web Services to accommodate data providers and users and increase data throughput via the on-premise private cloud infrastructure and through NOAA public cloud services
- Execute approved and resourced Roadmap for future Weather Distribution Services to support a Weather-Ready Nation
- Manage IDP system usage, reliability, and resources
- Operate and maintain IDP applications 8x5 or 24x7 depending on application
- Operate and maintain applications in the public cloud 24x7
- Operate and maintain water-related products and services
- Maintain operational support and maintenance of IDP on-premise private cloud infrastructure in College Park, MD, and Boulder, CO
- Maintain operational support and maintenance of NWS Geostationary Weather Satellite Antenna System
- Operate and maintain OneNWS Network bandwidth/reliability as NWS transitions to the EIS contract and NOAA N-Wave
- Transition all NWR IP circuits, NWR sites, and One NWSNet sites to EIS and NOAA N-Wave.
- Complete the optimization and sustaining operational capability of legacy applications such as (NOAA) Weather Wire Service (NWWWS), and Spot on either a NWS supported private cloud or public cloud environment

Deliverables:

- Maintain IDP services at greater than 90 percent reliability
- Maintain NWR service at 96 percent availability
- Disseminate warning messages in fewer than 15 seconds
- Integrated enhanced weather data and web services operationally supported on IDP system monitored 24 hours a day/seven days a week
- 8 hours a day/five days a week or 24 hours a day/seven days a week support (varies by service) of infrastructure and networking services
- 24 hours a day/seven days a week support of NWS Global Information System Centers, GIS, and Web Services via a NOAA Public Cloud service
- Modernized telecommunications infrastructure capable of meeting the agency's mission

Explanation and Justification

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(Dollar amounts in thousands)

		2022		2023		2024	
		Actual		Enacted		Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Dissemination	Pos/BA	88	105,123	93	116,979	93	118,771
	FTE/OBL	83	98,122	85	116,979	85	118,771

NWS operates and maintains critical infrastructure that enables NOAA to provide services to the Nation. NWS manages a distributed network of offices that span the United States and its territories, delivering essential NOAA services, especially those related to high-impact events at the local level where critical, life-saving decisions are made. NWS manages all major weather observing systems from software engineering and communications to facilities and logistics planning. NWS also ensures worldwide acquisition and delivery of weather and water data through its private-cloud IDP systems, web and GIS services, public cloud services, and the OneNWS Network.

Dissemination maintains the following programs to accomplish this activity:

Dissemination IT Infrastructure and Virtualized Application Services within the IDP provides a scalable, robust, and secure dissemination IT infrastructure in two geographically diverse locations for NWS, NOAA, and federal partners.

- Weather and environmental disturbances can disrupt virtually every major public infrastructure system including transportation systems, power grids, telecommunications, and emergency response systems that protect the public. Facing these interruptions, users could be cut off from government services. Minutes (sometimes seconds) count in saving lives, and it is critical that the NWS dissemination systems perform reliably so that they can quickly provide critical information.
- The IDP infrastructure is the Nation's hub for collecting and distributing weather data and products. Applications within the IDP systems automatically collect and distribute a wide variety of environmental data such as observations, analysis, and forecast products to WFOs, National Centers, NWS web-services, broadcasters, the commercial meteorological community, and major international partners. These time-perishable data products are distributed to ensure the fastest availability of the fully-integrated information within IDP in College Park, MD, and Boulder, CO.
- NWS IDP applications and services provide users with flexible access to observational weather data, hazardous weather information, and other weather forecast products required for air traffic management. NOAA provides data discovery services, data format translation, and dissemination services to improve the accuracy and availability of weather information.

Terrestrial and Satellite Networking Services ensures NWS has the networking capacity and reliability to deliver critical weather data for internal and external partners. NWS operates and maintains critical terrestrial and satellite networking capabilities. With its

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updated IT infrastructure, NWS ensures adequate processing, delivery, and exploitation of new environmental satellite, model, and radar data. These terrestrial and satellite operational networks enable NWS to use new data to improve the accuracy and timeliness of weather warnings and forecasts.

- NWS manages the OneNWS Network, a distributed network of terrestrial telecommunication circuits, satellite communications space segments, wireless, and broadband capabilities that span the Nation, including the Pacific and Alaskan regions, delivering essential NOAA data.
- NWS National Centers, Pacific Region, and Alaska Region Offices require full resolution and aerial coverage of satellite imagery and products to achieve their missions. NWS provides the operational support and maintenance for the GOES-16, GOES-18, and Himawari-9 Re-Broadcast Antennas at the National Hurricane Center, Inouye Research Center, WFO Guam, WFO Anchorage, Aviation Weather Center, Storm Prediction Center, Space Weather Prediction Center, and NOAA Center for Weather and Climate Prediction.
- In FY 2024, NWS will continue to sustain and operate the infrastructure to meet the NWS mission.
- In FY 2024, NWS will continue to transition network services from GSA's Networx contract to the Enterprise Infrastructure Solutions contract and the NOAA N-Wave network. GSA expects this transition to be complete in FY 2024; however, based on limited resources at the beginning of this project, the NWS does not anticipate completion before FY 2027. GSA, DOC, NOAA, and NWS are implementing mitigation strategies to manage and eliminate risk to NWS operations.

Weather Information Distribution Services provides the capabilities to communicate weather-related warnings directly to emergency managers and the American public. These services include providing NWS data and product access for international partners via the World Meteorological Organization Information Systems and the robust NWS Global Information System Centers. NWS operates several weather warning services systems:

- NWR is a national warning network consisting of 1,030 transmitter stations with a broadcast coverage that reaches more than 96 percent of the Nation's population. It provides critical weather and other hazard information to the U.S. public and media outlets. NWR is the only NWS dissemination system capable of reaching individuals at nominal cost (individual purchase of NOAA weather radio) in both rural and urban locations, as well as across the coastal marine waters to serve the boating community.
- The EMWIN provides the emergency management community with direct access to a set of NWS warnings, watches, forecasts, and other products via either satellite broadcast or an internet connection.
- NWWS is a satellite data collection and dissemination system that provides NWS partners, Federal, state, local emergency managers, and the public with timely delivery of meteorological, hydrological, climatological, and geophysical information. The vast majority of NWWS products are weather and hydrologic forecasts and warnings issued around the

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- clock from NWS Forecast Offices. NWS is one method used to activate the Emergency Alert System.
- HazCollect/Common Alerting Protocol Handler application amplifies non-weather emergency messages through NWS delivery channels. These non-weather emergency messages, such as Civil Emergencies, from authorized local, state, and Federal partners, are delivered to NWS IDP by FEMA's IPAWS.
 - Web and Geographic Information System services enable the access and delivery of NOAA and NWS data and products to forecasters, NOAA users, Federal partners (FAA, FEMA), the Weather Enterprise, the international community, and the public.
 - NWS has demonstrated the use of the cloud as the development environment for applications thereby conserving space on the IDP, successfully transitioned the Damage Assessment Toolkit and the Enterprise National Geographic Information System Viewer to the NOAA Amazon Web Service public cloud environment (DIS Cloud). Both reached full operating capability in FY 2022, with full 24x7 support in FY 2023. Also, in FY 2023 the NWS will implement a commercial-off-the-shelf solution of NWSChat, and complete the initial deployment of HydroVIS, in the public cloud.

		2024 Base		2024 Estimate		Increase from 2024 Base	
		<u>Personnel</u>		<u>Amount</u>		<u>Personnel</u>	<u>Amount</u>
Dissemination	Pos./BA	93	118,771	93	121,218	0	2,447
	FTE/OBL	85	118,771	85	121,218	0	2,447

Integrated Dissemination Program Implementation (+\$2,447, 0 FTE/ 0 Positions) - NWS requests an increase to maintain recent investments to optimize the Integrated Dissemination Program (IDP). The current IDP support contract is coming to an end and will be recompleted in FY 2024. Based on market research, maintaining the same level of support for IDP will require three to four times the current annual amount. This additional funding will provide for an application upgrade support team for the applications currently operating on IDP, and critical resources to maintain hardware support. It will provide for IDP hardware upgrades and software maintenance to reduce system outages.

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Without additional resources to support the IDP, periodic enhancements and upgrades, as well as hardware refresh, the health of the applications and system will quickly deteriorate and compromise the ability of the NWS to fulfill its mission.

Schedule and Milestones:

FY 2024 - FY 2028

- Provide IDP limited hardware and software maintenance to support NWS dissemination systems
- Establish contractual services to support the existing IDP applications based on the appropriated budget
- Continue to operate and maintain NWS mission-critical delivery systems and applications on the IDP infrastructure

Deliverables:

- Achieve 80 percent availability of Primary Mission Essential Functions on IDP
- Maintain IT Security within both the re-engineered applications and the underlying technical architecture
- Enable routine access to IDP delivery services
- Achieve an 8x5 or 24x7 (depending on application) resourced support model for operational applications on the IDP private cloud systems, including NWWS

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Performance Measures	2024	2025	2026	2027	2028
Percentage of IDP System and Application Availability					
With Increase	90	80	80	80	80
Without Increase	85	60	60	60	60
Outyear Costs:					
Direct Obligations	2,447	2,447	2,447	2,447	2,447
Capitalized	0	0	0	0	0
Uncapitalized	2,447	2,447	2,447	2,447	2,447
Budget Authority	2,447	2,447	2,447	2,447	2,447
Outlays	1,517	1,517	1,517	1,517	1,517
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Dissemination
Subactivity: Dissemination

Object Class		2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1	Full-time permanent compensation	10,606	11,003	11,443	11,443	0
11.3	Other than full-time permanent	11	11	11	11	0
11.5	Other personnel compensation	422	438	456	456	0
11.7	NOAA Corps	0	0	0	0	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	11,039	11,452	11,910	11,910	0
12	Civilian personnel benefits	4,230	4,323	4,409	4,409	0
13	Benefits for former personnel	4	4	4	4	0
21	Travel and transportation of persons	173	175	178	178	0
22	Transportation of things	99	100	102	102	0
23	Rent, communications, and utilities	0	0	0	0	0
23.1	Rental payments to GSA	3,955	4,010	4,083	4,083	0
23.2	Rental Payments to others	4,961	5,161	5,255	5,255	0
23.3	Communications, utilities and misc charges	24,924	26,821	26,313	26,313	0
24	Printing and reproduction	0	0	0	0	0
25.1	Advisory and assistance services	5,832	5,876	5,994	5,994	0
25.2	Other services from non-Federal sources	34,343	48,688	49,947	52,394	2,447
25.3	Other goods and services from Federal sources	1,281	1,283	1,309	1,309	0
25.4	Operation and maintenance of facilities	0	0	0	0	0
25.5	Research and development contracts	0	0	0	0	0
25.6	Medical care	0	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0	0
26	Supplies and materials	4,895	6,677	6,811	6,811	0
31	Equipment	1,388	1,402	1,430	1,430	0
32	Lands and structures	1	0	0	0	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	995	1,005	1,024	1,024	0
42	Insurance claims and indemnities	0	0	0	0	0
43	Interest and dividends	2	2	2	2	0
44	Refunds	0	0	0	0	0
99	Total obligations	98,122	116,979	118,771	121,218	2,447

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Activity: Science and Technology Integration
Subactivity: Science and Technology Integration

Goal Statement

NWS improves the overall quality of the environmental information needed to safeguard life and livelihoods by integrating new science and technology into its operations. NWS' STI activity leverages the entire weather enterprise including users, research communities, partner agencies, and industry, to provide improved weather forecast guidance for the Nation in support of the Department of Commerce 2022-2026 Strategic Plan, Strategic Objective 3.1: Increase the impact of climate data and services for decision makers through enhanced service delivery and improved weather, water, and climate forecasts.

Base Program

STI engages partners in outreach efforts, supporting targeted research and development efforts, improving a suite of forecast guidance models and post-processing, continuously training the workforce on scientific advances, and infusing new science along with social, behavioral, and economic sciences into operations. Transition of new research into operations (R2O) is a fundamental activity of this portfolio. NWS identifies and transfers new science into operational warning, forecast, and decision support services, enabling the NWS vision to build a Weather-Ready Nation through improved products and services.

In FY 2023, NWS implemented the:

- Hurricane Analysis and Forecast System (HAFS) version 1 to analyze and forecast the inner core structure key to improving the size and intensity predictions, as well as the large-scale environment, of tropical cyclones
- Hybrid Single-Particle Lagrangian Integrated Trajectory (HYSPLIT) version 8 to produce new ensemble and dispersion capability to predict and quantify volcanic ash plume uncertainty
- Global Data Assimilation System (GDAS)/Global Forecast System (GFS version 16.3) to improve the use of observations including from new commercial sources
- Air Quality Model (AQM) version 7 for improved prediction of smoke, dust, particulate matter, and ozone over the North America domain, using the Community Multiscale Air Quality model online
- National Water Model (NWM version 3.0) to produce hydrologic guidance at very fine spatial and temporal scales

In FY 2023, NWS also completed the prototype Weather Event Simulator in the cloud and executed the 2023 National Science and

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Operations Officer / Development and Operations Hydrologist Conference.

In FY 2024, NWS will implement the GFS version 17/ GFS Ensemble Forecast System (GEFS version 13), the Rapid Refresh Forecast System (RRFS) version 1, the 3D Real Time Mesoscale Analysis (3DRTMA)/UnRestricted Mesoscale Analysis (URMA) version 2, HAFS version 2, and HYSPLIT version 9.

Statement of Operating Objectives

Schedule and Milestones:

FY 2024 - FY 2028

- Conduct testing, demonstration, and validation of new science and service capabilities through testbeds and proving grounds
- Implement regional, global, hurricane, and air quality model upgrades routinely
- Develop and implement a Seasonal Forecast System (SFS version 1)
- Improve weather model and post-processing guidance
- Update product suite based on customer requirements
- Demonstrate high-resolution large watershed modeling with nested hyper-resolution modeling over three regional areas
- Annual upgrade of National Blend of Models

FY 2024

- Implement unified Global Coupled Ensemble Forecast System version 13/Global Forecast System version 17
- Implement the Rapid Refresh Forecast System (RRFS) version 1
- Implement annual update to HAFS (version 2)
- Public release of Medium Range Weather/Subseasonal to Seasonal (global coupled) application
- Develop the UFS Coastal Modeling Strategy
- Demonstrate operational probability-based forecasts of high impact weather for extended ranges (weeks 3 and 4)
- Implement annual update to 3DRTMA / URMA Implement update to the HYSPLIT version 9 air quality model

FY 2025

- Implement decision support tools for week 3-4 precipitation forecasts targeted toward water resource managers
- Implement operational high resolution large watershed modeling with nested hyper-resolution capability in at least five regional areas
- Implement update to HAFS version 3
- Implement update to RRFS version 2

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- Implement update to Whole Atmosphere Model version 2 for space weather forecasts
- Implement annual update to 3DRTMA/URMA
- Implement National Blend of Models version 4.2

FY 2026

- Implement RRFS version 3
- Implement Global Ensemble Forecast System version 14/Global Forecast System version 18
- Implement update to Hurricane Analysis and Forecast System (HAFS version 4)
- Prototype unification of regional and hurricane regional systems
- Implement annual update to 3DRTMA/URMA

FY 2027

- Implement update to HAFS version 5
- Implement RRFS version 4
- Implement annual update to 3DRTMA/URMA

FY 2028

- Implement SFS version 1
- Implement update to HAFS version 6
- Implement update to RRFS version 5
- Implement annual update to 3DRTMA/URMA

Deliverables

- Upgrades to global operational atmospheric prediction system
- Annual upgrades to operational NOAA Hurricane Forecast System
- Annual enhancement and release of UFS modeling infrastructure (ESMF, CCpp, and METplus)
- Upgrades to the operational regional forecast systems
- Probabilistic hydrologic forecasts for assessing river level and flood risks
- Continuous improvements to NOAA's suite of operational forecast models
- Regular release of operational forecast systems to the community through the Unified Forecast System
- New and improved modeling techniques, evaluated by the Developmental Testbed Center, and delivered to NWS, for incorporation in the Operational Modeling Suite
- Increased horizontal and vertical resolution of atmosphere, ocean, sea ice, waves, land, within bounds of computational capability

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- Upgrades to operational Data Assimilation System, toward JEDI-based coupled Data Assimilation system
- Annual upgrades to the NOAA Environmental Modeling System infrastructure
- Upgraded ocean, atmosphere, sea ice, land surface, aerosol, wave component models
- Agile HPC environment with quicker operational transition of research and development efforts
- Upgraded operational storm surge warning service products (e.g., inundation maps)
- Upgraded probabilistic storm surge guidance
- Operational weekly, monthly and seasonal sea ice outlook guidance products for Arctic Ocean
- Forecaster applications (tools, methodologies, datasets) of near real-time data products from research ocean remote sensing satellites
- New NWS experimental products focused on extreme events
- Global operational coupled atmosphere-ocean-land-wave-sea ice prediction system extending today’s operational weather outlooks from 16 days out to one year
- Improved forecasts provided to the Nation’s critical infrastructure to ensure lives and property are protected from the effects of space weather
- Evaluation of NWS testing/demonstration plans and results
- Improved public access to Federal water information
- Upgraded ozone and particulate prediction system

Explanation and Justification

		2022		2023		2024	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Science and Technology	Pos/BA	470	196,861	471	178,952	471	183,432
Integration	FTE/OBL	433	174,737	438	178,952	438	183,432

In support of NOAA’s operational forecasting mission, NWS researches and develops, improves, and monitors data assimilation systems and models of the atmosphere and oceans using advanced methods developed internally, as well as cooperatively with scientists from universities, NOAA laboratories, other government agencies, and the international scientific community.

STI maintains the following programs to accomplish this activity:

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Weather-Ready Nation (WRN) is a nationwide initiative to build community resilience in the face of increasing vulnerability to extreme weather, water, and climate events. WRN empowers emergency managers, first responders, government officials, businesses, and the public to make faster, smarter decisions to save lives and protect livelihoods. Key actions that enable implementation of the WRN roadmap include the following:

- Develop, transition, and improve advanced forecast tools, techniques, service products, and next generation warning and forecast paradigms to enhance NWS' national, regional and local warning, forecast, and guidance services.
- Incorporate and integrate social science into the forecasting process to develop more effective decision support capabilities, improving the effectiveness of warnings and forecasts, and to better convey forecast risk and uncertainty.
- Develop high-resolution probabilistic weather information consistent across space and time to support safe air traffic operations.
- Extend warning and forecast lead times for tornado, hurricane, storm surge, fire weather, and winter storms with increased certainty and confidence. Develop/improve models, tools, and data sets to forecast and monitor real-time climate variations.
- Improve space weather warnings and forecasts for geomagnetic and radiation storms and ionospheric disturbances to protect the reliability and resilience of the Nation's electric power system, satellite navigation, and telecommunication infrastructure, and support aviation and space flight safety.

Operational Environmental Prediction Modeling Suite is the foundation for all warning, forecast, and decision support services. The Environmental Modeling Center (EMC) develops, enhances, and maintains complex software of numerical weather, ocean, climate, sea ice, and coastal prediction models and data assimilation systems that span the globe. These forecast systems underpin all NOAA forecast capabilities. The operational modeling suite provides the basic numerical guidance that NWS forecasters rely on in making forecasts, warnings, and decision support service products. EMC collaborates with universities, laboratories, and federal agencies through the Unified Forecast System (UFS).

- EMC collaborates with partners at universities and research laboratories to integrate advancements of environmental prediction modeling research and development into NWS operational models.
- EMC also collaborates with partners within NOAA and with other Federal agencies to conduct studies to validate observing requirements and data impacts for existing and new observing platforms and technologies such as satellites and radar.

Improving Effectiveness of Warning and Forecasts aims to accelerate the transition of advanced modeling research into operations. This program is focused on improving warning and forecast lead times and accuracy of severe weather events associated with hurricanes, tornadoes, flash floods, and other severe weather hazards. The collaborations within the Unified Forecast System Research to Operations (UFS-R2O) are focused on developing the next versions of three applications: the Medium

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Range Weather / Sub-seasonal to Seasonal (days to weeks), Short Range Weather (hours to days), and Hurricane applications. Major efforts of the modeling program include:

- Improving the accuracy and reliability of hurricane track and intensity forecasts, through the Hurricane Forecast Improvement Project (HFIP), as required by the *Weather Research and Forecasting Innovation Act of 2017* (P.L. 115-25), to reduce unnecessary evacuations. This effort also focuses on advanced data assimilation and improved global atmospheric and ocean models, which underpin forecast systems for all severe weather.
- Providing the Next Generation Global Prediction System (NGGPS) to the research community, including necessary infrastructure to facilitate engagement and improvements from community collaborators. NGGPS forms the backbone of NOAA's future operational numerical weather prediction capability meeting the public's evolving needs for more accurate, more specific, and longer lead time weather forecasts. NGGPS provides significant advancements for warning and forecast skill across multiple service areas.
- Developing and evaluating national air quality forecast models to provide national pollutant forecast information for states, local communities, commercial sectors, the U.S. Environmental Protection Agency, and the U.S. Department of State.
- Extending forecast of extreme and high impact weather to four weeks through the development of improved outlooks and transitioning into modeling operations of advancements in prediction science coming from the scientific research community. Extending foundational forecasts of subseasonal and seasonal temperature and precipitation is a key requirement of the *Weather Research and Forecasting Innovation Act of 2017*.
- Unifying NOAA's operational model suite based on Finite-Volume Cubed-Sphere atmospheric Dynamic Core, with coupling to the MOM6 ocean model.

Hydrology and Water Resource Programs leverage NOAA partnerships in the areas of atmosphere, watersheds, estuaries and oceans to improve and integrate water resource prediction modeling capabilities. NWS' Hydrology Laboratory conducts studies, investigations and analyses, leading to the application of new scientific and computer technologies to hydrologic forecasting and related water resources problems.

- NWS transitions research in atmosphere, watershed, estuary and ocean modeling, and data assimilation science and technology into operational hydrologic and water resource forecast capabilities in order to provide integrated decision support tools that offer a seamless suite of summit-to-sea forecasts.
- Through partnerships, especially the Integrated Water Resources Science and Services Consortium, NWS is developing a new suite of high-resolution forecasts of streamflow, soil moisture, soil temperature and other variables directly related to watershed conditions to enable monitoring and forecasting of hydrologic conditions from floods to droughts.

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Training Infrastructure is critical to preparing the current and future workforce for WRN. Effective training leads to better integration of new models, transition of science and technology into operations, and improved service to the Nation. The NWS workforce must remain agile and flexible to meet core partner needs. NWS uses a blended learning approach including online courses, webinars, and residence training. Implementation of these training initiatives requires new and enhanced methods and technologies for training delivery, such as simulations and on-demand training, integrated into applications and other systems. As a part of this effort:

- NWS identifies and addresses local training needs, facilitates professional development, and addresses individual strengths and weaknesses of the local forecast staff.
- NWS ensures local operations and management teams are fully proficient and knowledgeable in protocols, tools, forecast and warning operations for delivery of effective IDSS.

Improve Operational Forecast Products and Services through a continuous infusion of science and technology. This is critical for improving services and ensuring the current and future workforce is prepared to meet the requirements of a WRN. These actions include:

- Centrally manage national and regional implementation of research to operations transitions at the local level including applications that improve model guidance;
- Maintain local science and training expertise through the Science and Operations Officers and the Development and Operations Hydrologists to lead coordinated improvements of operations through adopting new science and technology by the forecasting staff, and addressing local forecast and warning issues;
- Maintain close connections with the research community to enable, and accelerate, research to operations, including sponsoring the Collaborative Science and Technology Applied Research program, supporting testbeds, and supporting visiting scientists programs, a priority of the *Weather Research and Forecasting Innovation Act of 2017* (P.L. 115- 25), to improve NWS services;
- Enhance testbeds and operational proving grounds; and,
- Provide operational platforms for the broad research and development community across NOAA, academia, core partners, and the weather enterprise to conduct demonstration, simulation, verification, and validation of new science and service capabilities.

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PROGRAM DECREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>
Science and Technology Integration	Pos./BA	471	183,432	471	178,952	0	(4,480)
	FTE/OBL	438	183,432	438	178,952	0	(4,480)

Reduce the Cooperative Institute for Research to Operations in Hydrology (-\$4,480, 0 FTE/ 0 Positions) - This request reduces the additional resources provided in the FY 2023 appropriations for the congressionally-directed Cooperative Institute for Research to Operations in Hydrology (CIROH). This program change is requested to support other NOAA priorities.

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Operations, Research, and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Science and Technology Integration
Subactivity: Science and Technology Integration

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1 Full-time permanent compensation	56,917	59,390	61,766	61,766	0
11.3 Other than full-time permanent	55	56	58	58	0
11.5 Other personnel compensation	1,969	2,056	2,138	2,138	0
11.7 NOAA Corps	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	58,941	61,502	63,962	63,962	0
12 Civilian personnel benefits	25,049	25,739	26,254	26,254	0
13 Benefits for former personnel	22	22	23	23	0
21 Travel and transportation of persons	38	39	40	40	0
22 Transportation of things	205	210	215	215	0
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	6,325	6,499	6,003	6,003	0
23.2 Rental Payments to others	78	82	84	84	0
23.3 Communications, utilities and misc charges	968	1,000	1,024	1,024	0
24 Printing and reproduction	36	37	38	38	0
25.1 Advisory and assistance services	37,510	41,840	42,862	42,862	0
25.2 Other services from non-Federal sources	11,824	12,033	12,274	11,074	(1,200)
25.3 Other goods and services from Federal sources	3,446	3,513	3,583	3,583	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	2,103	2,104	2,146	2,146	0
31 Equipment	842	861	878	878	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	27,348	23,469	24,044	20,764	(3,280)
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	2	2	2	2	0
44 Refunds	0	0	0	0	0
99 Total obligations	174,737	178,952	183,432	178,952	(4,480)

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JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Activity: Systems Acquisition
Subactivity: Observations

Goal Statement

The Observations Subactivity supports the life-cycle of all NWS observing system investments by providing technical solutions to meet NWS' operational observational requirements. Through these activities, NOAA improves current observational capabilities, provides large-scale recapitalization of significant observational systems, and engineers technical solutions for systems to meet evolving requirements and demands in support of the Department of Commerce 2022-2026 Strategic Plan, Strategic Objective 3.1: Increase the impact of climate data and services for decision makers through enhanced service delivery and improved weather, water, and climate forecasts.

Base Program

Observations is responsible for the collection of space, atmosphere, water, and climate observational data owned or leveraged by NWS. Observations is also responsible for the development, acquisition and management of cost-effective observing technologies, hardware and software enhancements, maintenance and repairs, logistics, cost management, technical data verification, and life-cycle replacements of NWS observational platforms.

Specifically, the funds in the PAC Observations Subactivity are used to:

- Extend the service life of the Nation's weather radar network;
- Extend the service life of the Nation's primary surface weather observing network supporting aviation operations, and the needs of the meteorological, hydrological, and climatological research communities, and
- Implement Enterprise Infrastructure Solutions (EIS).

Statement of Operating Objectives

Schedule and Milestones

FY 2024 – FY 2028

Next Generation Weather Radar (NEXRAD) Service Life Extension Program (SLEP)

- Complete pedestal refurbishments

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Automated Surface Observing System (ASOS) SLEP

- Complete production and installation of Acquisition Control Unit (ACU) and Data Collection Package (DCP) upgrades
- Complete telecommunications architecture upgrades

EIS

- Establish a sustainable, resilient architecture to meet NWS’s current and planned needs

Deliverables:

NEXRAD SLEP

- Refurbish pedestals with expected service life beyond 2035

ASOS SLEP

- Total refreshment of ACU-DCU with expected service life to at least 2040
- Increase data flow and remote maintenance capabilities

EIS

- Modernized telecommunications infrastructure capable of meeting the agency’s mission via EIS implementation

Explanation and Justification

			2022 Actual		2023 Enacted		2024 Base	
			Personnel	Amount	Personnel	Amount	Personnel	Amount
Observations	Pos/BA		3	79,465	3	16,200	3	16,200
	FTE/OBL		2	26,388	3	16,200	3	16,200

PAC Observations objectives are achieved through the following programs:

Next Generation Weather Radar (NEXRAD) SLEP is an effort to sustain the aging NEXRAD infrastructure that underpins severe weather forecast and warning services for high-impact events critical for a WRN. NEXRAD is a tri-agency program with the Department of Defense and the U.S. Department of Transportation. Though the system is nearing end of life, the Federal government will not be able to initiate deployment of the next generation of weather radars until the 2030s. Therefore, NWS is undertaking a technology refresh effort to sustain NEXRAD fleet availability until the current network is replaced. In FY 2023, NWS will complete the NEXRAD SLEP project and continue to refresh components to achieve performance goals and extend the system's

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service life. The engine/generator SLEP was completed. In FY 2024 NWS will complete its NEXRAD SLEP by finishing pedestal refurbishments to extend overall service life and reduce the average time between failures.

Automated Surface Observing System (ASOS) SLEP is a cost-effective approach to maintaining the aging ASOS infrastructure that provides critical aviation weather parameters at airports supporting the air transportation industry and provides high-quality meteorological data supporting NWS's forecast and warning mission. The original capital investment for this system was \$227 million and was initiated in the mid-1980s. In addition to extending its longevity, the ASOS SLEP enhances overall system capabilities by enabling high speed/high-resolution data transmissions; provides greater safety to aviation operations by increasing reliability of the system, as well as a stable platform for more consistent and accurate data; and allows for remote and cost-effective maintenance, logistics, and training. ASOS is an inter-agency effort supporting meteorological observational requirements of NOAA, DoD, and DOT.

NWS will also continue the ASOS SLEP with production and installation of the upgraded ACU and DCP, in partnership with and including reimbursable funding from tri-agency partners, the FAA, and the DoD.

Enterprise Infrastructure Solutions (EIS) will enable NOAA to conduct a technology modernization and support an accelerated transition of telecommunications services to the General Services Administration (GSA) EIS contract vehicle. DOC currently uses GSA's Networx, Washington Interagency Telecommunications System 3, and regional contracts to acquire telecommunication services. These contracts expire in May 2023, though options for an extension to May 2024 is possible. Between now and then, DOC will be transitioning telecommunications services to the GSA EIS follow-on contract.

Specifically, this focuses on EIS for surface observing (ASOS) and radar (NEXRAD/SPG/NPN) circuits. NWS is required to transition all circuits provisioned by the Dissemination and Observations portfolios to facilitate these communications, necessitating the purchase of new hardware. There will be costs for trenching and laying these new lines, procurement, and implementation of network hubs to allow communications on NWS networks between the legacy vendors and the new vendor circuits during the transition period. NWS also requires support services to facilitate the architecture and installations throughout the transition. NWS anticipates it will take up to five years to transition all circuits to the new contract.

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Outyear Funding Estimates*

Observations	2023 & Prior	2024	2025	2026	2027	2028	CTC	Total
Change from 2024 Base	N/A	(30)	1,553	(9,810)	(7,753)	0	N/A	N/A
Total Request	190,647	16,170	17,723	7,913	160	160	N/A	232,773

*Outyears are estimates. Future requests will be determined through the annual budget process.

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PROGRAM DECREASE FOR 2024**
(Dollar amounts in thousands)

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>
Observations	Pos./BA	3	16,200	3	16,170	0	(30)
	FTE/OBL	3	16,200	3	16,170	0	(30)

Observations PAC Reduction (-\$30, 0 FTE/ 0 Positions) - This request reduces the additional resources provided in FY 2023 appropriations.

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Systems Acquisition
Subactivity: Central Processing

Object Class		2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1	Full-time permanent compensation	0	0	0	0	0
11.3	Other than full-time permanent	0	0	0	0	0
11.5	Other personnel compensation	0	0	0	0	0
11.7	NOAA Corps	0	0	0	0	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	0	0	0	0	0
12	Civilian personnel benefits	0	0	0	0	0
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	8	9	9	9	0
22	Transportation of things	3	3	3	3	0
	Rent, communications, and utilities	0	0	0	0	0
23.1	Rental payments to GSA	505	0	0	0	0
23.2	Rental Payments to others	4	5	5	5	0
23.3	Communications, utilities and misc charges	526	563	563	563	0
24	Printing and reproduction	0	0	0	0	0
25.1	Advisory and assistance services	5,923	3,492	3,492	3,492	0
25.2	Other services from non-Federal sources	5,841	2,744	2,744	2,714	(30)
25.3	Other goods and services from Federal sources	227	1	1	1	0
25.4	Operation and maintenance of facilities	0	0	0	0	0
25.5	Research and development contracts	0	0	0	0	0
25.6	Medical care	0	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0	0
26	Supplies and materials	6,571	4,356	4,356	4,356	0
31	Equipment	6,631	4,851	4,851	4,851	0
32	Lands and structures	0	0	0	0	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	149	148	148	148	0
42	Insurance claims and indemnities	0	28	28	28	0
43	Interest and dividends	0	0	0	0	0
44	Refunds	0	0	0	0	0
99	Total obligations	26,388	16,200	16,200	16,170	(30)

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Activity: Systems Acquisition
Subactivity: Central Processing

Goal Statement

The PAC Central Processing Subactivity ensures the uninterrupted flow of information from the collection of observations, to central guidance production, to local applications of all essential weather and climate data products, and continuity of public watches and warnings in support of the Department of Commerce 2022-2026 Strategic Plan, Strategic Objective 3.1: Increase the impact of climate data and services for decision makers through enhanced service delivery and improved weather, water, and climate forecasts.

Base Program

Central Processing is responsible for program and budget planning for the Weather and Climate Operational Supercomputing System (WCOSS) and the Advanced Weather Interactive Processing System (AWIPS). Central Processing is also responsible for maintaining an optimum processing systems configuration and an enterprise architecture for processing systems to meet current and future NWS mission requirements, including the strategy for maximizing effectiveness while minimizing operating costs and coordination with the Office of Dissemination.

Statement of Operating Objectives

Schedule and Milestones:

FY 2024 – 2028

- Provide Operations and Maintenance support for WCOSS
- Provide Operations and Maintenance support for NOAA's R&D High Performance Computing system
- Phased implementation of new forecast tools and capabilities into AWIPS

Deliverables:

- Operational WCOSS with full backup capability
- Production Suite On-Time Product Generation at 99 percent
- Sustained WCOSS capacity at 12.1 petaflops, in each of the primary and backup systems
- New forecast tools and capabilities for impact-based decision support services / Weather-Ready Nation operations

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- Weather Event Simulator integration into AWIPS

Explanation and Justification

		2022		2023		2024	
		Actual		Enacted		Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Central Processing	Pos/BA	30	78,089	27	69,649	27	69,649
	FTE/OBL	22	72,410	26	69,649	26	69,649

PAC Central Processing objectives are achieved through the following programs:

Weather and Climate Operational Supercomputing System (WCOSS) supports (a) weather and climate forecasting capabilities 24 hours per day/seven days a week, (b) numerical environmental prediction model development and testing, and (c) dissemination of operational products using a wide area network. These products include national and global weather, water, climate and space weather guidance, forecasts, warnings and analyses to a broad range of users and partners including other NOAA programs, government agencies, military, and the general public.

WCOSS is composed of primary and backup operational supercomputing systems, storage resources, wide area network, support services, and developmental research and development computing systems. The primary system runs the NCEP production suite. The backup is used to thoroughly test new weather and climate forecasting applications when it is not being used to run the production suite (during a backup system test or an actual emergency). The backup supercomputer system is capable of handling 100 percent of the operational workload should the primary supercomputer system be disrupted. In accordance with NOAA Critical Infrastructure Protection plans, implementation and maintenance of a redundant WCOSS architecture ensures uninterrupted flow of weather and climate data and products, such as storm watch and warning services to the public. WCOSS also provides NWS access to developmental computing systems through the NOAA-wide enterprise Research and Development High Performance Computing System.

Advanced Weather Interactive Processing System (AWIPS) is an information processing, display, and telecommunications system that is the cornerstone of NWS field operations. AWIPS provides the following services:

- Integrates and displays radar, satellite, and other meteorological and hydrological data at NWS field offices;
- Acquires and processes data from sensors and local sources;

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- Provides computational and display functions at the forecaster’s desk;
- Provides an interactive communications system to interconnect NWS operational sites;
- Initiates the dissemination of weather and flood warnings and forecasts in a rapid and highly reliable manner; and,
- Provides the communication interface for internal and external users of much of NOAA's real-time environmental data.

Sustained investments in the AWIPS hardware, communications, and software infrastructure, are necessary for integrating many other programs such as NEXRAD, and other weather radars, weather satellites, sensors, and instruments. NWS Government Performance and Results Act goals are based on the effective use of these technology investments along with advanced decision assistance tools, forecast preparation and advanced database capabilities. As the NWS continues to evolve toward an IDSS-based WRN, improvements to AWIPS technology will be needed to ensure NWS meteorologists and hydrologists have the necessary tools and technology. Continued AWIPS improvements produce increased performance in the Government Performance and Results Act goals of Tornado Warning Lead Time, Flash Flood Warning Lead Time, and Winter Storm Warning Lead Time.

In FY 2024, NWS will continue to develop new Advanced Weather Interactive Processing System (AWIPS-II) forecast capabilities and implement modeling advancements on its modernized WCOSS. Without continued support for WCOSS and for investments in AWIPS, NWS cannot provide operational and developmental high performance computing capacity, and forecast and process improvements within AWIPS.

Outyear Funding Estimates*

Central Processing	2023 & Prior	2024	2025	2026	2027	2028	CTC	Total
Change from 2024 Base	N/A	(1,649)	0	0	0	0	N/A	N/A
Total Request	N/A	68,000	68,000	68,000	68,000	68,000	N/A	Recurring

*Outyears are estimates. Future requests will be determined through the annual budget process.

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(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>
Central Processing	Pos./BA	27	69,649	27	68,000	0	(1,649)
	FTE/OBL	26	69,649	26	68,000	0	(1,649)

Slow cloud readiness studies (-\$1,649, 0 FTE/ 0 Positions) - This request reduces the additional resources provided in FY 2023 appropriations. This program change would slow the analysis, design, and architecture planning associated with adapting operational data flows for future cloud readiness of NWS applications by eliminating associated studies related to these activities.

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Systems Acquisition
Subactivity: Central Processing

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1 Full-time permanent compensation	3,734	3,828	3,828	3,828	0
11.3 Other than full-time permanent	14	13	13	13	0
11.5 Other personnel compensation	44	46	46	46	0
11.7 NOAA Corps	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	3,792	3,887	3,887	3,887	0
12 Civilian personnel benefits	1,611	1,632	1,632	1,632	0
13 Benefits for former personnel	2	2	2	2	0
21 Travel and transportation of persons	1	1	1	1	0
22 Transportation of things	2	2	2	2	0
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	990	985	985	985	0
23.2 Rental Payments to others	0	0	0	0	0
23.3 Communications, utilities and misc charges	2,119	2,116	2,116	2,116	0
24 Printing and reproduction	0	0	0	0	0
25.1 Advisory and assistance services	2,497	2,493	2,493	2,493	0
25.2 Other services from non-Federal sources	56,578	53,724	53,724	52,075	(1,649)
25.3 Other goods and services from Federal sources	483	482	482	482	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	1,028	1,024	1,024	1,024	0
31 Equipment	606	605	605	605	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	2,700	2,695	2,695	2,695	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	1	1	1	1	0
44 Refunds	0	0	0	0	0
99 Total obligations	72,410	69,649	69,649	68,000	(1,649)

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Activity: Systems Acquisition
Subactivity: Dissemination

Goal Statement

The advancement of the NOAA Weather Radio (NWR) Program is a life-saving mission critical component in the delivery of short-fused warnings and emergency messages for the American Public and near shore marine community. As commercial providers stop supporting copper lines, the NWS must migrate to current technologies. In FY 2024 NWS will continue to transition NWR transmitter circuits from legacy copper to a wireless solution to continue the delivery of time-sensitive warnings over NWR broadcasts.

The NOAA Integrated Dissemination Program (IDP) is a multi-year NWS response to organizational and technical dissemination challenges created through the years as individual efforts built stovepipes across the NWS enterprise. While IDP became operational in FY 2018, providing a reliable and scalable NWS on-premise private cloud (a dissemination infrastructure) to sustain 24 hours a day/seven days a week mission operations in support of the Department of Commerce 2022-2026 Strategic Plan, Strategic Objective 3.1: Increase the impact of climate data and services for decision makers through enhanced service delivery and improved weather, water, and climate forecasts, ongoing maintenance and support is necessary to keep both the hardware and software up to date and meeting current security requirements. In FY 2023 NWS continued utilizing both the private on-premise cloud and the public cloud to disseminate NWS information. In FY 2023 NWS also fully implemented an approved Cloud Concept of Operations and Governance Framework. This supports the ongoing enhancements necessary for the Geographical Informational Services (GIS) Viewer (a way of visualizing data overlaid on a map) which is hosted in the public cloud. In FY 2023 the NWS also initiated a Path Analysis to determine the best way solution for a more nimble, flexible and mobile weather.gov 2.0.

Base Program

To ensure a Weather-Ready Nation and optimize the delivery of scalable and agile dissemination capabilities, the PAC Dissemination Subactivity is organized around infrastructure, networks, web services, and warning dissemination services.

Funding within the PAC Dissemination Subactivity:

- Procures NWS' IT dissemination infrastructure and services;
- Closes NWS' dissemination requirements and gaps;
- Enhances and maintains NWS' dissemination system and application capabilities; and
- Develops a strategy to maximize effectiveness while minimizing cost.

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Statement of Operating Objectives

Schedule and Milestones

FY 2024 – FY 2028

- Provide processing and storage resources to support WRN
- Conduct modest enhancements of existing IDP applications and services
- Conduct annual phase of five-year refresh of Dissemination Infrastructure hardware
- Conduct enhancements of GIS and web services both on-premise private cloud and off-premise public cloud environments
- Replace legacy NWR copper circuits to wireless technologies
- Replace obsolete NWR transmitter site monitoring equipment

Deliverables

- Improved reliability of enterprise GIS capabilities on IDP and through Public Cloud Services
- Reliable infrastructure for NWS Dissemination services
- Continued reliability of NWR on updated wireless solutions

Explanation and Justification

		2022 Actual		2023 Enacted		2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Dissemination	Pos/BA	1	18,791	1	10,000	1	10,000
	FTE/OBL	1	17,260	1	10,000	1	10,000

To achieve these goals, NWS manages the following programs:

NOAA Weather Radio

NWR provides the NWS with the capability to quickly disseminate severe and high impact weather warnings, watches and forecasts, and non-weather emergency messages to the public. In FY 2023, NWS continued its slow transition of NWR legacy technology to Ethernet/Internet Protocol-based services within budgetary resources. Furthermore, in FY 2023, NWS has continued to strengthen its partnership with FEMA to look for efficiencies in delivering both weather and non-weather emergency messages via NWR and

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FEMA's Integrated Public Alert and Warning System. This partnership ensures that messages from both the Federal Communication Commission managed Emergency Activation System and Wireless Emergency Alerts are distributed appropriately.

Improve Dissemination Reliability Project

The improved dissemination reliability project mitigates risk to mission operations during severe weather events by enhancing capabilities to reduce single points of failure and increase website capacity.

Providing phased hardware refresh of the IDP architecture and modest enhancements to existing core applications on IDP ensures reliable delivery of NWS products to users and capitalizes on better observation data and prediction models to improve services.

In FY 2023, NWS completed the acquisition and implementation of backup satellite-based communication paths to NWS WFOs, in the continental U.S., Alaska and Hawaii, making the NWS network infrastructure more resilient and robust while also decreasing the risk of product delivery outages.

Specific activities, spanning multiple years, include:

- Reducing Enterprise Single Points of Failure: Acquiring robust and reliable networking capabilities by upgrading networking Integrating IT Infrastructure Redesign and Upgrades: Enhance the delivery of web and GIS services, as well as the radar lines (such as aging copper lines) with fiber optics.
- Conducting enhancements and upgrades of existing IDP applications and services.
- Providing Robust Enterprise Web and GIS Services: Increasing web and GIS services for NWS WFOs at the primary and backup integrated dissemination sites to ensure the services align with growing requirements and increased use during severe weather events.
- Integrating IT Infrastructure Redesign and Upgrades: Enhance the delivery of web and GIS services, as well as the radar, model, and observational data necessary as new satellites with increased data collection become operational.
- Transition of non-primary mission-essential functions to public cloud delivery solutions based on budgetary resources.

Without the continued support for NWR and the Improve Dissemination Reliability Project, NWS cannot continue to enhance the infrastructure of NWS dissemination systems and upgrade existing applications, including web and GIS services, to meet new satellite and model data requirements, as well as upgrades to select NOAA Weather Radio locations.

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Outyear Funding Estimates*

Dissemination	2023 & Prior	2024	2025	2026	2027	2028	CTC	Total
Change from 2024 Base	N/A	(66)	0	0	0	0	N/A	N/A
Total Request	N/A	9,934	9,934	9,934	9,934	9,934	N/A	Recurring

*Outyears are estimates. Future requests will be determined through the annual budget process.

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		2024 Base		2024 Estimate		Decrease from 2024 Base	
		<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>
Dissemination	Pos./BA	1	10,000	1	9,934	0	(66)
	FTE/OBL	1	10,000	1	9,934	0	(66)

Dissemination PAC Reduction (-\$66, 0 FTE/ 0 Positions) - This request reduces the additional resources provided in FY 2023 appropriations.

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Activity: Systems Acquisition
Subactivity: Dissemination

Object Class		2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1	Full-time permanent compensation	0	0	0	0	0
11.3	Other than full-time permanent	0	0	0	0	0
11.5	Other personnel compensation	0	0	0	0	0
11.7	NOAA Corps	0	0	0	0	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	0	0	0	0	0
12	Civilian personnel benefits	0	0	0	0	0
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	2	2	2	2	0
22	Transportation of things	0	0	0	0	0
23	Rent, communications, and utilities	0	0	0	0	0
23.1	Rental payments to GSA	257	257	257	257	0
23.2	Rental Payments to others	0	0	0	0	0
23.3	Communications, utilities and misc charges	131	130	130	130	0
24	Printing and reproduction	0	0	0	0	0
25.1	Advisory and assistance services	5,219	2,204	2,204	2,204	0
25.2	Other services from non-Federal sources	9,697	5,466	5,466	5,400	(66)
25.3	Other goods and services from Federal sources	140	140	140	140	0
25.4	Operation and maintenance of facilities	0	0	0	0	0
25.5	Research and development contracts	0	0	0	0	0
25.6	Medical care	0	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0	0
26	Supplies and materials	387	386	386	386	0
31	Equipment	790	783	783	783	0
32	Lands and structures	0	0	0	0	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	637	632	632	632	0
42	Insurance claims and indemnities	0	0	0	0	0
43	Interest and dividends	0	0	0	0	0
44	Refunds	0	0	0	0	0
99	Total obligations	17,260	10,000	10,000	9,934	(66)

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Activity: NWS Construction

Subactivity: Facilities Construction and Major Repairs

Goal Statement

The objective of the Construction activity is to construct and provide for major repairs and relocations to forecast offices and other government-owned and leased weather facilities in support of the Department of Commerce 2022-2026 Strategic Plan, Strategic Objective 3.1: Increase the impact of climate data and services for decision makers through enhanced service delivery and improved weather, water, and climate forecasts.

Base Program

To support its mission, the NWS operates and maintains 122 Weather Forecast Offices (WFO), 13 River Forecast Centers (RFC), 18 Weather Service Offices (WSO) and associated employee housing units, and 9 National Centers. There are 86 owned and 36 leased WFOs and WFO/RFCs. To support these facilities, the Facilities Construction & Major Repairs Subactivity account is managed by NWS Office of Facilities.

The objectives of the Facilities Construction & Major Repairs activity are to:

- Upgrade, improve, and relocate NOAA's NWS Facilities;
- Maintain operational readiness by addressing major component replacements, deferred maintenance and real property disposals; and
- Maintain compliance with Federal law and national and local building codes.

Statement of Operating Objectives

Schedule and Milestones

FY 2024 – FY 2028

- Design and build out tenant improvements for the relocation of up to seven operational sites
- Award contracts for highest priority repairs, replacements, and real property disposals

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Deliverables

- Forced relocations addressed through new GSA leases
- Completed tenant improvements, construction, and relocation of operations
- Conducted necessary actions for real property disposals with available resources
- Completed deferred maintenance and major component replacement projects with available resources

Explanation and Justification

		2022 Actual		2023 Enacted		2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
NWS Construction	Pos/BA	2	12,766	1	13,500	1	13,500
	FTE/OBL	0	9,620	1	13,500	1	13,500

NWS facilities have exceeded 25 years of age and now require extensive capital improvements to maintain operational readiness to support a Weather-Ready Nation. Immediate capital investments are required to address deficiencies in both leased and owned facilities including mission-critical infrastructure such as heating, ventilation, and air conditioning systems, emergency power generators, roofs, flooring systems, and uninterruptible power supply systems. This effort is essential to ensure the safety of the workforce and continuity of uninterrupted warnings, watches, and forecasts for local communities and for our partner agencies, such as the FAA and DOD. NWS relies on Facilities PAC funding to cover the costs of tenant improvements and move costs associated with forced office relocations resulting from the competitive procurement of new GSA leases. The Facilities Portfolio must meet the evolving needs of the NWS mission to provide facilities that enable a fully integrated field structure capable of supporting impact-based decision support services (IDSS).

In FY 2024, NWS will complete the design for WFO Slidell, New Orleans, LA, and WFO Topeka, KS, and initiate construction for the WFO Slidell NEXRAD radar. NWS will continue with lease procurement activities with the General Services Administration for WFO/RFCs located in Sacramento, CA, State College, PA, and Tulsa, OK. NWS will complete major system replacements at WFOs Flagstaff, AZ, Glasgow, MT, and Bismarck, ND. NWS will award a contract for the WFO Gray, ME, water solution and complete the WSO Pago Pago Emergency Readiness project. NWS is prepared to fund the remediation, demolition, disposal, and site restoration at Grants Pass, OR; Lake Hughes, CA; Yap; Majuro; Guam; Miami, FL (RDA); St. Paul, AK, and Elmendorf, AK. NWS will continue to address the aging infrastructure of its Headquarters building in Silver Spring, MD, and continue implementing the data center

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infrastructure refresh project, a multi-year effort to address aging NWS IT architecture and equipment. NWS will continue to focus resources on lifecycle management of government owned assets to address improved space utilization in the National Capital Region.

In FY 2025, as part of facilities lifecycle management, NWS will complete ongoing forced relocations, address deferred maintenance, field requirements, real property disposals, and NWS HQ infrastructure repairs.

NWS cannot continue to support upgrades and improvements to NOAA's NWS facilities or to improve safety, functionality, and relocations with partners without continued support for construction and major repairs provided for in NWS Facilities Construction and Major Repairs PAC.

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		2024 Base		2024 Estimate		Decrease from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
NWS Construction	Pos./BA	1	13,500	1	10,000	0	(3,500)
	FTE/OBL	1	13,500	1	10,000	0	(3,500)

Reduce Radar Relocations (-\$3,500, 0 FTE/ 0 Positions) - This request reduces the additional resources provided in the FY 2023 appropriations. This funding is used to address issues with NWS radar infrastructure, including but not limited to radar relocations and resolution of radar blockages.

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Activity: NWS Construction
Subactivity: Facilities Construction and Major Repairs

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1	Full-time permanent compensation	0	0	0	0
11.3	Other than full-time permanent	0	0	0	0
11.5	Other personnel compensation	0	0	0	0
11.7	NOAA Corps	0	0	0	0
11.8	Special personnel services payments	0	0	0	0
11.9	Total personnel compensation	0	0	0	0
12	Civilian personnel benefits	0	0	0	0
13	Benefits for former personnel	0	0	0	0
21	Travel and transportation of persons	73	73	73	73
22	Transportation of things	0	0	0	0
23	Rent, communications, and utilities	0	0	0	0
23.1	Rental payments to GSA	161	161	161	161
23.2	Rental Payments to others	0	0	0	0
23.3	Communications, utilities and misc charges	18	18	18	18
24	Printing and reproduction	0	0	0	0
25.1	Advisory and assistance services	2,910	2,910	2,910	2,910
25.2	Other services from non-Federal sources	3,370	7,250	7,250	3,750
25.3	Other goods and services from Federal sources	2,470	2,470	2,470	2,470
25.4	Operation and maintenance of facilities	0	0	0	0
25.5	Research and development contracts	0	0	0	0
25.6	Medical care	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0
26	Supplies and materials	131	131	131	131
31	Equipment	478	478	478	478
32	Lands and structures	0	0	0	0
33	Investments and loans	0	0	0	0
41	Grants, subsidies and contributions	9	9	9	9
42	Insurance claims and indemnities	0	0	0	0
43	Interest and dividends	0	0	0	0
44	Refunds	0	0	0	0
99	Total obligations	9,620	13,500	13,500	10,000

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Executive Summary

For FY 2024, NOAA requests a total of \$2,073,921 and 895 FTE/ 976 positions for the National Environmental Satellite, Data, and Information Service (NESDIS), including a net increase of \$357,419 and 0 FTE/ 0 positions in program changes.

NESDIS (<http://www.nesdis.noaa.gov/>) provides secure and timely access to global environmental data from satellites and other sources to enhance the Nation's economy, security, environment, and quality of life. NESDIS works in close coordination with its NOAA Line Office partners to help satisfy NOAA's climate and environmental mission service requirements. Information derived from the data that NESDIS collects supports investments and resource utilization in the economy, including: agriculture, transportation, fisheries, energy, construction, emergency management, hazard mitigation, and other sectors. Billions of dollars in damage are incurred each year due to natural disasters and extreme climate and weather events such as wildfires, heatwaves, tornadoes, hurricanes, floods, and drought. In 2022, there were 18 weather, water, and climate disaster events with losses exceeding \$1 billion each across the United States, directly resulting in 474 deaths and damages totaling more than \$165.0 billion.¹ Additionally, 2022 was the eighth consecutive year (2015-2022) in which 10 or more billion-dollar weather and climate disaster events impacted the United States. Though the large events make headlines, this year there were also hundreds of smaller events with an economic impact below \$1 billion. National climate assessments warn that the fast-altering climate will amplify the number and severity of annual billion-dollar disasters in the future. Decision makers, including businesses, communities, and governments, rely on NESDIS data and information to help them reduce the losses incurred by these destructive events, making it imperative to ensure the continuity of these satellite systems and the data they provide.

NESDIS manages the Nation's civil operational environmental satellites. These satellites are essential to the agency's integrated observing system, which is the foundation of the environmental intelligence that the agency provides. NESDIS maintains primary constellations of environmental satellites in the polar and geostationary orbits and in deep space at Lagrange point 1, directly along the sun-earth line. NESDIS satellite-based observations assist with disaster mitigation through the monitoring of severe weather, sea level rise, precipitation, fire and smoke, volcanic eruptions, dust storms, and other air quality issues. Along with managing NOAA's satellites in real time, NESDIS leverages Federal, partner, and commercial data sources to develop and distribute products and information from NOAA. NESDIS-developed products and information underpin weather and other environmental forecasts, contributing to saving lives and property, and providing essential information to sustain and generate economic activity.

¹ NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2022). <https://www.ncdc.noaa.gov/billions/>. DOI: [10.25921/stkw-7w73](https://doi.org/10.25921/stkw-7w73)

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NOAA satellite observations, along with partner and commercial observations, provide uninterrupted global coverage critical for generating short-term and long-term weather forecasts. By integrating these observations with NESDIS's extensive environmental data archives at the National Centers for Environmental Information, NESDIS provides valuable information and analyses of long-term monitoring and understanding of planetary environmental change. The preservation and continuous validation of long-term environmental data records support decision making, seasonal forecasting, climate monitoring, and climate modeling applications in both the private and public sectors. NESDIS is committed to the international effort to establish a global observing system that meets both the Nation's and the world's need for environmental intelligence. A fully implemented global observing system, leveraging investments from NOAA and from multiple international contributors, is yielding increasingly accurate and reliable warnings of severe weather, climate change, and other environmental events in the United States and all around the world.

With unwavering commitment to our mission during the COVID-19 pandemic, NESDIS prioritized the health and productivity of our workforce while mitigating risks associated with our programs and projects. To date, NESDIS has been able to move forward with minimal impacts to programs by utilizing funding reserves, but it is difficult to project long-term impacts in the out-years for current missions. NESDIS will continue to evaluate COVID-19 impacts and will communicate any funding, schedule, and milestone shifts in future budget requests.

Next Generation Architecture

In 2015-2018 NESDIS conducted the NOAA Satellite Observing System Architecture (NSOSA) study, a comprehensive assessment of its next generation satellite architecture, which considered much more than just the satellite assets. NOAA reviewed the way it collects and manages requirements, the industrial and IT systems trends that are essential elements of our work environment, and the anticipated user environment that our future systems will need to support.

Within the evolving weather, climate, and environmental data landscape, we are seeing an unprecedented pace of technology advances (such as satellite and launch vehicle capabilities, artificial intelligence, high performance computing, and machine learning), which is opening access to space, increasing demand for timely integrated data and information, and advancing forecast modeling. In particular, there is an increased demand for timely and accurate observations and predictions of extreme weather events, and an intensified demand for environmental assessments informed by climate change assessments for forecasts to inform infrastructure investments. Commercial launch and remote sensing capabilities are emerging among the aerospace industry, along with an increasing vulnerability of our technological society to the effects of space weather.

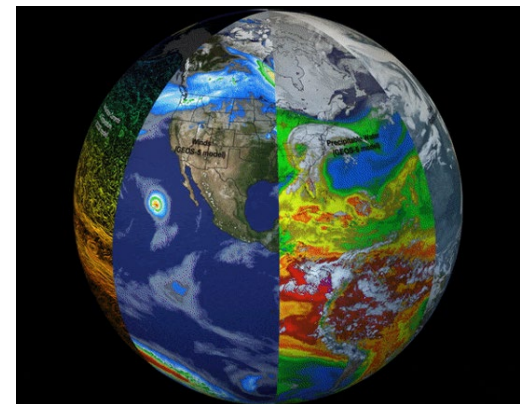
NOAA is taking essential steps to operate effectively in this changing environment. Our vision is to create an integrated, digital understanding of our Earth environment that will allow our citizens to adapt and thrive. This observing system will provide advanced,

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real-time data critical to saving lives and protecting property as well as powering increasingly sophisticated models that forecast climate change-driven weather patterns and environmental conditions never seen before, to provide our communities and users with information to manage their lives and investments into the future.

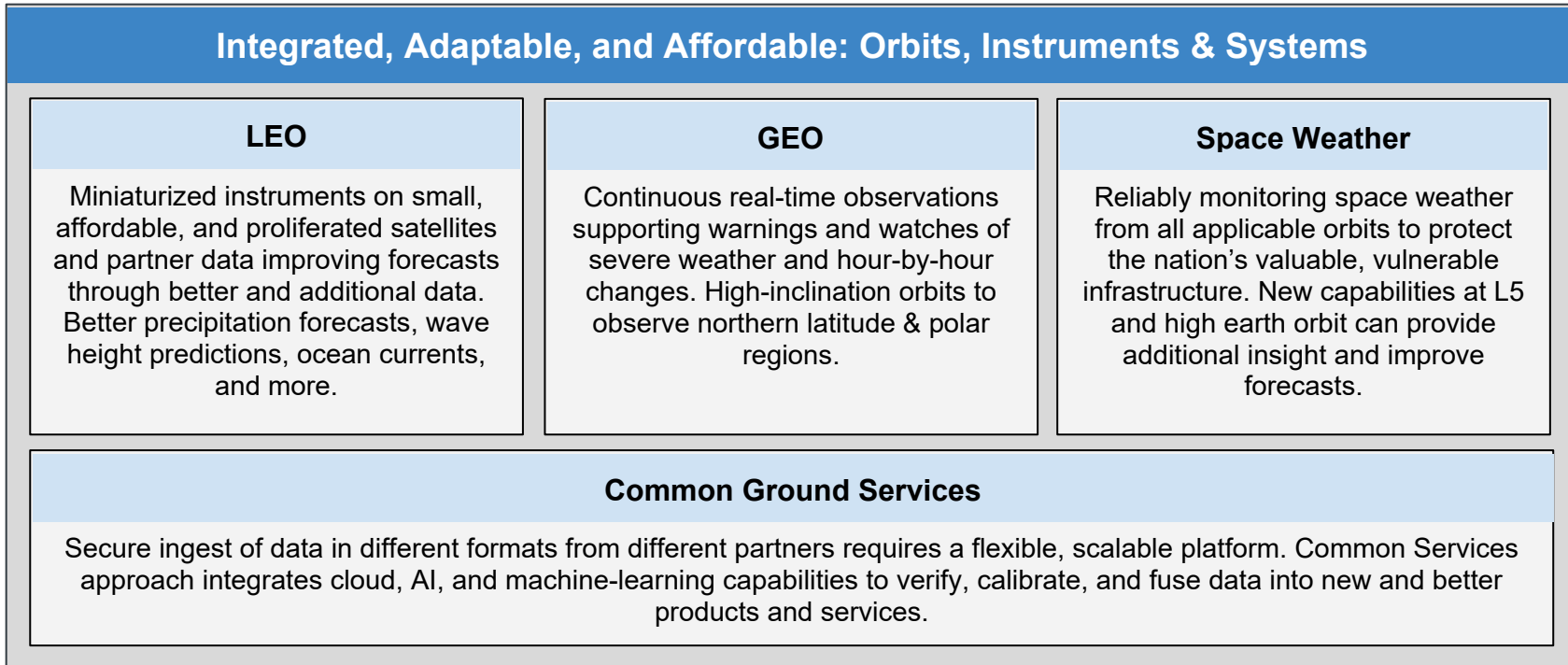
We envision a future observing system that will provide:

- A breadth of observations obtained from multiple viewpoints and organized into observation portfolios, including Low Earth Orbit (LEO), Geostationary Earth Orbit (GEO), and Space Weather Observations (SWO), where and when we need them to meet expected future demands;
- A system featuring a mixture of small, medium, and large satellites and instruments, including shorter development times, more frequent launches, and smaller and more capable instruments and satellites.
- A Common Ground Services approach to operate the evolving observing system, and integrated cloud, artificial intelligence, and machine-learning capabilities to verify, calibrate, and fuse data into better products and services. This includes a flexible, scalable platform that enables secure ingest of partner data in different formats.
- A combination of assets, including NOAA-owned and managed, partner assets, commercial partnerships, and the purchase of data.
- A constrained budget of \$25.0 billion in total PAC and ORF for satellite costs over the next decade (FY 2024 – FY 2033) allowing NOAA to pursue the most critical observations while making tradeoffs within and between observation portfolios.



As NESDIS continues adapting to the changing weather and environmental data landscape, future endeavors will focus on the continuity and efficient expansion of LEO, GEO, and SWO capabilities as well as the provision of common ground services for the secure ingest of data. Together, these four areas constitute the pillars of the NSOSA study implementation:

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NESDIS will continue to adhere to and track the life cycle costs (LCCs) for major satellite programs such as the Geostationary Operational Environmental Satellite – R Series (GOES-R Series), Joint Polar Satellite System (JPSS), Polar Follow On (PFO), and Space Weather Follow On (SWFO). Since each of these represent established missions with unique visibility and stakeholders, NESDIS will keep the current reporting structure for the duration of these missions.

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The image above reflects NOAA’s current and planned next-generation satellite systems, as well as some of our partner missions. The FY 2024 budget supports the current constellation and makes crucial investments to ensure that the Nation’s next-generation satellite systems expand delivery of essential climate, weather, atmospheric, and oceanographic, and space weather information to meet the needs of the Nation.

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Significant Adjustments:

Inflationary Adjustments

NOAA’s FY 2024 Base includes a net increase of \$8,346,000 and 8 FTE/ 0 positions to account for the full funding requirement for certain inflationary adjustments to current programs for NESDIS activities. This includes inflationary increases for labor and non-labor activities including benefits and rent charges from the General Services Administration.

Operational Phase Transfers

The NOAA satellite budget profiles in the PAC account are formulated to reflect the full LCC including design, development, and operations. An Operational Phase Transfer is required to transfer the LCC funding currently budgeted within a PAC Subactivity to the appropriate ORF Subactivity for operational functions. It results in a net change of zero to the NESDIS budget.

Low Earth Orbit / COSMIC-2 / GNSS-RO:

From Office	Subactivity	To Office	Subactivity	Amount/ FTE
NESDIS	LEO (PAC)	NESDIS	Office of Satellite and Product Operations (ORF)	\$5,750,000 / 1 FTE / 1 Position
NESDIS	LEO (PAC)	NESDIS	Product Development, Readiness & Application (ORF)	\$2,350,000 / 0 FTE / 0 Position

In FY 2024, NOAA requests a technical adjustment to transfer \$5,750,000 and 1 FTE/ 1 positions from the LEO Subactivity in PAC into the Office of Satellite and Product Operations Subactivity in ORF and \$2,350,000 and 0 FTE/ 0 positions from the LEO Subactivity in PAC into the Product Development, Readiness and Application Subactivity in ORF. This Operational Phase Transfer supports operations funding for the COSMIC-2 / GNSS RO data processing, ground stations, and products.

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Life cycle costs: The following tables provide the details of the total LCC of NOAA satellites that have a required base funding level of over \$250 million.

GOES-R Series LCC* (\$ in thousands):

GOES-R Series	2023 & Prior**	2024	2025	2026	2027	2028	CTC	Total
GOES-R Series LCC (PAC & ORF)	10,114,625	309,900	133,900	129,900	129,900	129,900	751,962	11,700,087
<i>Procurement, Acquisition, and Construction (PAC)</i>								
Total PAC^	9,877,325	276,000	100,000	96,000	96,000	96,000	480,762	11,022,087
GOES-R Series	9,877,325	276,000	100,000	96,000	96,000	96,000	480,762	11,022,087
<i>Operations, Research, and Facilities (ORF)</i>								
Total ORF	237,300	33,900	33,900	33,900	33,900	33,900	271,200	678,000
Office of Satellite and Product Operations	185,430	26,490	26,490	26,490	26,490	26,490	211,920	529,800
Product Development, Readiness & Application	42,000	6,000	6,000	6,000	6,000	6,000	48,000	120,000
National Centers for Environmental Information	9,870	1,410	1,410	1,410	1,410	1,410	11,280	28,200

* Outyears are estimates. Future requests will be based on current needs and requirements. Therefore, the PAC profile will be updated on an annual basis.

** The FY 2023 & Prior column accounts for FY 2023 Enacted, as well as any reductions for deobligations in prior enacted appropriations.

^The COVID-19 pandemic resulted in cost impacts to the GOES-R Series ground system server replacement. In the FY 2023 President's Budget, NOAA re-phased funding within the LCC to replenish reserves to an acceptable level in order to maintain schedule and minimize risks to the GOES-T and GOES-U launches. NOAA pulled forward \$25.0 million and \$28.5 million in FY 2023 and FY 2024, respectively; this funding was pulled forward from the sustainment phase of the GOES-R Series life cycle. After the award of the GOES-U launch services contract in September 2021 and the successful launch of GOES-18 (formerly GOES-T) in March 2022, NOAA determined this re-phasing was no longer necessary. The funding profile supports the GOES-U launch and sustainment of the GOES-R Series through FY 2036. The LCC remains unchanged.

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GeoXO LCC* (\$ in thousands):

GeoXO	2023 & Prior**	2024	2025	2026	2027	2028	CTC	Total
GeoXO LCC (PAC & ORF)	445,000	417,429	671,000	691,500	1,320,000	1,320,000	14,779,460	19,644,389
Procurement, Acquisition, and Construction (PAC)								
Total PAC	445,000	417,429	671,000	691,500	1,320,000	1,320,000	14,779,460	19,644,389
GeoXO	445,000	417,429	671,000	691,500	1,320,000	1,320,000	14,779,460	19,644,389

* Outyears are estimates. Future requests will be based on current needs and requirements. Therefore, the PAC profile will be updated on an annual basis.

** The FY 2023 & Prior column accounts for FY 2023 Enacted, as well as any reductions for deobligations in prior enacted appropriations.

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Polar Weather Satellites (PWS; JPSS and PFO) LCC* (\$ in thousands):

PWS		2023 & Prior**	2024	2025	2026	2027	2028	CTC***	Total
Total PWS (PAC & ORF)		13,286,194	425,000	425,000	425,000	425,000	425,000	2,748,831	18,160,025
JPSS LCC (PAC & ORF)		11,070,325	167,390	84,410	-	-	-	-	11,322,125
PFO LCC (PAC & ORF)		2,215,869	257,610	340,590	425,000	425,000	425,000	2,748,831	6,837,900
<i>Procurement, Acquisition, and Construction (PAC)</i>									
Total PAC		13,151,404	350,210	350,210	350,210	350,210	350,210	2,000,931	16,903,385
Subactivity	Program								
Polar Weather Satellites	JPSS	10,927,735	84,800	1,820	-	-	-	-	11,014,355
	PFO	2,215,869	257,610	340,590	342,410	342,410	342,410	1,922,931	5,764,230
Common Ground Services	JPSS	7,800	7,800	7,800	-	-	-	-	23,400
	PFO	-	-	-	7,800	7,800	7,800	78,000	101,400
<i>Operations, Research, and Facilities (ORF)</i>									
Total ORF		134,790	74,790	74,790	74,790	74,790	74,790	747,900	1,256,640
Subactivity	Program								
Office of Satellite and Product Operations	JPSS	119,190	59,190	59,190	-	-	-	N/A	237,570
	PFO^	-	-	-	59,190	59,190	59,190	591,900	769,470
Product Development, Readiness & Application	JPSS	14,600	14,600	14,600	-	-	-	N/A	43,800
	PFO^	-	-	-	14,600	14,600	14,600	146,000	189,800
National Centers for Environmental Information	JPSS	1,000	1,000	1,000	-	-	-	N/A	3,000
	PFO^	-	-	-	1,000	1,000	1,000	10,000	13,000

* Outyears are estimates. Future requests will be based on current needs and requirements. Future year funding assumes \$425.0 million per year for PWS from FY 2024-FY 2028, allocated efficiently between JPSS and PFO while remaining at or under each program's LCC baseline in total.

** The FY 2023 & Prior column accounts for the FY 2023 Enacted, as well as any reductions for deobligations in prior enacted appropriations.

^ Operational Phase Transfers related to PFO are estimates and will be reevaluated in FY 2026.

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Space Weather Follow On (SWFO) LCC* (\$ in thousands):

SWFO	2023 & Prior**	2024	2025	2026	2027	2028	CTC	Total
SWFO LCC	496,692	97,200	41,200	22,300	21,800	13,608	-	692,800
<i>Procurement, Acquisition, and Construction (PAC)</i>								
Total PAC	496,692	97,200	41,200	22,300	21,800	13,608	-	692,800
SWFO	496,692	97,200	41,200	22,300	21,800	13,608	-	692,800

* Outyears are estimates. Future requests will be based on current needs and requirements.

** The FY 2023 & Prior column accounts for the FY 2023 Enacted, as well as any reductions for deobligations in prior enacted appropriations.

Department of Commerce
National Oceanic and Atmospheric Administration
TRANSFER CHANGE DETAIL BY OBJECT CLASS
(Direct Obligation amounts in thousands)

Activity: Systems Acquisition

Subactivity: Low Earth Orbit (PAC) – Transfer of COSMIC-2 / GNSS RO to the Office of Satellite and Product Operations (ORF)

<u>Object Class</u>	<u>2023 Enacted</u>	<u>2024 Transfer</u>	<u>2024 Base*</u>
11.1 Full-time permanent compensation	1,659	(156)	1,745
11.3 Other than full-time permanent	0	0	0
11.5 Other personnel compensation	16	0	16
11.7 NOAA Corps	0	0	0
11.9 Total personnel compensation	1,675	(156)	1,761
12 Civilian personnel benefits	536	(50)	564
13 Benefits for former personnel	0	0	0
21 Travel and transportation of persons	24	0	24
22 Transportation of things	0	0	0
23 Rent, communications, and utilities	0	0	0
23.1 Rental payments to GSA	19	0	19
23.2 Rental Payments to others	0	0	0
23.3 Communications, utilities and misc charges	0	0	0
24 Printing and reproduction	0	0	0
25.1 Advisory and assistance services	12,319	0	12,319
25.2 Other services from non-Federal sources	259	0	259
25.3 Other goods and services from Federal sources	78,503	(5,544)	70,290
25.4 Operation and maintenance of facilities	0	0	0
25.5 Research and development contracts	0	0	0
25.6 Medical care	0	0	0
25.7 Operation and maintenance of equipment	0	0	0
25.8 Subsistence and support of persons	0	0	0
26 Supplies and materials	0	0	0
31 Equipment	0	0	0
32 Lands and structures	0	0	0
33 Investments and loans	0	0	0
41 Grants, subsidies and contributions	3,094	0	3,094
42 Insurance claims and indemnities	0	0	0
43 Interest and dividends	0	0	0
44 Refunds	0	0	0
99 Total obligations	96,430	(5,750)	88,330

*The 2024 Base column reflects the full 2024 Base for this Subactivity, including calculated ATBs and any additional transfers.

Department of Commerce
National Oceanic and Atmospheric Administration
TRANSFER CHANGE DETAIL BY OBJECT CLASS
(Direct Obligation amounts in thousands)

Activity: Environmental Satellite Observing Systems

Subactivity: Office of Satellite and Product Operations (ORF) – Transfer of COSMIC-2 / GNSS RO from Low Earth Orbit (PAC)

<u>Object Class</u>	<u>2023 Enacted</u>	<u>2024 Transfer</u>	<u>2024 Base*</u>
11.1 Full-time permanent compensation	39,638	156	41,699
11.3 Other than full-time permanent	77	0	77
11.5 Other personnel compensation	5,002	0	5,002
11.7 NOAA Corps	0	0	0
11.9 Total personnel compensation	44,717	156	46,459
12 Civilian personnel benefits	14,309	50	14,867
13 Benefits for former personnel	8	0	8
21 Travel and transportation of persons	34	0	35
22 Transportation of things	100	0	102
23 Rent, communications, and utilities	0	0	0
23.1 Rental payments to GSA	10,243	0	10,505
23.2 Rental Payments to others	1,229	0	1,229
23.3 Communications, utilities and misc charges	4,157	0	4,157
24 Printing and reproduction	7	0	7
25.1 Advisory and assistance services	57,241	0	59,591
25.2 Other services from non-Federal sources	53,327	0	55,077
25.3 Other goods and services from Federal sources	52,641	5,544	56,922
25.4 Operation and maintenance of facilities	0	0	0
25.5 Research and development contracts	0	0	0
25.6 Medical care	0	0	0
25.7 Operation and maintenance of equipment	0	0	0
25.8 Subsistence and support of persons	0	0	0
26 Supplies and materials	2,769	0	2,812
31 Equipment	3,201	0	3,233
32 Lands and structures	1,000	0	1,000
33 Investments and loans	0	0	0
41 Grants, subsidies and contributions	928	0	928
42 Insurance claims and indemnities	0	0	0
43 Interest and dividends	5	0	0
44 Refunds	0	0	0
99 Total obligations	245,915	5,750	256,931

*The 2024 Base column reflects the full 2024 Base for this Subactivity, including calculated ATBs and any additional transfers.

Department of Commerce
National Oceanic and Atmospheric Administration
TRANSFER CHANGE DETAIL BY OBJECT CLASS
(Direct Obligation amounts in thousands)

Activity: Systems Acquisition

Subactivity: Low Earth Orbit (PAC) – Transfer of COSMIC-2 / GNSS-RO to Product Development, Readiness and Application (ORF)

<u>Object Class</u>	<u>2023 Enacted</u>	<u>2024 Transfer</u>	<u>2024 Base*</u>
11.1 Full-time permanent compensation	1,659	0	1,745
11.3 Other than full-time permanent	0	0	0
11.5 Other personnel compensation	16	0	16
11.7 NOAA Corps	0	0	0
11.9 Total personnel compensation	1,675	0	1,761
12 Civilian personnel benefits	536	0	564
13 Benefits for former personnel	0	0	0
21 Travel and transportation of persons	24	0	24
22 Transportation of things	0	0	0
23 Rent, communications, and utilities	0	0	0
23.1 Rental payments to GSA	19	0	19
23.2 Rental Payments to others	0	0	0
23.3 Communications, utilities and misc charges	0	0	0
24 Printing and reproduction	0	0	0
25.1 Advisory and assistance services	12,319	0	12,319
25.2 Other services from non-Federal sources	259	0	259
25.3 Other goods and services from Federal sources	78,503	(2,350)	70,290
25.4 Operation and maintenance of facilities	0	0	0
25.5 Research and development contracts	0	0	0
25.6 Medical care	0	0	0
25.7 Operation and maintenance of equipment	0	0	0
25.8 Subsistence and support of persons	0	0	0
26 Supplies and materials	0	0	0
31 Equipment	0	0	0
32 Lands and structures	0	0	0
33 Investments and loans	0	0	0
41 Grants, subsidies and contributions	3,094	0	3,094
42 Insurance claims and indemnities	0	0	0
43 Interest and dividends	0	0	0
44 Refunds	0	0	0
99 Total obligations	96,430	(2,350)	88,330

*The 2024 Base column reflects the full 2024 Base for this Subactivity, including calculated ATBs and any additional transfers.

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National Oceanic and Atmospheric Administration
TRANSFER CHANGE DETAIL BY OBJECT CLASS
(Direct Obligation amounts in thousands)

Activity: Environmental Satellite Observing Systems

Subactivity: Product Development, Readiness and Application (ORF) – Transfer of COSMIC-2 / GNSS-RO from Low Earth Orbit (PAC)

<u>Object Class</u>	<u>2023 Enacted</u>	<u>2024 Transfer</u>	<u>2024 Base*</u>
11.1 Full-time permanent compensation	12,529	0	13,181
11.3 Other than full-time permanent	0	0	0
11.5 Other personnel compensation	259	0	259
11.7 NOAA Corps	0	0	0
11.9 Total personnel compensation	12,788	0	13,440
12 Civilian personnel benefits	4,413	0	4,500
13 Benefits for former personnel	4	0	4
21 Travel and transportation of persons	296	0	296
22 Transportation of things	3	0	3
23 Rent, communications, and utilities	0	0	0
23.1 Rental payments to GSA	2,944	0	2,992
23.2 Rental Payments to others	0	0	0
23.3 Communications, utilities and misc charges	35	0	35
24 Printing and reproduction	23	0	24
25.1 Advisory and assistance services	50	0	50
25.2 Other services from non-Federal sources	15,726	0	16,482
25.3 Other goods and services from Federal sources	2,230	2,350	4,580
25.4 Operation and maintenance of facilities	0	0	0
25.5 Research and development contracts	3,796	0	3,796
25.6 Medical care	0	0	0
25.7 Operation and maintenance of equipment	0	0	0
25.8 Subsistence and support of persons	0	0	0
26 Supplies and materials	78	0	81
31 Equipment	685	0	701
32 Lands and structures	0	0	0
33 Investments and loans	0	0	0
41 Grants, subsidies and contributions	14,430	0	13,918
42 Insurance claims and indemnities	0	0	0
43 Interest and dividends	0	0	0
44 Refunds	0	0	0
99 Total obligations	57,500	2,350	60,902

*The 2024 Base column reflects the full 2024 Base for this Subactivity, including calculated ATBs and any additional transfers.

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PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

		2022 Actual		2023 Enacted		2024 Base		2024 Estimate		Increase/Decrease from 2024 Base	
Comparison by Subactivity		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE (NESDIS)											
Office of Satellite and Product Operations (OSPO)	Pos/BA	309	196,000	325	245,915	326	256,931	326	256,931	0	0
	FTE/OBL	284	200,070	311	245,915	312	256,931	312	256,931	0	0
Product Development, Readiness & Application (PDR&A)	Pos/BA	86	51,917	87	57,500	87	60,902	87	61,500	0	598
	FTE/OBL	77	50,041	79	57,500	79	60,902	79	61,500	0	598
U.S. Group on Earth Observations (USGEO)	Pos/BA	0	499	0	750	0	750	0	1,000	0	250
	FTE/OBL	0	494	0	750	0	750	0	1,000	0	250
National Centers for Environmental Information (NCEI)	Pos/BA	191	69,213	210	71,372	210	73,400	210	75,000	0	1,600
	FTE/OBL	170	67,413	200	71,372	200	73,400	200	75,000	0	1,600
NOAA Community Project Funding/NOAA Special Projects	Pos/BA	0	1,200	0	2,500	0	2,500	0	0	0	(2,500)
	FTE/OBL	0	1,200	0	2,500	0	2,500	0	0	0	(2,500)
TOTAL NESDIS - ORF	Pos/BA	586	318,829	622	378,037	623	394,483	623	394,431	0	(52)
	FTE/OBL	531	319,218	590	378,037	591	394,483	591	394,431	0	(52)

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National Oceanic and Atmospheric Administration
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

		2022		2023		2024		2024		Increase/Decrease	
		Actual		Enacted		Base		Estimate		from 2024 Base	
Comparison by Subactivity		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE (NESDIS)											
Geostationary Systems-R (GOES-R)	Pos/BA	78	333,414	51	301,000	51	301,000	51	276,000	0	(25,000)
	FTE/OBL	52	334,742	48	301,000	48	301,000	48	276,000	0	(25,000)
Geostationary Extended Observations (GeoXO)	Pos/BA	18	149,618	34	285,000	34	285,000	34	417,429	0	132,429
	FTE/OBL	14	147,582	28	285,000	29	285,000	29	417,429	0	132,429
Low Earth Orbit (LEO)	Pos/BA	13	66,217	16	96,430	15	88,330	15	123,590	0	35,260
	FTE/OBL	9	53,820	13	96,430	12	88,330	12	123,590	0	35,260
Polar Weather Satellites (PWS)	Pos/BA	104	386,693	57	183,500	57	183,500	57	342,410	0	158,910
	FTE/OBL	66	389,263	52	183,500	52	183,500	52	342,410	0	158,910
Projects, Planning and Analysis (PPA)	Pos/BA	21	14,878	0	0	0	0	0	0	0	0
	FTE/OBL	11	15,912	0	0	0	0	0	0	0	0
Space Weather Follow On (SWFO)	Pos/BA	30	146,479	27	136,200	27	136,200	27	97,200	0	(39,000)
	FTE/OBL	22	147,006	22	136,200	22	136,200	22	97,200	0	(39,000)
Space Weather Next	Pos/BA	16	54,860	49	151,606	49	151,606	49	225,000	0	73,394
	FTE/OBL	11	54,642	32	151,606	33	151,606	33	225,000	0	73,394
Common Ground Services (CGS)	Pos/BA	49	62,948	78	105,433	78	105,433	78	120,911	0	15,478
	FTE/OBL	44	67,942	68	105,433	74	105,433	74	120,911	0	15,478

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PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Comparison by Subactivity		2022		2023		2024		2024		Increase/Decrease	
		Actual		Enacted		Base		Estimate		from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE (NESDIS)											
Systems/Services Architecture & Engineering (SAE)	Pos/BA	36	67,410	42	68,500	42	68,500	42	74,500	0	6,000
	FTE/OBL	34	67,730	34	68,500	34	68,500	34	74,500	0	6,000
Satellite CDA Facility	Pos/BA	0	2,101	0	2,450	0	2,450	0	2,450	0	0
	FTE/OBL	0	4,083	0	2,450	0	2,450	0	2,450	0	0
TOTAL NESDIS - PAC	Pos/BA	365	1,284,618	354	1,330,119	353	1,322,019	353	1,679,490	0	357,471
	FTE/OBL	263	1,282,722	297	1,330,119	304	1,322,019	304	1,679,490	0	357,471
TOTAL NESDIS	Pos/BA	951	1,603,447	976	1,708,156	976	1,716,502	976	2,073,921	0	357,491
	FTE/OBL	794	1,601,940	887	1,708,156	895	1,716,502	895	2,073,921	0	357,491

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PROGRAM DECREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>
NOAA Community Project Funding/	Pos./BA	0	2,500	0	0	0	(2,500)
NOAA Special Projects	FTE/OBL	0	2,500	0	0	0	(2,500)

Terminate NOAA Community Project Funding/NOAA Special Projects (-\$2,500, 0 FTE/0 Positions) - This program change removes funding for one-time congressionally directed projects provided in the FY 2023 enacted bill.

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(Dollar amounts in thousands)

Activity: Environmental Satellite Observing System

Goal Statement

NOAA manages environmental satellites and related ground systems to provide timely and accurate environmental data and products for forecasts and warnings to ensure the safety of U.S. citizens, public property, and infrastructure.

Base Program

NOAA's Environmental Satellite Observing Systems activities are to:

- Maintain and operate a system of polar-orbiting satellites which provide global imaging and sounding for medium and long-range weather forecasting and climate analysis crucial to numerical weather prediction models.
- Maintain and operate a system of geostationary satellites to provide near-continuous environmental observations of the Earth's Western Hemisphere critical for weather forecasting and severe storm tracking.
- Supply data and operational products to the public and decision-makers.
- Operate and maintain the mission control center for the search and rescue satellite system.

The Environmental Satellite Observing System activity includes the following Subactivities: Office of Satellite and Product Operations; Product Development, Readiness and Application; and U.S. Group on Earth Observation. Detailed operating objectives for each Subactivity are described below.

Statement of Operating Objectives

Office of Satellite and Product Operations (OSPO)

Schedule and Milestones:

FY 2024 – FY 2028

- 24/7 operations, collision, and anomaly support for NOAA geostationary, low Earth orbiting, and space weather satellites; and, backup operations for Jason Continuity of Service and Metop satellites
- Process and distribute environmental data from NOAA geostationary and low earth orbiting satellites; Metop B, C, and EUMETSAT Polar System Second Generation; Argos-4, and other international partner satellites
- Continuously monitor and annual penetration testing of all NOAA information technology (IT) systems

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- Enhance common processes in response to IT Security events or incidents including moving NESDIS non-satellite control high impact networks into NOAA OCIO's secure active directory
- Maintain satellite operation facilities at Suitland, Maryland; Wallops, Virginia; Utqiagvik and Fairbanks, Alaska; and Fairmont, West Virginia
- Maintain infrastructure for National/Mission High and Moderate Critical IT Systems
- Maintain SARSAT infrastructure

FY 2025

- Accept handover of SWFO after completion of on-orbit testing
- Accept handover of GOES-U after completion of on-orbit testing

FY 2026

- Accept handover of NEON QuickSounder after completion of on-orbit testing

FY 2028

- Accept handover of JPSS-3 after successful on orbit testing

Deliverables:

- Delivery of satellite data and products to users
- Engineering support for NOAA on-orbit satellites
- Support search and rescue antenna performance checks on POES (NOAA-19) and Metop B and C
- Maintain satellite operations facilities at Suitland, Maryland; Wallops, Virginia; Utqiagvik and Fairbanks, Alaska; and Fairmont, West Virginia
- Maintain infrastructure for National/Mission High and Moderate Critical IT Systems
- Maintain SARSAT infrastructure

Product Development, Readiness & Application (PDR&A)**Schedule and Milestones:**

FY 2024 – FY 2028

- For Metop-SG A1 and B1 satellites instruments, complete algorithms, pre-launch readiness, support initial calibration, conduct NOAA initial product validation, and transition to routine algorithm maintenance and anomaly resolution, and support routine calibration maintenance
- For ongoing commercial GNSS RO, provide science input data to evaluate commercial offerings and provide transition support

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and ongoing quality assessment for purchased data

- For CWDP Round 3 and 4, provide science input / support / evaluation depending on commercial sector readiness
- Deliver enterprise algorithms for operational implementation in cloud computing to enable transition off of legacy algorithms processing in legacy ground product generation
- For JPSS-2 sensors and products, complete initial calibration/validation, and transition to routine calibration/validation, algorithm maintenance, and anomaly resolution
- Develop requirements, algorithms, test and verify then transition to operations and routine maintenance/anomaly resolution for updated LEO/GEO blended products incorporating Metop-SG
- Develop requirements, algorithms, test and verify then transition to operations and routine maintenance/anomaly resolution for geostationary ring and LEO/GEO blended products incorporating Meteosat Third Generation
- Complete GOSAT AMSR-3 algorithms, and initial calibration/validation and look up table delivery and transition to routine calibration, validation, algorithm maintenance and anomaly resolution
- Complete final validation of Sentinel-6 Michael Freilich
- For Sentinel-6B perform pre-launch development, post-launch evaluation, initial validation of products, implement work packages in 6-month commissioning phase with Sentinel-6 Michael Freilich, and final validation of Sentinel-6B, transition of both to routine calibration/validation maintenance and anomaly resolution
- For GOES-U, complete pre-launch preparations and post launch calibration/validation and transition to routine calibration, validation, algorithm maintenance and anomaly resolution
- For JPSS-3, complete pre-launch calibration/validation, look up tables and integrated calibration/validation system readiness

Deliverables:

- Maintain algorithms and data product validation to translate raw data into useful products meeting quality requirements for GOES-R Series, Sentinel-6, POES, Metop, COSMIC, CWDP, EOS, Himawari, Meteosat, Sentinel, Oceansat-3, and lead for JPSS series and GCOM-W, GOSAT AMSR 3, Metop-SG, Sentinel 4 and 5
- Conduct pre-launch initial instrument calibration and product validation for satellites to be launched, and perform on-orbit vicarious sensor calibration and product validations for recently launched satellites
- Perform suitability assessment, and validation of non-NOAA data sources for NOAA use, and incorporate non-NOAA data flows into NOAA enterprise algorithms and NOAA models (in cooperation with NWS, OAR, NOS)
- Provide science guidance to and coordination with national and international partners
- Provide observing requirements inputs to future satellite sensor and mission studies and support their optimization for NOAA

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mission needs and subsequent development

U.S. Group on Earth Observations (USGEO):

Schedule and Milestones:

FY 2024 – FY 2027

- Support the development and growth of the U.S. programmatic contributions to the GEO Work Program in support of national and international policy and NOAA mission objectives
- Increase the U.S. participation in the implementation of GEO's strategic plan through a grant to the GEO Trust Fund

Deliverables:

- Participation in major GEO meetings and activities to promote international engagement and coordination with stakeholders and outreach
- GEO Secretariat will devote more resources to strengthen program integration, coordination and user engagement in areas of key interest to NOAA such as urban resilience
- New contractor support to strengthen the capacity of the Inter-American community to advance the application of Earth observations, geospatial, and statistical data through flexible training options to gain required knowledge, skills, and abilities

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JUSTIFICATION OF PROGRAM AND PERFORMANCE**
(Dollar amounts in thousands)

Explanation and Justification

Comparison by Subactivity		2022		2023		2024	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Office of Satellite and Product Operations (OSPO)	Pos/BA	309	196,000	325	245,915	326	256,931
	FTE/OBL	284	200,070	311	245,915	312	256,931
Product Development, Readiness & Application (PDR&A)	Pos/BA	86	51,917	87	57,500	87	60,902
	FTE/OBL	77	50,041	79	57,500	79	60,902
U.S. Group on Earth Observations (USGEO)	Pos/BA	0	499	0	750	0	750
	FTE/OBL	0	494	0	750	0	750
Total Environmental Satellite Observing Systems	Pos/BA	395	248,416	412	304,165	413	318,583
	FTE/OBL	361	250,605	390	304,165	391	318,583

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Office of Satellite and Product Operations (OSPO) (<http://www.ospo.noaa.gov/>): OSPO acquires and delivers accurate, timely, and reliable satellite observations and integrated products from NOAA-operated, commercially-acquired, and domestic and international non-NOAA satellites. OSPO provides support during launch, activation, and evaluation of recently launched satellites of interest; satellite health and safety monitoring, satellite operations, and data acquisition to meet user needs; and, assessment of satellite and ground station anomalies and support to appropriate recovery actions for those anomalies.

OSPO manages and directs NOAA's command and control of the suite of on-orbit satellites that supply the environmental data critical for developing weather and climate products used daily by Federal and state agencies, industry, and citizens across the Nation. To this end, OSPO works with NOAA's NWS to supply the satellite data that makes up over 95 percent of the information used in their numerical weather prediction models. OSPO collects space weather data, which is used to protect the aviation and electric power industries, Global Positioning System, radio communications, and satellites. OSPO provides satellite transmission services that provide operational data, derived products, and support for the worldwide direct readout community who are given free, unrestricted access to the scientific data from NOAA satellites. OSPO is also the United States operator for the international Search and Rescue Satellite-Aided Tracking (SARSAT) system, utilizing NOAA satellites, dedicated to saving persons in distress on land or water.

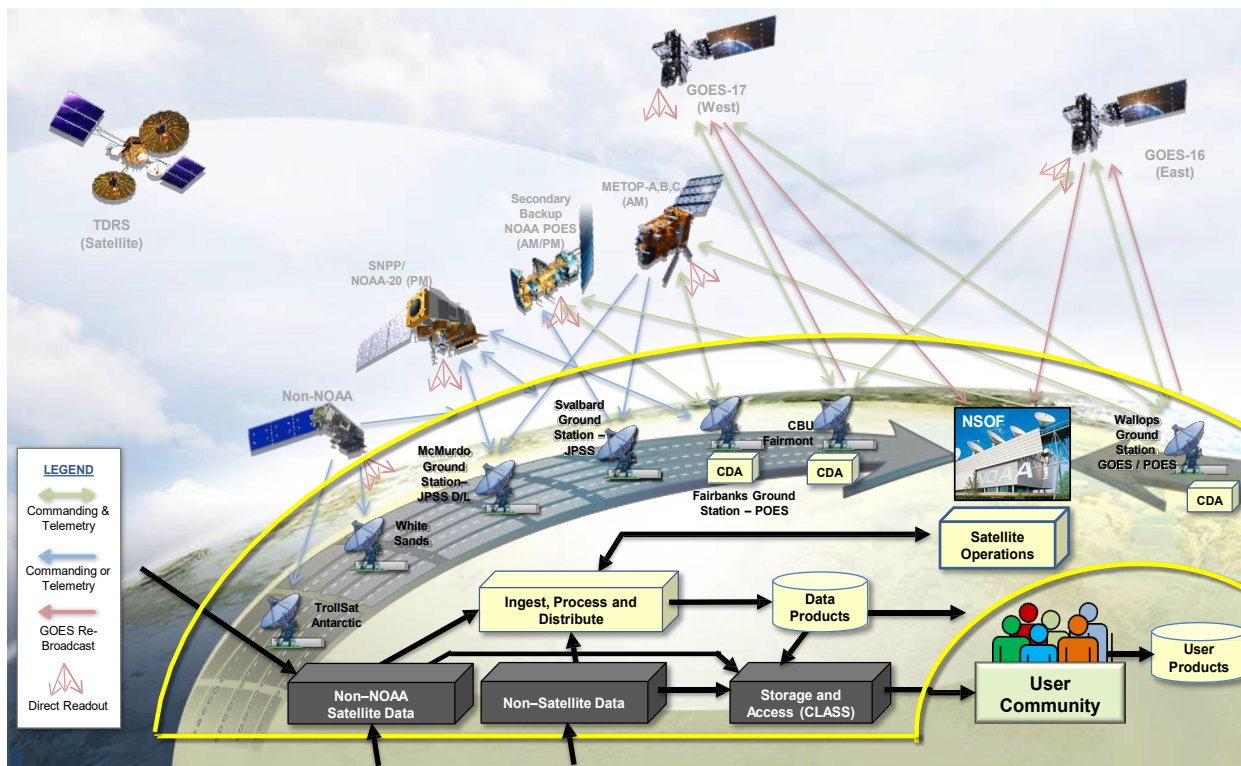
Overall, OSPO:

- Maintains and operates a system of polar-orbiting satellites which provide global imaging and sounding for medium and long-range weather forecasting and climate analysis crucial to numerical weather prediction models;
- Maintains and operates a system of geostationary satellites to provide near-continuous environmental observations of the Western Hemisphere critical for weather forecasting and severe storm tracking;
- Performs long-term maintenance to preserve the form, fit, and function of legacy ground systems;
- Performs on-orbit anomaly support for the legacy Geostationary Operational Environmental Satellites (GOES) and Polar-orbiting Operational Environmental Satellites (POES) series of satellites, Deep Space Climate Observatory (DSCOVR), and Jason-3;
- Supplies data and operational products to the public and decision-makers;
- Operates a continuous Data Collection System service, providing data relay services for multiple Federal and commercial users; and,
- Operates and maintains the U.S. Mission Control Center for the search and rescue satellite system

In FY 2023, OSPO operated and supported a total of 17 on-orbit satellites including: legacy GOES and POES; Suomi National Polar-orbiting Partnership (Suomi NPP) and Joint Polar Satellite System (JPSS) satellites; GOES-R Series satellites; DSCOVR; Jason-3; as well as other non-NOAA operational environmental satellites. OSPO's IT Security implements vulnerability management against the latest threats on satellite ground systems to lower the operational risk, which ensures continuity of critical satellite data flow to key

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customers such as NOAA's NWS.



Maintaining the operations and data acquisition from NOAA and our partner satellites is a 24/7 process. OSPO manages and directs operation of the central ground facilities which ingest, process, and distribute environmental satellite data and derived products to users.

OSPO sustains NOAA's legacy ground systems through capability enhancements; periodic technology refresh, including hardware and software upgrades; and IT security. OSPO currently sustains ground segments supporting the following satellite constellations: GOES; POES; Jason-3; Constellation Observing System for Meteorology, Ionosphere, and Climate (COSMIC); and DSCOVR. OSPO also

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supports elements of the GOES-R Series and JPSS ground segments and sustains their ground system antennas, which send and receive data to and from satellites.

OSPO supports:

- The NOAA Satellite Operations Facility (NSOF) for NOAA's 24 hours a day, 365 days a year, environmental satellite operations. Through NSOF, NOAA operates the ground systems that command, control, and acquire data from on-orbit satellites. Each day, NSOF processes more than 25 terabytes of environmental satellite raw data from on-orbit DOD, NOAA, and non-NOAA satellites. In addition to satellite operations, NSOF provides environmental data used to develop weather and climate products, as well as other information products used daily by industry and citizens across the Nation;
- The Satellite Operations Control Center and Environmental Satellite Processing Center, which serve as the vital link between satellites and users by providing uninterrupted availability of critical observations and real-time delivery of satellite data to product processing centers. These include the Command and Data Acquisition Stations at Wallops, Virginia, and Utqiagvik and Fairbanks, Alaska, and the consolidated backup at Fairmont, West Virginia;
- The Comprehensive Large Array-data Stewardship System, providing the long-term preservation of and access to the ever-increasing input of data from observing systems (e.g., satellites, radar, and other ground observations);
- The GOES Data Collection System and Argos Data Collection and Location Systems used by researchers, governmental and environmental organizations worldwide;
- The U.S. SARSAT system is an integral part of the Cospas-Sarsat Program, which is an international humanitarian search and rescue system that detects and relays distress signals from mariners, aviators, and recreational enthusiasts, anywhere in the world, to Mission Control Centers that coordinate with local rescue authorities to rescue the person(s) in distress. NOAA coordinates U.S. participation in the international Cospas-Sarsat Program, and operates and maintains the U.S. Mission Control Center and the Local User Terminals, which are the satellite receiving ground stations that receive emergency beacon distress alerts; and,
- The NOAA instruments on the Metop-B and Metop-C satellites by providing data processing and distribution of environmental data, as well as anomaly support.

Product Development, Readiness & Application (PDR&A) (<http://www.star.nesdis.noaa.gov/star/index.php>): PDR&A provides the scientific and technical capabilities to calibrate and validate state-of-the-art satellite-based information and enable delivery to NOAA and its partners in usable formats. PDR&A increases forecast prediction capabilities in weather, ocean, climate, and environmental analysis and prediction systems by using advanced satellite data assimilation methods to accelerate and improve the quantitative use of research and operational satellite data, supporting NOAA's climate-ready nation initiative. PDR&A capitalizes on NOAA's investment in the acquisition and management of the Nation's operational environmental satellites to 1) transform raw observations and data feeds

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into information products and services to support NOAA's mission; 2) develop instrument and future mission observational requirements; 3) develop NOAA sensors and missions, including transition to operations; 4) maintain and sustain satellite data quality; and 5) provide user support, training, and distribution services. PDR&A funds the core capabilities of the Center for Satellite Applications and Research (STAR) and post operational phase transition support for GOES-R Series, Jason, and JPSS.

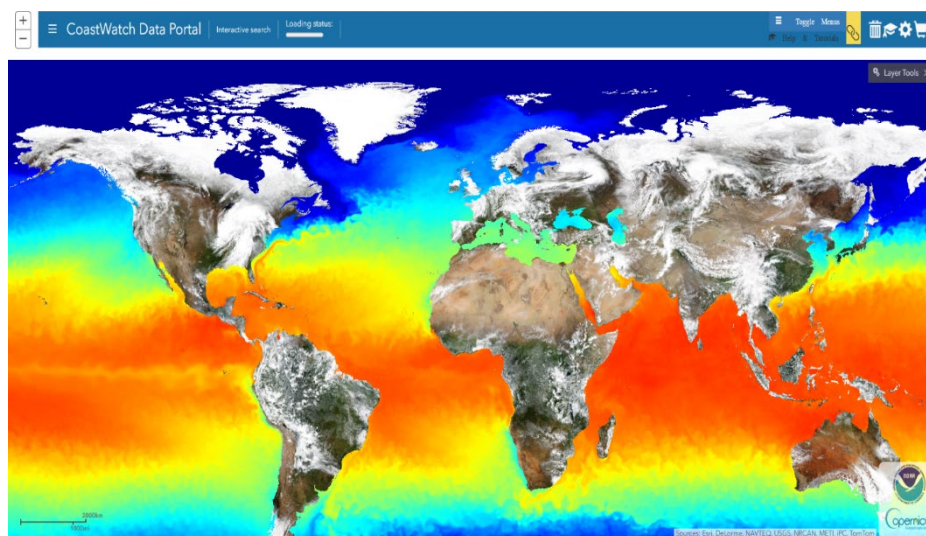
With these capabilities, STAR executes funding from NESDIS and other programs to:

- Conduct comprehensive and rigorous calibration/validation of all data in NOAA's satellite operations and, to the extent necessary, partner and commercial satellite data sources to ensure the accuracy of satellite products to meet user performance requirements throughout mission life cycles;
- Collaborates with other satellite data providers to foster consistency and usability;
- Resolve instrument anomalies, either pre-launch or on-orbit, through changes to data product algorithms and tables;
- Collaborate with NOAA's Line Offices to combine NOAA's environmental satellite measurements with other available information to create fit for purpose blended data, products, and services to meet NOAA's mission requirements, such as through NOAA's Coast/Ocean/Polar Watch;
- Supply characterization, support, testing, assimilation technology and quality assurance for critical real time satellite data and information products to meet the needs of NOAA's Line Offices, and partner U.S. Government and international agencies. These products feed forecast models and operational forecasts;
- Provide non-real time data and information products to meet the needs of NOAA's line offices and partner U.S. Government and international agencies for model validation, training and user readiness, retrospective assessments, and long-term data sets improving environmental understanding;
- Enhance NOAA services that protect lives, property, and livelihoods by addressing challenges through research and development and utilizing remote-sensing solutions to meet NOAA mission goals and science challenges, such as increasing lead times for severe weather warnings; severe ocean condition warnings; and providing accurate warnings of related environmental phenomena such as hurricanes, tornadoes, floods, fire, droughts, volcanic ash, toxic algal blooms, sea ice, water quality, etc.;
- Support ongoing improvement of mission impact through proving ground efforts that explore and assess the value of new observations or products and facilitate user readiness;
- Support ongoing improvement of mission impact through proving ground efforts that explore and assess the value of new observations or products and facilitate user readiness;
- Enable easy access to a wide range of products and services that support the Blue Economy; assess the impacts of environmental change in ecosystems, weather, and climate; help build the economy and support recreational and commercial activities; and strengthen our understanding of the marine environment;

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- Increase the understanding of long-term trends in fire activity, emissions, and land surface properties, as well as assess the needs of gaps of the fire community;
- Support users through training, science support, risk reduction, consulting, enterprise distribution services complementing satellite product operations, testing and validation, and support to archive services; and,
- Develop future NOAA and partner satellite instrument and mission requirements to meet NOAA mission objectives, and support development through transition to operations of NOAA instruments and missions.

STAR's work supports Executive Order (EO) 14008, Tackling the Climate Crisis at Home and Abroad, and EO 13990, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, by conducting scientific research and developing new satellite products to improve and expand the use of satellite data for monitoring global meteorological, climatological, and environmental conditions. STAR also provides the scientific expertise needed to support NESDIS and other NOAA line offices with carrying out activities in the *FY 2022 Extending Funding and Emergency Assistance Act* (P.L. 117-43), *The Infrastructure Investment and Jobs Act* (P.L. 117-58), and the *Inflation Reduction Act of 2022* (P.L. 117-169). The products STAR develops are used widely within NOAA's weather, climate, and environmental monitoring and prediction systems and include products ranging from fire, aerosols, greenhouse gases, and atmospheric temperature to snow and ice cover, ocean color and temperature, and tropical cyclones. STAR's work in calibrating and validating satellite instruments and developing new products and applications are integral to improving the quality and quantity of numerical weather predictions, climate observations, analysis, interpretation, and archives by maintaining a consistent climate record and improving our understanding of why changes are occurring.



The [CoastWatch Data Portal](#) provides users with visual access to CoastWatch oceanographic satellite data. Above is NOAA-20 VIIRS imagery with sea surface temperature.

U.S. Group on Earth Observations (USGEO) (<https://usgeo.gov/>): USGEO is a subcommittee of the White House National Science and Technology Council, with co-chairs from the Office of Science and Technology Policy, the National Aeronautics and Space

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Administration, NOAA, and the U.S. Geological Survey. USGEO provides program resources to support the U.S. Group on Earth Observations and supports NOAA's participation as part of the U.S. membership in the international Group on Earth Observations (GEO) organization. GEO is a partnership of 114 governments and more than 150 participating organizations and associates from the public and private sectors at international, regional, and national levels with a mission to coordinate comprehensive and sustained Earth observations. The United States is a founding member of GEO, and NOAA serves as the United States Principal to GEO. Global environmental and resource issues are among the great global challenges of our time, including mitigating and adapting to climate change, reducing disaster risk, and supporting sustainable development and resilience of global communities in the face of public health crisis, stress on food systems and biodiversity, and environmental degradation. Integrated Earth observations from public and private sources, technological advances in the application of artificial intelligence and machine learning, cloud computing and data analytics are essential tools for addressing these challenges. USGEO is a key forum for international engagement and cooperation on Earth observations. USGEO fulfills legislative requirements to deliver a National Plan for Civil Earth Observations and its associated implementation plan. One of the National Plan's objectives is to coordinate the United States' participation and representation to GEO. Specifically:

- Enhance international cooperation to enable more robust Earth observation architectures;
- Work through international frameworks to increase access to data from overseas sources;
- Promote and advance the United States' interests; and,
- Strengthen global and regional leadership through engagement in the intergovernmental GEO and advancement of the western hemisphere regional GEO community, Americas Group on Earth Observations (AmeriGEO)

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Operations, Research, and Facilities
PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Office of Satellite and Product Operations (OSPO)	Pos./BA	326	256,931	326	258,431	0	1,500
	FTE/OBL	312	256,931	312	258,431	0	1,500

Satellite and Product Operations Deferred and Extended Maintenance (+\$1,500, 0 FTE/ 0 Positions) – NOAA requests an increase to support critical satellite operations and maintenance requirements. Funding will support the recurring, lifecycle maintenance requirements and technology refreshes for NOAA ground and antenna systems at NOAA’s Command and Data Acquisition Stations in Wallops Island, Virginia, and Utqiagvik and Fairbanks, Alaska; and at NOAA’s Consolidated Back-up operational facility in Fairmont, West Virginia. Together, these systems command and control NOAA’s satellite constellations and provide real-time environmental information and data to the NWS for forecasts and early warnings that save lives and protect property.

Projects will include, but are not limited to, upgrades of antenna motors, feeds, high performance amplifiers, low noise amplifiers, transmitters, drive systems, and control units. For example, NOAA operates and maintains over 45 antennas. Antenna electronic components are replaced every 3 to 7 years, while antenna subsystems are reviewed for obsolescence and for potential replacement every 7 to 10 years. NOAA will prioritize the projects in the year of execution based on available funding and mission requirements.

Schedule and Milestones:

FY 2024 – FY 2028

- Maintain satellite operation facilities at Suitland, Maryland; Wallops, Virginia; Utqiagvik and Fairbanks, Alaska; and Fairmont, West Virginia
- Maintain infrastructure for National/Mission High and Moderate Critical IT Systems

Deliverables:

- Maintain satellite operations facilities at Suitland, Maryland; Wallops, Virginia; Utqiagvik and Fairbanks, Alaska; and Fairmont, West Virginia
- Maintain infrastructure for National/Mission High and Moderate Critical IT Systems

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(Dollar amounts in thousands)

Performance Measures	2024	2025	2026	2027	2028
Percentage of satellite data successfully acquired to meet customer requirements					
With Increase	95%	95%	95%	95%	95%
Without Increase	90%	90%	90%	90%	90%
Outyear Costs:					
Direct Obligations	1,500	1,500	1,500	1,500	1,500
Capitalized	0	0	0	0	0
Uncapitalized	1,500	1,500	1,500	1,500	1,500
Budget Authority	1,500	1,500	1,500	1,500	1,500
Outlays	930	930	930	930	930
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Environmental Satellite Observing Systems
Subactivity: Office of Satellite and Product Operations (OSPO)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base	
11.1	Full-time permanent compensation	35,808	39,638	41,699	41,699	0
11.3	Other than full-time permanent	76	77	77	77	0
11.5	Other personnel compensation	5,752	5,002	5,002	5,002	0
11.7	NOAA Corps	0	0	0	0	0
11.9	Total personnel compensation	41,636	44,717	46,459	46,459	0
12	Civilian personnel benefits	13,359	14,309	14,867	14,867	0
13	Benefits for former personnel	1	8	8	8	0
21	Travel and transportation of persons	169	34	35	35	0
22	Transportation of things	95	100	102	102	0
23	Rent, communications, and utilities	0	0	0	0	0
23.1	Rental payments to GSA	8,911	10,243	10,505	10,505	0
23.2	Rental Payments to others	0	1,229	1,229	1,229	0
23.3	Communications, utilities and misc charges	3,055	4,157	4,157	4,157	0
24	Printing and reproduction	14	7	7	7	0
25.1	Advisory and assistance services	57,908	57,246	59,591	59,591	0
25.2	Other services from non-Federal sources	51,382	53,327	55,077	56,577	1,500
25.3	Other goods and services from Federal sources	14,602	52,641	56,922	56,922	0
25.4	Operation and maintenance of facilities	0	0	0	0	0
25.5	Research and development contracts	410	0	0	0	0
25.6	Medical care	0	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0	0
26	Supplies and materials	1,114	2,769	2,812	2,812	0
31	Equipment	6,494	3,201	3,233	3,233	0
32	Lands and structures	367	1,000	1,000	1,000	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	549	928	928	928	0
42	Insurance claims and indemnities	0	0	0	0	0
43	Interest and dividends	4	0	0	0	0
44	Refunds	0	0	0	0	0
99	Total obligations	200,070	245,915	256,931	258,431	1,500

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Operations, Research, and Facilities
PROGRAM DECREASE FOR 2024**
(Dollar amounts in thousands)

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>
Office of Satellite and Product Operations (OSPO)	Pos./BA	326	256,931	326	255,431	0	(1,500)
	FTE/OBL	312	256,931	312	255,431	0	(1,500)

Enterprise Infrastructure Solutions (EIS) Decrease (-\$1,500, 0 FTE/ 0 Positions) – NOAA requests a reduction for EIS. Funds provided to NESDIS through FY 2023 Enacted were sufficient to complete the transition of telecommunications services to the General Services Administration's EIS contract vehicle.

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Environmental Satellite Observing Systems
Subactivity: Office of Satellite and Product Operations (OSPO)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1 Full-time permanent compensation	35,808	39,638	41,699	41,699	0
11.3 Other than full-time permanent	76	77	77	77	0
11.5 Other personnel compensation	5,752	5,002	5,002	5,002	0
11.7 NOAA Corps	0	0	0	0	0
11.9 Total personnel compensation	41,636	44,717	46,459	46,459	0
12 Civilian personnel benefits	13,359	14,309	14,867	14,867	0
13 Benefits for former personnel	1	8	8	8	0
21 Travel and transportation of persons	169	34	35	35	0
22 Transportation of things	95	100	102	102	0
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	8,911	10,243	10,505	10,505	0
23.2 Rental Payments to others	0	1,229	1,229	1,229	0
23.3 Communications, utilities and misc charges	3,055	4,157	4,157	2,657	(1,500)
24 Printing and reproduction	14	7	7	7	0
25.1 Advisory and assistance services	57,908	57,246	59,591	59,591	0
25.2 Other services from non-Federal sources	51,382	53,327	55,077	55,077	0
25.3 Other goods and services from Federal sources	14,602	52,641	56,922	56,922	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	410	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	1,114	2,769	2,812	2,812	0
31 Equipment	6,494	3,201	3,233	3,233	0
32 Lands and structures	367	1,000	1,000	1,000	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	549	928	928	928	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	4	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total obligations	200,070	245,915	256,931	255,431	(1,500)

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PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Product Development, Readiness and Application (PDR&A)	Pos./BA	87	60,902	87	61,500	0	598
	FTE/OBL	79	60,902	79	61,500	0	598

Earth Observations for Polar and Coastal Zone Applications (+\$598, 0 FTE/ 0 Positions) - An increase is requested to better enable NESDIS to respond to increased demand for scientific and socioeconomic applications and research, ensuring that satellite-derived data is provided to users as relevant, accessible, and actionable information in support of high priority applications in polar regions and coastal zones. STAR will work to enhance its current capabilities to continue developing relevant products, services, and information that better utilize the petabytes of data already within NOAA and partner data holdings. STAR will also work to expand its capacity for innovative science that brings together a vast number of information sources (i.e., satellites, *in situ* data, census, cadastral, surveys) and sectors for an integrated Earth System Science approach. With this additional funding, STAR will produce additional operational weather and climate products, employing multiple disciplines to address complex climate and environmental problems on a global scale (i.e., integrating social, physical, and biological sciences, with ecological and economic concepts).

Initially, STAR’s thematic focus will be on polar regions, coastal resilience, and water quality. Enhanced polar applications will directly benefit the NWS Ocean Prediction Center, the U.S. National Ice Center, the U.S. Navy and Coast Guard, and the North American Ice Service product readiness for operational strategic/tactical support of the U.S. Government’s interests in the polar regions and its national security. Enhanced coastal resilience and water quality applications will directly benefit the NOS, the NWS Office of Water Prediction and National Water Center, as well as contribute to local, regional, and tribal coastal communities nationally. NOAA will also partner with other Federal agencies and leverage existing programs and activities, both domestic and international, to address the urgent need for better information on risk to life and property at the coast. For example, a water quality product showing harmful algal blooms (HABs) will have added value from further context by biologists, economists, and social scientists to convey the impacts to the marine environment (i.e., increased chance of fish kills), the local economy (i.e., reduced consumption of locally caught seafood impacted by the HABs will impact the economic benefits to the community), and the community (i.e., recreational activities in the area

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affected by the HABs should be suspended).

Schedule and Milestones:

FY 2024 – FY 2028

- Develop/improve/maintain coastal resilience and polar regions satellite products to expand product portfolios, increase operational capability, and ensure data discovery and availability

Deliverables:

- Two new/enhanced polar region and coastal zone products/services per year
- At least one annual user training on new products

Performance Measures	2024	2025	2026	2027	2028
Number of new/enhanced polar region and coastal zone products/services					
With Increase	2	2	2	2	2
Without Increase	0	0	0	0	0
Outyear Costs:					
Direct Obligations	598	598	598	598	598
Capitalized	0	0	0	0	0
Uncapitalized	598	598	598	598	598
Budget Authority	598	589	589	589	589
Outlays	371	371	371	371	371
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Environmental Satellite Observing Systems
Subactivity: Product Development, Readiness and Application

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1 Full-time permanent compensation	11,843	12,529	13,181	13,181	0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	236	259	259	259	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	12,079	12,788	13,440	13,440	0
12 Civilian personnel benefits	4,291	4,413	4,500	4,500	0
13 Benefits for former personnel	0	4	4	4	0
21 Travel and transportation of persons	110	296	296	296	0
22 Transportation of things	9	3	3	3	0
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	2,609	2,944	2,992	2,992	0
23.2 Rental Payments to others	11	0	0	0	0
23.3 Communications, utilities and misc charges	6	35	35	35	0
24 Printing and reproduction	8	23	24	24	0
25.1 Advisory and assistance services	2,429	50	50	50	0
25.2 Other services from non-Federal sources	3,313	15,726	16,482	17,080	598
25.3 Other goods and services from Federal sources	765	2,230	4,580	4,580	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	9,143	3,796	3,796	3,796	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	121	78	81	81	0
31 Equipment	677	685	701	701	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	14,470	14,430	13,918	13,918	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total obligations	50,041	57,500	60,902	61,500	598

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PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Increase from 2024 Base	
		<u>Personnel Amount</u>		<u>Personnel Amount</u>		<u>Personnel</u>	<u>Amount</u>
U.S. Group on	Pos./BA	0	750	0	1,000	0	250
Earth Observations (USGEO)	FTE/OBL	0	750	0	1,000	0	250

U.S. Group on Earth Observations (USGEO) (+\$250, 0 FTE/ 0 Positions) – NOAA requests an increase to the GEO Trust Fund for the operations of the GEO Secretariat and to support the efforts of the AmeriGEO in the Americas. This contribution supports a key objective of the USGEO – strengthen global and regional leadership of the United States through engagement in the intergovernmental GEO and advancement of AmeriGEO.

The increased contribution to support the activities of GEO at global and regional levels will accelerate the implementation of the GEO Work Programme. Funding will allow the U.S. to play a stronger role in the GEO organization. GEO will support the United Nations’ 2030 Agenda for Sustainable Development,² specifically, GEO will support efforts to integrate Earth observations and geospatial information into national development and monitoring frameworks for the 17 Sustainable Development Goals. Increases to the GEO Trust Fund will support increased uptake of Earth observations information and integration across the GEO Work Programme in areas such as ecosystem extent monitoring, integrated health issues, land-ocean pollution, and multi-hazard risk reduction and mitigation.

In terms of AmeriGEO, this increase will support sustained access in the Americas to flexible training options through online access to increase the utilization of the U.S. investment in Earth observation platforms including in tribal and indigenous communities throughout the Americas as well as supporting youth participation in AmeriGEO activities.

² Transforming our world: the 2030 Agenda for Sustainable Development. (<https://sdgs.un.org/2030agenda>)

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(Dollar amounts in thousands)

Schedule and Milestones:

FY 2024 – FY 2028

- Support the development and growth of the United States' programmatic contributions to the GEO Work Program in support of national and international policy and NOAA mission objectives
- Increase the U.S. participation in the implementation of GEO's strategic plan through a grant to the GEO Trust Fund

Deliverables:

- Participation in major GEO meetings and activities to promote international engagement and coordination with stakeholders and outreach
- GEO Secretariat will devote more resources to strengthen program integration, coordination and user engagement in areas of key interest to NOAA such as urban resilience
- New contractor support to strengthen the capacity of the Inter-American community to advance the application of Earth observations, geospatial, and statistical data through flexible training options to gain required knowledge, skills, and abilities

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PROGRAM INCREASE FOR 2024**
(Dollar amounts in thousands)

Performance Measures	2024	2025	2026	2027	2028
Increase in grant funding in support of the GEO Trust Fund					
With Increase	1	1	1	1	1
Without Increase	0	0	0	0	0
Contract to support the international GEO					
With Increase	1	1	1	1	1
Without Increase	0	0	0	0	0
Outyear Costs:					
Direct Obligations	250	250	250	250	250
Capitalized	0	0	0	0	0
Uncapitalized	250	250	250	250	250
Budget Authority	250	250	250	250	250
Outlays	155	155	155	155	155
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Environmental Satellite Observing Systems
Subactivity: U.S. Group on Earth Observations (USGEO)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1	Full-time permanent compensation	0	0	0	0
11.3	Other than full-time permanent	0	0	0	0
11.5	Other personnel compensation	0	0	0	0
11.8	Special personnel services payments	0	0	0	0
11.9	Total personnel compensation	0	0	0	0
12	Civilian personnel benefits	0	0	0	0
13	Benefits for former personnel	0	0	0	0
21	Travel and transportation of persons	0	0	0	0
22	Transportation of things	0	0	0	0
23	Rent, communications, and utilities	0	0	0	0
23.1	Rental payments to GSA	0	0	0	0
23.2	Rental Payments to others	0	0	0	0
23.3	Communications, utilities and misc charges	0	0	0	0
24	Printing and reproduction	0	0	0	0
25.1	Advisory and assistance services	0	0	0	0
25.2	Other services from non-Federal sources	0	0	0	0
25.3	Other goods and services from Federal sources	0	0	0	0
25.4	Operation and maintenance of facilities	0	0	0	0
25.5	Research and development contracts	0	0	0	0
25.6	Medical care	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0
26	Supplies and materials	0	0	0	0
31	Equipment	0	0	0	0
32	Lands and structures	0	0	0	0
33	Investments and loans	0	0	0	0
41	Grants, subsidies and contributions	494	750	750	1,000
42	Insurance claims and indemnities	0	0	0	0
43	Interest and dividends	0	0	0	0
44	Refunds	0	0	0	0
99	Total obligations	494	750	750	1,000
				1,000	250

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Activity: National Centers for Environmental Information

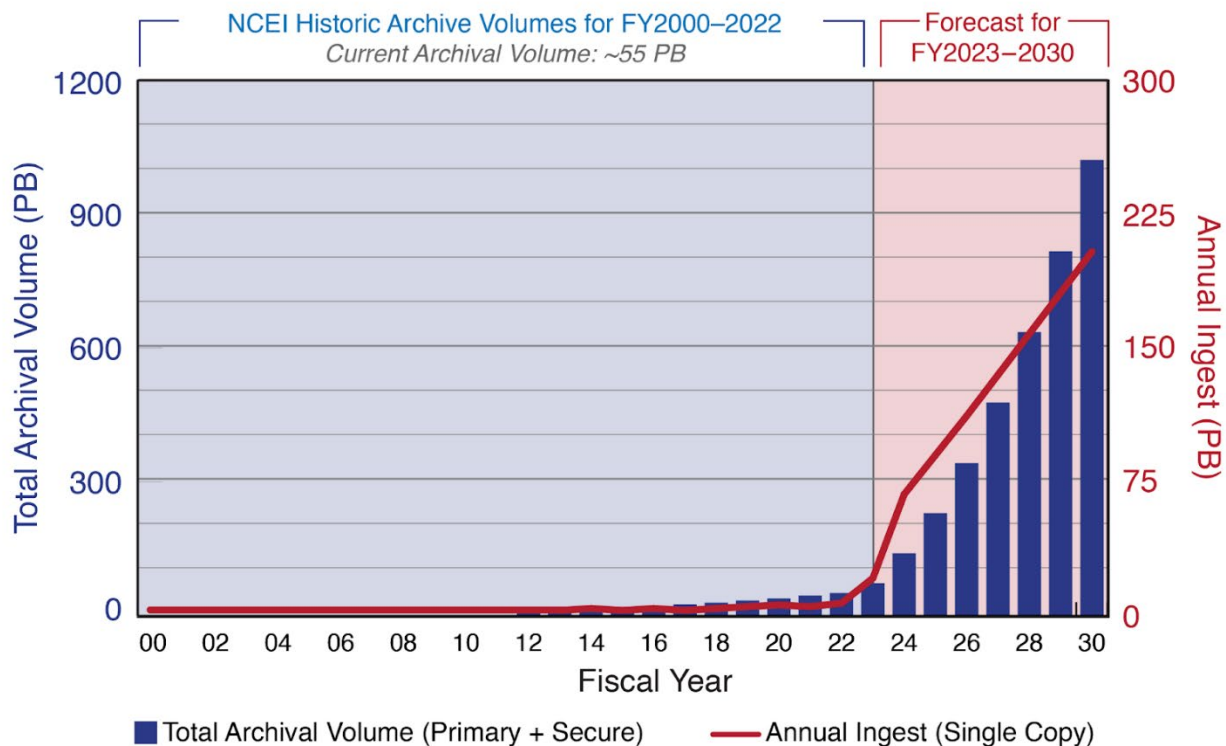
Goal Statement

NOAA's National Centers for Environmental Information (NCEI) is the Nation's leading authority for environmental information and is responsible for preserving, hosting, and providing access to one of the most significant environmental archives on Earth, with comprehensive oceanic, atmospheric, and geophysical data and information, covering the depths of the ocean to the surface of the sun, and from million-year-old sediment records to near real-time satellite images.

Base Program

The amount of and demand for high-value environmental data and information has dramatically increased in recent years. NCEI currently hosts and provides access to over 55 petabytes (PB) (55,000 TB or 55 million GB) of data (primary and secure copy) and anticipates that the demand for data stewardship will rise to over 400 PB by 2030. Additionally, NCEI directly assists data users, servicing over 13,000 individual contacts annually, by email, phone, mail, and online. NCEI also provides key, easily-understood environmental data information via the NCEI website, with 14 million website visitors yearly. Data stewardship is a critical factor to realize the full value of the multi-billion-dollar investment NOAA makes in Earth system observations and to ensure these data are available for future generations. NCEI's data stewardship and archiving services provide for the highest return on investments in NOAA's Earth observations by ensuring data, critical information products, and derived datasets are accessible, integrated, discoverable, traceable, and reusable. These data practices help expand data equality and expand usability to nontraditional users such as minority serving institutions and underserved communities.

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NCEI stewards over 55 PB of data from ground, ocean, and space-based observation platforms that measure from the bottom of the ocean to the surface of the sun. The data holdings start with the present and go back millennia, and also include forward-looking model output. NCEI is the official archive of NOAA’s GOES, POES, JPSS, GOES-R Series, Jason, DSCOVR, and COSMIC-2 satellite data, housing data covering from the 1970s to the present, and providing stewardship for over 2.3 PB of data delivered to the archive annually from active satellites. With improvements in observation platforms, data stored at NCEI is expected to increase exponentially in the next decade. NCEI works with NOAA offices to host data from programs, including OAR’s Office of Ocean Exploration and Research, NWS’s Tsunami Program, NOS’s Office of Coast Survey and National Geodetic Survey, NMFS’s Office of Science and Technology, and OMAO ships, aircraft, and uncrewed systems. NCEI also provides a repository for other national and international

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data collectors. NCEI develops critical climate services that are used every day by the NWS and provides a significant portion of NOAA's public-facing climate services mission. For example, NCEI develops and maintains over 25 climate data records derived from NOAA and partner observations, which are used by government, industry, and academia to detect, monitor, and assess climate change-related trends and patterns as well as support climate adaptation and risk-assessment. NCEI supports ongoing improvement of mission impact through proving ground efforts that explore and assess the value of new products and services and facilitate user readiness. NCEI also works with local, state, and regional partners to deliver place-based climate science and information products and services to help people make informed decisions as well as identify and amplify the climate service needs of traditionally underserved communities and populations. NCEI also directly supports challenges in the western U.S. and, specifically, the Water in the West Initiative by working at the local, regional, and Tribal levels to help develop sustainable solutions based on analysis of data from the archive climate data records as well as tailored efforts through NCEI's Regional Climate Services.

Beyond NOAA, NCEI utilizes its expertise, datasets, and nation-wide presence to support state and Federal agencies, international partners, and industry. This includes programs with the Department of Defense, Department of Homeland Security's Federal Emergency Management Agency, Department of Agriculture, Department of Transportation's Federal Aviation Administration, and Department of State, as well as supporting every sector of the American economy. NCEI's transition to the NESDIS Common Cloud Framework (NCCF) will support a climate-ready nation by increasing public access to more user friendly and authoritative data sets, enhancing data innovation capability, and allowing economic exploitation of NCEI climate products and services.

There are significant variations in information collected and needed across the U.S. and NCEI has built a nationwide presence to best support priorities and needs at the national, regional, local, and international levels. NCEI is headquartered in Asheville, North Carolina, with significant presences in Boulder, Colorado; Stennis Space Center, Mississippi; and Silver Spring, Maryland. NCEI further supports regional outreach through Regional Climate Service Directors strategically located in Taunton, Massachusetts; Stennis Space Center, Mississippi; Kansas City, Missouri; Boulder, Colorado; Anchorage, Alaska; and Honolulu, Hawaii, with additional staff located in South Carolina. NCEI also hosts four World Data Centers, as part of the International Science Council, providing international leadership in environmental data management.

NCEI's work directly supports EO 14008, Tackling the Climate Crisis at Home and Abroad, and EO 13990, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, by providing access to petabytes of environmental data, assessing the climate on a monthly basis, supporting regional climate work, analyzing national and global climate information in monthly and annual climate reports, and working directly with the public to assist in discovering and understanding data and information needs to inform decision making. The timely and accurate information provided by NCEI helps local and state governments, regions, and national and international decision makers prepare for and build back better from natural disasters and

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climate-related hazards; enables communities and industries to make climate smart decisions about the future; and helps ensure the longevity, sustainability, and prosperity of our natural resources, as well as the people, communities, and economies that rely on those resources. For example, NCEI helps characterize global and U.S. coastal ocean surface wind patterns for the marine transportation and offshore wind industries; curates a microplastics database to facilitate a better understanding of the distribution and effects of microplastics on the ocean environment, recreation, and fisheries; and provides improved ocean climatologies to better understand global and regional changes affecting coastal communities. NCEI also supports NESDIS and other NOAA line offices' activities, assisting with implementing the *Foundations for Evidence-Based Policy Making Act* (P.L. 115-435) and providing the data stewardship and archiving for the large amount of data stemming from activities funded under the *FY 2022 Extending Funding and Emergency Assistance Act* (P.L. 117-43), *The Infrastructure Investment and Jobs Act* (P.L. 117-58), and *The Inflation Reduction Act* (P.L. 117-169).

Statement of Operating Objectives

National Centers for Environmental Information (NCEI)

Schedule and Milestones:

FY 2024 – FY 2028

- Archive and provide access to a minimum of 83 percent of all ingested data from satellite, ship, aircraft, and *in situ* observations
- Provide access to environmental data and products for use in ecosystem baselines, monitoring, and assessments including Large Marine Ecosystem data
- Collect, review, and adjudicate user community needs across as many U.S. sectors as possible to identify the highest priority, core needs for improving existing products and informing new product development

Deliverables:

- Provide archive and access services for NOAA and NOAA partners' environmental data and their derived products from *in situ* and satellite observations, including from geostationary, polar-orbiting, and space weather platforms
- Continue to archive and provide access to Large Marine Ecosystem data
- Provide an annual analysis of user engagement at the national and regional levels

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Explanation and Justification

Comparison by Subactivity		2022		2023		2024	
		Actual		Enacted		Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
National Centers for	Pos/BA	191	69,213	210	71,372	210	73,400
Environmental Information (NCEI)	FTE/OBL	170	67,413	200	71,372	200	73,400
Total National Centers for	Pos/BA	191	69,213	210	71,372	210	73,400
Environmental Information (NCEI)	FTE/OBL	170	67,413	200	71,372	200	73,400

National Centers for Environmental Information (NCEI) (<https://www.ncei.noaa.gov/>): NCEI is continually working to foster innovative and value-added strategies, including the development of newly integrated products and services that span the science disciplines and enable better data discovery. By preserving, stewarding, and maximizing the utility of the Federal government’s multi-billion-dollar investment in high-quality environmental data, NCEI remains committed to providing products and services to private industry and businesses, local and international governments, academia, and the general public. NCEI:

- Provides billions of dollars of benefit to the U.S. economy through authoritative and actionable environmental data that informs future investments across sectors such as finance, agriculture, fisheries, transportation, energy, insurance, and manufacturing;
- Transforms complex, long-term data from a variety of legacy and modern observing systems into use-inspired, operational products and information to meet the needs of government, academia, and U.S. industry;
- Provides data preservation and access services that enable full use of the Nation’s multi-billion-dollar investment in satellite, ship, aircraft, and *in situ* observations;
- Advances and enables environmental science and decision making for resilient ocean and coastal communities, the Arctic, and space weather through derived products, assessments, and information services in support of customer requirements;
- Provides authoritative U.S. and global retrospective weather and climate data and information for decision making through use-inspired applied science, products, services, and assessments and monitoring;
- Maintains the Nation’s archive of environmental information as well as international data holdings through the World Data System and leverages data portals and cloud services to maximize the availability and accessibility of official archived records;

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- Conducts integrated scientific analyses of coastal and marine environmental datasets to better understand historical trends, anomalies, and the frequency of event occurrences; and,
- Provides regional and sectoral climate services in coordination with other NOAA and Federal entities to ensure that broad national comprehensive data and information, products, and services are available to public and private sector users at the local, state, regional, and Federal levels.

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(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Increase from 2024 Base	
		<u>Personnel</u>		<u>Amount</u>		<u>Personnel</u>	<u>Amount</u>
National Centers for Environmental Information (NCEI)	Pos./BA	210	73,400	210	75,000	0	1,600
	FTE/OBL	200	73,400	200	75,000	0	1,600

Improving Local, State, and Regional Climate Services (+\$1,600, 0 FTE/ 0 Positions) - NOAA requests an increase to support the need for expanded climate services at the local, state, and regional level, including pointed support for underserved regional populations. Specifically, funding this request would provide resources to increase user engagement, improve climate services, and build capacity at the state level for addressing unique needs for climate data and information.

NOAA's Regional Climate Services (RCS), including the Regional Climate Centers (RCC), support the development and delivery of a wide range of place-based climate science and information products and services to help people make informed decisions. These efforts increase the value of climate information to users and support more efficient, cost-effective delivery of products and services relevant to region-specific economic activity, hazards, and vulnerability. Expanding resources for RCS, including investing in software, design, and contract support for data entry and analysis to support NOAA's research, observation, and modeling science, would enable NOAA to better articulate user needs for prioritization, improve development and delivery of operational regional information, and support engagement of experts to showcase user needs by sector, geography, and timescale. Funding to improve RCS would also allow NOAA to increase user engagement capacity for Regional Climate Service Directors, who play a primary role in communicating with stakeholders, building and strengthening partnerships, and integrating NOAA's work with others engaged in developing and delivering climate services at the regional level. This would allow an additional level of support necessary to systematically identify needs and NOAA's role in supporting the top economic sectors, which vary from region to region. These initiatives will complement activities ongoing with NOAA's Regional Collaboration Network and NOAA's Climate Adaptation Partnerships (CAP; formerly known as Regional Integrated Sciences and Assessments, or RISA).

To enhance this improved service delivery, NOAA proposes to re-invigorate the State Climate partnership, and to train the local forecast office focal points on NOAA's climate assets available at local scales. This funding would support RCCs to build and refine

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NOAA's national products to meet the specific needs at state and local scales, including supporting regional and state partners who are uniquely positioned to help identify and amplify the climate service needs of traditionally underserved communities and populations.

Schedule and Milestones:

FY 2024 – FY 2028

- Increase user engagement capacity for Regional Climate Service Directors to reach additional stakeholders in their region
- Work with partners and constituent groups in public and private sectors to systematically identify climate information needs and interpret those needs for building and improving climate tools and resources to support NOAA's top economic sectors
- Work with state climatologists to ensure regional products are better integrated into state government decisions
- Work through NOAA Line Office Climate Services units and the NOAA Regional Collaboration teams to familiarize field personnel with NOAA climate assets, and coordinate on training enhancements when appropriate

Deliverables:

- Create a unified mechanism for the collection of end-user engagement needs and lessons learned, which will allow for leadership discussion and adjudication
- Provide routine updates to partners, constituent groups, state climatologists, and NOAA units/teams on the prioritization of climate information needs and their status in being supported

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Performance Measures	2024	2025	2026	2027	2028
Number of economic sectors regionally engaged, with sectoral needs documented and prioritized					
With Increase					
Top economic sectors per region	2	4	5	5	5
Total economic sectors across all six regions	12	24	30	30	30
Without Increase	9	9	9	9	9
Outyear Costs:					
Direct Obligations	1,600	1,600	1,600	1,600	1,600
Capitalized	0	0	0	0	0
Uncapitalized	1,600	1,600	1,600	1,600	1,600
Budget Authority	1,600	1,600	1,600	1,600	1,600
Outlays	992	992	992	992	992
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: National Centers for Environmental Information
Subactivity: National Centers for Environmental Information (NCEI)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1 Full-time permanent compensation	20,983	25,522	26,684	26,684	0
11.3 Other than full-time permanent	129	129	129	129	0
11.5 Other personnel compensation	474	474	474	474	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	21,586	26,125	27,287	27,287	0
12 Civilian personnel benefits	7,860	8,360	8,694	8,694	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	156	157	159	179	20
22 Transportation of things	52	52	53	53	0
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	5,096	5,333	5,479	5,479	0
23.2 Rental Payments to others	571	595	595	595	0
23.3 Communications, utilities and misc charges	305	337	337	337	0
24 Printing and reproduction	34	35	36	36	0
25.1 Advisory and assistance services	16,354	13,885	14,252	14,252	0
25.2 Other services from non-Federal sources	7,575	7,628	7,628	9,208	1,580
25.3 Other goods and services from Federal sources	846	1,874	1,874	1,874	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	261	271	277	277	0
31 Equipment	436	440	449	449	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	6,282	6,282	6,282	6,282	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	1	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total obligations	67,413	71,372	73,400	75,000	1,600

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Activity: Systems Acquisition

Goal Statement

NOAA's satellite portfolio provides the backbone for the operational data products that support NOAA's work related to weather, climate, oceans, coasts, and ecosystems. NOAA satellite data drives critical decision-making, impacts national security, and numerous sectors of the economy including agriculture, transportation, energy, construction, infrastructure, emergency management, and hazard mitigation.

Base Program

NOAA maintains three portfolios of environmental satellites and data acquisition that produce crucial sets of observations: low-earth orbiting, geostationary, and space weather. Systems Acquisition includes flight, ground, and architecture planning, risk reduction, and development activities, spread across eight Subactivities: GEO, GOES-R Series, LEO, PWS, SW Next, SWFO, SAE, and CGS. System Acquisitions enables NOAA satellite programs to continue to meet milestones, as well as to plan for future programs and comprehensive engineering solutions. Detailed operating objectives for each Subactivity are described below.

Statement of Operating Objectives

Geostationary Earth Orbit (GEO): See the Program Changes for the proposed schedule, milestones, deliverables, performance goals and measurement data, and the budget profile.

GOES-R Series (GOES-R): See the Program Changes for the proposed schedule, milestones, deliverables, performance goals and measurement data, and the budget profile.

Low Earth Orbit (LEO): See the Program Changes for the proposed schedule, milestones, deliverables, performance goals and measurement data, and the budget profile.

Polar Weather Satellites (PWS): See the Program Changes for the proposed schedule, milestones, deliverables, performance goals and measurement data, and the budget profile.

Space Weather Next (SW Next): See the Program Changes for the proposed schedule, milestones, deliverables, performance goals and measurement data, and the budget profile.

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Space Weather Follow On (SWFO): See the Program Changes for the proposed schedule, milestones, deliverables, performance goals and measurement data, and the budget profile.

Common Ground Services (CGS)

Schedule and Milestones:

FY 2024

- Sustain legacy data distribution capability
- Sustain legacy archive capability and begin migration of capability to the NCCF
- Decommission legacy product generation hardware
- Complete development of initial Public Data Access Platform
- Continue migration of archived environmental data holdings to the NCCF, to include migration of 10 percent of current non-satellite data and tools in support of climate and ocean initiatives
- Continue to expand cloud enabled products from partner data sources; support launch and product operations for Metop-SG-A1, Sentinel-3C, and MTG-S1
- Continue to optimize the cloud architecture to reduce cost and processing inefficiencies
- Identify, demonstrate, and plan migration of additional NESDIS capability to the cloud, such as elements of satellite mission management
- Curate and transform at least 7 percent of data into cloud and AI-ready formats and provide user readiness training
- Demonstrate a development sandbox connection from NOAA Line Offices to NESDIS for select datasets

FY 2025

- Curate and transform at least 12 percent of data into cloud and AI-ready formats
- Operationalize data distribution and access service in the NCCF
- Complete migration of legacy archive capability into the NCCF and decommission associated system
- Continue to sustain legacy data distribution capability and begin migration to the cloud
- Support launch and product operations for Metop-SG-B1 and MTG-I2 and expand cloud enabled products from partner data sources
- Complete the migration of 30 percent of existing non-satellite data and tools to the cloud, accelerate the migration of additional satellite data and algorithms to the cloud in support of climate and ocean initiatives, and decommission legacy on-premises systems
- Continue to optimize the cloud architecture to reduce product development and deployment timelines

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FY 2026 – FY 2028

- Complete migration of legacy data distribution capability and decommission associated system
- Continue sustaining the NCCF's capability to ingest, process, and archive data
- Continue to expand cloud enabled products from additional NOAA and partner data sources
- Continue to optimize the cloud architecture to reduce cost and increase processing efficiency
- Further identify NESDIS capability and migrate it to the cloud (e.g., additional elements of mission management)
- Complete the migration of 70 percent of existing non-satellite data and tools to the cloud, accelerate the migration of additional satellite data and algorithms to the cloud in support of climate and ocean initiatives, and decommission legacy on-premise systems
- Curate and transform 75 percent of data with climate and ocean applications into cloud and AI-ready formats for increased data discovery, accessibility and utilization
- Maintain and update user readiness training

Deliverables:

- Sustain legacy on-premises systems until capabilities are transitioned to the NCCF and hardware is decommissioned
- Complete development and transition to sustainment, ingest, product generation, science sandbox, data distribution, and archive services in the NCCF per enterprise Cloud Roadmap
- Comprehensive migration and consolidation of NESDIS satellite and non-satellite data holdings in the cloud
- Framework to support ingest, product generation, data distribution, and archive of data from NOAA-managed missions (e.g., GeoXO, SWFO-L1, QuickSounder)
- Ten new climate products that support improved disaster preparedness and the Blue Economy, as well as climate-quality data reprocessing for over twenty datasets
- Consolidated and authoritative Public Data Access Platform developed in the cloud, focused on improved data accessibility and discoverability (i.e. analysis-ready formats)
- Training materials and seminars provided to the public to support the effective and efficient use of the transformed NOAA data via the Public Data Access Platform

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Outyear Funding Estimates*

Common Ground Services (CGS)	2023 & Prior**	2024^	2025*	2026*	2027*	2028*	CTC	Total
CGS Base	119,955	51,411	51,411	51,411	51,411	51,411	N/A	N/A
DACS**	65,059	45,500	45,500	45,500	45,500	45,500	N/A	N/A
Data Access and Distribution	24,000	24,000	24,000	24,000	24,000	24,000	N/A	N/A
Total CGS Request^	209,014	120,911	120,911	120,011	120,911	120,911	N/A	N/A

*Outyears are estimates. Future requests will be determined through the annual budget process.

** Data-source Agnostic Common Services (DACS) was established in FY 2021, so the 2023 & Prior column does not reflect any funding prior to FY 2021.

^ Funding profile includes the requested program change for DACS on NESDIS-118.

Systems/Services Architecture & Engineering (SAE):

Architecture, Requirements, & Planning (ARP)

Schedule and Milestones:

FY 2024 – FY 2028

- Continue guiding NESDIS future architecture decisions as a result of the NSOSA study, the NESDIS Ground Enterprise Study, program formulation studies, and related activities
- Initiate additional elements of next generation flight and ground architecture based on Analyses of Alternatives, demonstrations, and formulation progress to date
- Continue to develop and refine Requirements documentation for next generation programs
- Provide comprehensive assessments for integration, optimization, and sustainment of NOAA’s Observing System Portfolio Management capability
- Continue to provide guidance and leadership of the NESDIS Product Baseline, Five-Year Plan, and innovative products development
- Continue demonstrations and pilots of ground architecture capabilities as a result of the NGES study and follow-on studies

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Deliverables:

- Preliminary Requirements Documents for the next generation of programs in pre-formulation and other NESDIS activities that flow down from the NESDIS Level Requirements document
- Active enterprise risk management
- Active enterprise configuration control/management
- Active requirements management and change process

Commercial Weather Data Pilot (CWDP)**Schedule and Milestones:**

FY 2024

- Initiate the solicitation of pilot measurements identified above, pending commercial sector readiness
- Release a Request for Information (RFI) to assess the commercial marketplace; stand up a capability assessment team to determine commercial sector readiness
- Continue to explore additional sources/types of data and capabilities available from the commercial sector through market research

FY 2025 – FY 2028

- Explore additional sources/types of data and capabilities available from the commercial sector through market research
- Initiate additional CWDP Rounds, pending commercial sector readiness

Deliverables:

- Results of ongoing market research
- Results of evaluations regarding new data and capabilities
- Operational services contracts with commercial providers, pending pilot results

Commercial Data Purchase**Schedule and Milestones:**

FY 2024

- Pending successful pilot(s), issue solicitation(s) for operational commercial data stream(s)Execute GNSS RO IDIQ contract Delivery Order(s) for continued operational data purchases

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FY 2025

- Review existing RO commercial data streams and balance NOAA's commercial portfolio based on cost-benefit and future plans
- Execute GNSS RO IDIQ contract Delivery Order(s) for continued operational data purchases
- Award commercial data purchase contracts for space weather data as determined by proposal evaluation results and recommendations
- Execute space weather data contracts for use in operational numerical weather predictions (NWP) models and NWS Space Weather Prediction Center space weather models

FY 2026 – FY 2028

- Execute space weather data contracts for use in operational NWP models and Space Weather Prediction Center space weather models
- Execute GNSS RO IDIQ contract Delivery Order(s) for continued operational data purchases
- Issue solicitation for follow-on IDIQ contracts
- Review existing RO commercial data streams and balance NOAA's commercial portfolio based on cost-benefit and future plans

Deliverables:

- Commercial GNSS RO data processed and delivered to NWS for use in operational NWP models and delivered to Space Weather Prediction Center for use in space weather models
- Provide new data types (e.g., space weather) to the NWS for use in operational NWP models
- Results of evaluations regarding new data and capabilities
- Operational service contracts with commercial providers, pending pilot results

Joint Venture Partnerships**Schedule and Milestones:**

FY 2024

- Complete study started in FY 2023 and start a second study initiation and approval to incorporate non-NOAA Federal data source into NOAA operations, pending assessment in FY 2022
- Issue additional solicitations to industry or academia for priority next generation observational needs and award contracts based on proposals received
- Continue contracts with industry or academia on studies of instrument or other component concepts to evaluate new technologies to support the first NEON demonstration or next generation Space Weather mission needs

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- Contribute to studies with other agencies and industry toward data and technology development to cost effectively meet NOAA needs

FY 2025 – FY 2028

- Issue additional solicitations to industry or academia for priority next generation observational needs and award contracts based on proposals received
- Continue assessing opportunities to partner with other agencies for future missions or research opportunities, contributing funding to address NOAA mission needs as part of relevant Announcements of Opportunity
- Continue contracts with industry or academia on studies of instrument or other component concepts to evaluate new technologies to support NEON or next generation Space Weather mission needs

Deliverables:

- Solicitations to industry in support of future LEO sounding architecture
- Awards to industry or academia for studies of instrument or other component concepts for first NEON demonstration and/or Space Weather mission needs
- Development and demonstration of evolving capabilities for NOAA's operational use, including new observations and/or technologies that will inform NESDIS' future space architecture and suite of products
- Faster transition of research capabilities into operational use, and at a lower cost

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Outyear Funding Estimates*

SAE	2023 & Prior**	2024^	2025	2026	2027	2028	CTC	Total
Architecture, Requirements & Planning	78,222	21,500	21,500	21,500	21,500	21,500	N/A	N/A
Commercial Data Program	64,000	33,000	33,000	33,000	33,000	33,000	N/A	N/A
Commercial Weather Data Pilot	22,000	8,000	8,000	8,000	8,000	8,000	N/A	N/A
Commercial Data Purchase	42,000	25,000	25,000	25,000	25,000	25,000	N/A	N/A
Joint Venture	57,268	20,000	0	0	0	0	N/A	N/A
GeoXO#	10,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total SAE Request	209,490	74,500	54,500	54,500	54,500	54,500	N/A	N/A

* Outyears are estimates. Future requests will be determined through the annual budget process.

** SAE was established in FY 2020; 2023 & Prior column does not reflect any funding prior to FY 2020.

GeoXO was transferred to the Geostationary Earth Orbit (GEO) PPA in FY 2021.

^ Funding profile includes the requested program change for Commercial Data Purchase on NESDIS-124.

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Comparison by Subactivity		2022		2023		2024	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Geostationary Systems-R (GOES-R)	Pos/BA	78	333,414	51	301,000	51	301,000
	FTE/OBL	52	334,742	48	301,000	48	301,000
Geostationary Extended Observations (GeoXO)	Pos/BA	18	149,618	34	285,000	34	285,000
	FTE/OBL	14	147,582	28	285,000	29	285,000
Low Earth Orbit (LEO)	Pos/BA	13	66,217	16	96,430	15	88,330
	FTE/OBL	9	53,820	13	96,430	12	88,330
Polar Weather Satellites (PWS)	Pos/BA	104	386,693	57	183,500	57	183,500
	FTE/OBL	66	389,263	52	183,500	52	183,500
Projects, Planning and Analysis (PPA)	Pos/BA	21	14,878	0	0	0	0
	FTE/OBL	11	15,912	0	0	0	0
Space Weather Follow On (SWFO)	Pos/BA	30	146,479	27	136,200	27	136,200
	FTE/OBL	22	147,006	22	136,200	22	136,200
Space Weather Next	Pos/BA	16	54,860	49	151,606	49	151,606
	FTE/OBL	11	54,642	32	151,606	33	151,606
Common Ground Services (CGS)	Pos/BA	49	62,948	78	105,433	78	105,433
	FTE/OBL	44	67,942	68	105,433	74	105,433

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Comparison by Subactivity		2022		2023		2024	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Systems/Services Architecture & Engineering (SAE)	Pos/BA	36	67,410	42	68,500	42	68,500
	FTE/OBL	34	67,730	34	68,500	34	68,500
Total NESDIS System Acquisition	Pos/BA	365	1,282,517	354	1,327,669	353	1,319,569
	FTE/OBL	263	1,278,639	297	1,327,669	304	1,319,569

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Geostationary Earth Orbit Observations: NOAA's geostationary observational capability is managed by the Office of Geostationary Earth Orbit Observations (proposed; formerly the GOES-R Series Program Office). Geostationary observations provided by NOAA assets, partner assets, or commercially procured, contribute to weather forecast models and drive short-term weather forecasts and severe weather warnings. Geostationary data also provide advanced detection and monitoring of the atmosphere, oceans, and coasts including environmental hazards like wildfires, smoke, dust, volcanic ash, pollutants, drought, flooding, and harmful algal blooms. Geostationary programs comprise services and data products from specific missions, as well as from enterprise products and services that are source-agnostic. The programs support ongoing improvement of mission impact through proving ground efforts that explore and assess the value of new observations or products and facilitate user readiness. These activities also include ground system development and sustainment for geostationary Earth observations.

NOAA's geostationary observational capability is derived from two programs:

- **Geostationary Operational Environmental Satellites – R Series (GOES-R)** (<http://www.goes-r.gov>): The GOES-R Series provides NOAA's latest generation of GOES. The GOES-R Series, a four-satellite program, provides advanced imagery and atmospheric measurements of Earth's weather, climate, oceans and environment, real-time mapping of lightning activity, and improved monitoring of solar activity and space weather. Observations from these satellites provide coverage of the western hemisphere from a geostationary orbit, allowing continuous monitoring of severe storms, tropical cyclones, volcanic eruptions, fire hot spots, cloud and atmospheric moisture changes, long term climate trends, lightning, currents flow dynamics, and atmospheric smoke and dust. Observations from GOES-R Series space weather instruments enable NWS's Space Weather Prediction Center to significantly improve space weather forecasts and provide early warning of possible impacts to the Earth's space environment and potentially disruptive events on the ground. The system delivers critical real-time data and information needed for sound decision making, addresses needs to support expanded climate services, and works with global partners.



Artist rendering of GOES-R Series satellite (Credit: NASA)

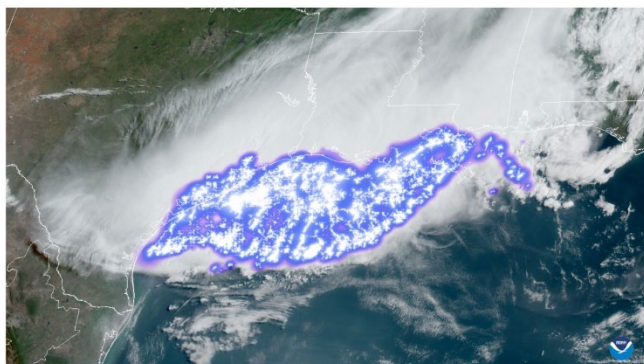
The GOES program, which has provided essential observational data since 1975, supports NOAA's NWS in forecasting, tracking, and monitoring severe storms. The GOES-R Series satellites provide significant enhancements for all operational users of geostationary observations, in particular NWS. For example, calculating the probability that a developing storm will

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produce severe weather within the next hour is improved in the GOES-R Series era given the additional information from the Advanced Baseline Imager (ABI) and total lightning data from the Geostationary Lightning Mapper (GLM). The products resulting from this data will improve as a result of more frequent images, a factor of four improvement in spatial resolution, more spectral bands for inferring cloud properties, and lightning mapping. The increased quantity, quality, and accuracy of satellite data that the GOES-R Series produces will enable NWS to issue improved and timelier weather watches, warnings, and advisories to the public, protecting life and property.

The GOES-R Series ABI provides data that enhances a number of NOAA products and services, including:

- Cloud images and precipitation estimates for hurricanes and other coastal storms;
- Images of the U.S. and adjacent ocean areas to enable the detection, tracking, and intensity changes of hurricanes and other major climate and weather events; and,
- Improved numerical weather prediction models and flood/drought assessments.



Lightning as seen from the Geostationary Lightning Mapper on NOAA's GOES-16 satellite from April 29, 2020. (Credit: NOAA)

The GLM provides real-time warnings of lightning threat, supporting decision making for outdoor venues, construction, and electrical grids. GLM also helps characterize the lightning risk and increases certainty for airline flight and airport ramp safety protocols, improving operational efficiency. Finally, it provides critical observations to forecast and combat wildfires providing direct benefit to the firefighting community through unique identification of continuing current lightning strikes most likely to ignite fires, improved pyrocumulonimbus characterization, and thunderstorm tracking in areas of reduced radar coverage. Used in tandem, space- and ground-based lightning observations help locate smoldering fires before they grow out of control.

The GOES-R Series satellites also include space weather observations provided by extreme ultraviolet and X-ray irradiance sensors (EXIS), magnetometer, solar ultraviolet imager (SUVI), and space environment in-situ suite (SEISS) instruments. In addition to these instruments, the GOES-U satellite will host a compact coronagraph (CCOR) to obtain coronal mass ejection (CME) imagery.

The first satellite in the series, GOES-R, launched on November 19, 2016, and became GOES-16 when it reached geostationary orbit. GOES-16 replaced GOES-13 as NOAA's operational GOES East satellite on December 18, 2017. The

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GOES-R Series launched the second satellite, GOES-S, on March 1, 2018. GOES-S became GOES-17 when it reached geostationary orbit and became operational as GOES West on February 12, 2019. GOES-T launched on March 1, 2022 and became GOES-18 on March 14 when it reached geostationary orbit. GOES-18 completed its operational checkout and went into operational service as GOES West on January 4, 2023. GOES-17 moved into operational storage due to challenges with the ABI's loop heat pipe. NOAA continues to support the development of GOES-U, which has a launch commitment date of Q1 FY 2025 but is currently planned to launch in April 2024.

- Geostationary Extended Observations (GeoXO)** (<https://www.nesdis.noaa.gov/GeoXO>): NOAA's GeoXO satellite program will advance Earth observations from geostationary orbit. The program will serve as the next generation of space-based environmental monitoring observatories, providing essential, sustained observations from geostationary earth orbit to meet NOAA mission needs. GeoXO will supply vital information to address major environmental challenges of the future in support of U.S. weather, ocean, and climate operations. NOAA is working to ensure these critical observations are in place by the early 2030s as the GOES-R Series nears the end of its operational lifetime. By 2033, GOES-16 and GOES-17 will have reached the end of their design lives and NOAA will no longer be able to provide an on-orbit spare geostationary satellite, putting continuity of real time imagery at risk. Any break in the continuous stream of real-time data would pose an enormous risk to millions of lives and billions of dollars in activity that ensure our national and economic security.

The six-satellite GeoXO program will continue and expand observations provided by the GOES-R Series and bring new capabilities to bear that address emerging environmental issues and challenges that threaten the security and well-being of every American. Weather and environmental observations provided by GeoXO satellites will support NOAA's Strategic Plan 2022-2026 by building a more climate-ready nation and helping advance the New Blue Economy.

The GeoXO program will provide improved performance of existing imager and GLM instruments and will introduce new instruments to meet emerging requirements, such as local nowcasting; monitoring of coastal and ocean features and

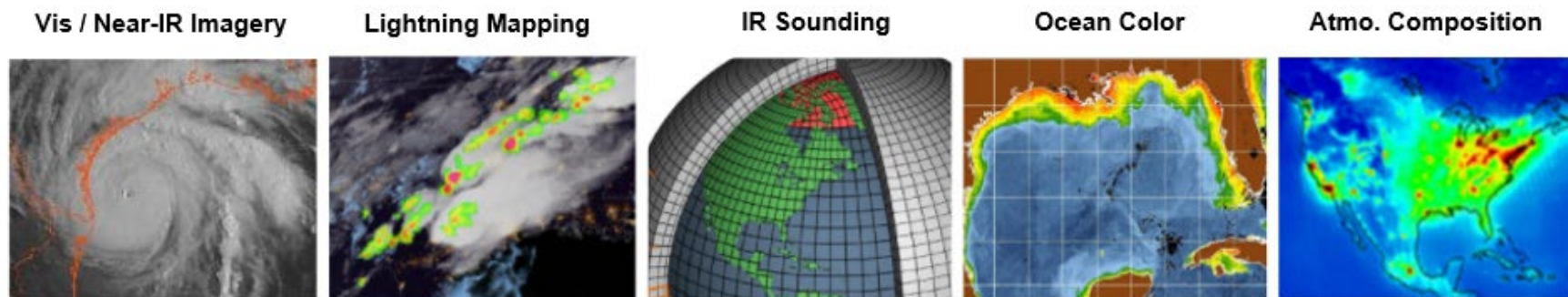


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ecosystem change; and monitoring air quality. NOAA plans to include the following instruments on GeoXO: Imager, Hyperspectral Sounder, Lightning Mapper, Atmospheric Composition, and Ocean Color.

Imagers on GeoXO satellites will provide more detailed observation and precise forecasting capabilities than the GOES-R Series ABI, including higher spatial resolution imagery and additional spectral channels for water vapor detection. GeoXO satellites will also introduce new hyperspectral infrared sounders capable of measuring the vertical distribution of atmospheric temperature and water vapor. These sounders will increase atmospheric condition data in real time for weather modeling, nowcasting, and localized forecasts. Harnessing the combined capabilities of the imager, GLM, and sounder instruments, the GeoXO program will significantly improve weather forecasting and severe weather and storm warnings.

The GeoXO program will also include a new atmospheric composition instrument which will provide comprehensive detection of air quality conditions and help mitigate health impacts from severe air pollution. A specialized ocean color imager will monitor dynamic coast and ocean features, ecosystem changes, water quality, and other hazards. These observations will support the Blue Economy, helping to refine estimates of fisheries yield, reduce the risk and cost of algae blooms, and track climate-driven ocean and coastal ecosystem changes.



Observations from GeoXO will provide vital data to complement those from NOAA's partners in Europe and Asia, providing an essential global observing system.

The GeoXO program moved into the formulation phase in FY 2021. During the formulation phase, GeoXO established the final

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definition of the overall GeoXO program scope and architecture based on impact analysis and cost/benefit assessments. In FY 2022, NOAA completed Phase A formulation studies for the imager. In FY 2023, GeoXO established its program baseline at Milestone 2/3, and moved into the development and implementation phases. NOAA will award contracts for the imager and the sounder, and will complete the Phase A formulation studies for the remaining GeoXO instruments and spacecraft.

The GeoXO program expects that its ground system will provide services for NOAA's deep space weather satellites. Space weather requirements are funded by the SWFO and SW Next PPAs.

Low Earth Orbit Observations: NOAA's low Earth orbit observational capability is managed by the Office of Low Earth Orbit Observations (proposed; formerly the Joint Polar Satellite System Program Office). Earth-observing satellites provide over 95 percent of the data routinely assimilated into NWS NWP models, and low Earth orbiting (also known as polar-orbiting) satellites are the backbone of global NWP models.³ These satellites detect and monitor hazards such as fires, droughts, floods, poor air quality, coral bleaching events, harmful coastal waters, and others. Low Earth Orbit programs comprise services and data products from specific missions, as well as from enterprise products and services that are source-agnostic. The programs support ongoing improvement of mission impact through proving ground efforts that explore and assess the value of new observations or products and facilitate user readiness. These activities also include ground system development and sustainment for low Earth observations.

A resilient constellation of low Earth orbiting satellites, which can be quickly deployed to mitigate the risk of on-orbit failures, are essential for improving life-saving weather forecasts and warnings. The LEO PPA will support implementation of the NSOSA study recommendations and respond to Congressional direction to improve weather forecast and prediction capabilities, as provided in the *Weather Research and Forecasting Innovation Act of 2017* (P.L. 115-25). In addition to acquiring new government-owned observing assets, the LEO PPA will support partnerships with other U.S. agencies, foreign governments, and private industry to provide critical LEO and future medium Earth observations, measurements and services. These opportunities will improve NOAA's weather and environmental forecast capabilities. The investments made will evolve NESDIS' current architecture into one with more small and medium-sized satellites, individual instruments on commercial hosts, data buys, and an increased number of partnerships with domestic and foreign space agencies. NOAA will leverage emerging opportunities, new innovations and science within the commercial space industry as they become available.

³ National Weather Service: www.nco.ncep.noaa.gov/sib/counts/March_2022.html

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NOAA's low Earth orbit observational capability is derived from multiple programs:

- **Polar Weather Satellites (PWS)** (www.jpss.noaa.gov): PWS provides global meteorological observations to enable short-term (0-3 days), and mid-range (3-7 days) forecasts and warnings of severe weather events critical for emergency managers and communities to make timely decisions to protect life and property. In addition, PWS provides an array of global environmental observations for a wide variety of environmental phenomena that support and supplement seasonal monitoring and forecasting of weather. Data and imagery obtained from PWS helps increase timeliness, accuracy, and cost effectiveness of public warnings and forecasts of climate and weather events. These observations, warnings, and forecasts include:
 - Operational and short-term forecasts at high northern latitudes, in places such as Alaska, where observations from geostationary satellites are more challenging;
 - Severe storm and flood warnings;
 - Tropical cyclone and hurricane warnings;
 - Hydrologic forecasts;
 - Ocean surface temperature, ocean color for ocean monitoring (e.g., reef conditions, harmful algal bloom warnings, etc.);
 - Global sea level rise;
 - Aviation forecasts (domestic, military, and international);
 - Ice monitoring and forecasting;
 - Ozone monitoring;
 - Environmental air quality monitoring;
 - Detection and analysis of wildfires and volcanic eruptions including volcanic ash warnings for aviation safety;
 - Short-term and mesoscale forecasts;
 - Seasonal and inter-annual climate forecasts;
 - Decadal-scale monitoring of climate variability; and,
 - Assessment of long-term global environmental change.

PWS contributes to international partnerships between the U.S. and the European and Japanese space agencies focusing on operational civilian polar-orbiting satellites that provide the primary input data for all NWP models. Polar satellites contribute approximately 85 percent of all data for NWP models. This program also supports risk reduction efforts for future polar requirements as part of its continuing work with SAE on future LEO architecture efforts.

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PWS includes the NOAA/NASA Suomi NPP, the NOAA-20 (formerly known as JPSS-1), NOAA-21 (formerly known as JPSS-2), JPSS-3, and JPSS-4 satellite missions. It also encompasses a large ground system with facilities in the Antarctic, Norway, Alaska, New Mexico, Maryland, and West Virginia, as well as the operational science, maintenance, and archiving for these missions through FY 2038 to ensure that NOAA continues to provide accurate and timely weather forecasts and warnings. NOAA/NASA Suomi NPP and NOAA-20 are currently operational in the early afternoon orbit. JPSS-2 was launched November 10, 2022, and was renamed NOAA-21 once it achieved its operational orbit after launch. NOAA is currently building JPSS-3 and JPSS-4, and developing instruments and spacecraft buses for those satellites as copies of NOAA-21. This allows NOAA to take advantage of the NOAA-21 instrument development and spacecraft bus contracts to reduce cost and risk. The NOAA-21, JPSS-3 and JPSS-4 missions are comprised of the Advanced Technology Microwave Sounder (ATMS), Cross-track Infrared Sounder (CrIS), Visible Infrared Imaging Radiometer Suite (VIIRS), and the Ozone Mapping Profiler Suite-Nadir (OMPS-N) instruments. NASA's Radiation Budget Instrument (RBI) was de-manifested from NOAA-21. NASA is now moving forward with a new instrument for radiation budget measurements, Libera, which will be included on JPSS-3. NOAA will also continue the development, maintenance, and sustainment of the ground systems, evolve ground systems to align with changing technologies and threats, and conduct risk reduction efforts to support current and future polar data acquisition requirements.

In FY 2022, the NOAA Unique Combined Atmospheric Processing System made vertical profile and trace gas products that will improve global measurements of greenhouse gases (methane, carbon dioxide, ozone, nitrogen dioxide, others) from space operational in the NCCF. Based on an international agreement between NOAA and EUMETSAT, NOAA will receive hyperspectral sounding products from the European IASI-NG instrument following the launch of Metop-SG-A1 satellite in March 2024. These observations can be combined with NASA, JAXA, and ESA dedicated greenhouse gas missions. These dedicated missions identify the ground sources and sinks of greenhouse gases while the NOAA greenhouse gas products from JPSS and EUMETSAT satellites monitor transcontinental transport.

- **Near Earth Orbit Network:** The Near Earth Orbit Network (NEON, formerly known as LEO Weather Satellites) program is the follow-on to PWS and other NESDIS LEO observation endeavors. NEON will continue, improve, and extend NESDIS' global observations for weather forecasting and climate monitoring.

NEON includes satellites that host Earth-observing instruments. The scope also includes ground services, such as command and control, data processing, and product distribution. The ground services will be obtained through a diverse architecture of commercial capabilities, NESDIS-developed enterprise ground system capabilities, and NEON-developed capabilities. NEON scope also includes operations, maintenance, and sustainment over the program's operational lifetime.

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NEON provides a framework to provide global measurements of earth systems through satellites managed by NOAA and Federal, commercial, and international partners. These environmental measurements will be able to support a wide variety of atmospheric, terrestrial, marine, and polar observations. The data uses include the NWP models, fire and flood models, atmospheric chemistry observations, and multiple land imagery products that have been crucial pieces of the NOAA strategic goals to build both a Weather-Ready Nation and a climate-ready nation. Following the recommendations from the NSOSA study, the NEON program intends to use a combination of small and medium satellite platforms. This approach will provide an efficient means of filling gaps quickly and taking advantage of emerging remote sensing technologies. To execute an agile and resilient architecture, and other NSOSA study recommendations, the NEON program will:

- Enable NESDIS to provide current and future mission critical and essential observations
- Maximize capabilities from partner and commercial assets
- Use industry's significant investment of funding, expertise, and innovation in space and space systems technology
- Deploy NOAA observation system assets where and when they are most needed, enabled by shorter development timelines and more frequent launches
- Leverage smaller instruments, satellites, and launch vehicles
- Explore the viability of a disaggregated constellation through demonstrations before use in an operational mission
- Incorporate continuous advancement, using new business models and seeking new partnerships

NOAA's vision is to achieve and sustain an observing system portfolio that is mission-effective, integrated, adaptable, and affordable. It will leverage inter-agency, international, and commercial partnerships to continually examine, coordinate, and improve its diverse array of observing systems. NESDIS is pursuing a resilient and agile NEON program to improve on the ability to manage the rate of change necessary to achieve NOAA's vision. The aspirational requirements for the NEON program are defined with a set of priorities and minimal thresholds for performance. Architecture trade studies are aimed at identifying strategic investments to ensure the highest priority observations are sustained while pursuing innovative pathways to achieve objective level performance. The level of success in adopting a "buy/partner where we can and build what we must" philosophy will determine how well NESDIS is able to achieve aspirational requirements beyond threshold performance with a level funding profile. The NEON program is loosely coupled, addressing DOC/NOAA objectives through multiple independent projects. Each project within the NEON program will have an allocated set of program requirements and defined life cycle cost. Leveraging innovative advances in commercial space (e.g., New Space) and anticipating the future capabilities of partnering organizations are key to an affordable NEON program but have inherent risk and uncertainty. The first two

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projects in formulation are aimed at determining the need to better understand how commercial industry can provide spacecraft, launch services, and ground services with reduced Government involvement and pursue the development of next generation microwave and infrared sounders.

- **QuickSounder:** is an initial demonstration mission for the NEON program. An engineering model of the ATMS instrument, versions of which are on each of the JPSS satellites, will be launched on a commercial spacecraft and operated by commercial ground services. It will allow NOAA to gain experience with new commercial business models and to leverage new acquisition strategies. As a secondary benefit, QuickSounder will help mitigate the projected gap in microwave sounding data that is crucial to numerical weather prediction models once the POES satellites are decommissioned.

This demonstration mission will assess mission assurance practices relative to established commercial New Space missions and establish a referenceable knowledge base of rapid procurement practices that will benefit the future, high launch tempo NEON program. NESDIS intends to progress the QuickSounder Mission from Authorization to Proceed to launch within approximately three years. Utilizing elements and best practices of the commercial space industry to meet Federal program-level requirements, the QuickSounder Mission will demonstrate that NOAA can provide observation capabilities with a small satellite on a compressed production schedule.

- **Series 1** will focus on providing microwave and infrared (IR) sounding data that is essential to the performance of the NWP global models. It includes the development of the next generation microwave and infrared instruments with improved science performance over legacy instrument capabilities. A block of small, common, commercial spacecraft will be acquired to individually accommodate the microwave and infrared instruments. Once integrated, the Series 1 sounder satellites are available to be called up when needed and launched into the desired orbit to ensure the global NWP models have the critical sounding data needed to generate accurate weather forecasts. Leveraging commercial space innovations in production spacecraft, rapid response launch vehicles, and operations will improve agility and resiliency over legacy systems.
- **Partnership Activities:** Partnerships allow NOAA to supplement its core observations from NOAA satellites for a fraction of the cost of acquiring our own satellites. The NEON program will assess and pursue partnership opportunities with U.S. and international partners, such as NASA, DOD, ESA, and JAXA.

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The NEON Program began in FY 2022 to ensure that a validated capability for observational data continuity is available prior to the end of the PWS program's satellites' lifetime.

- **POES Extension:** The legacy POES satellites (NOAA-15, NOAA-18, and NOAA-19) currently occupy the essential early morning orbit. While the POES satellites are beyond their design life, the spacecraft and many instruments and channels are operational and continue to provide critical data to NWP models and for situational nowcasting needs. NWP impact studies show statistically significant degradation in forecast models when POES satellite data is removed. Extending POES will also provide continuity for the Argos-DCS Program, which provides relays of meteorological data from ocean buoys and wildlife monitoring.

Investments in FY 2022 and FY 2023 were made to upgrade legacy POES satellite ground systems and transition to a "Ground System as a Service" architecture to safely and securely extend the operation of the POES satellites. Additionally, NOAA's NEON program is in development of replacement observations for the POES and PWS satellites. NOAA intends to use the expanded lifecycle to help define and initiate the most effective and cost-efficient architecture of the next generation of low earth orbit satellites.

Space Weather Observations (SWO): NOAA's space weather observational capability is managed by the Office of Space Weather Observations (proposed; formerly the Office of Projects, Planning, and Analysis). Since its start, NOAA has deployed space weather monitoring and warning capability as part of its mission to monitor the environment and issue watches and warnings to protect lives and property. Space weather phenomena pose a significant threat to ground-based and space-based critical infrastructure, modern technological systems, and humans working in space. The effects of severe space weather on the electric power grid; satellites and satellite communications and information; aviation operations; astronauts living and working in space; and, space-based position, navigation, and timing systems have significant societal, economic, national security, and health impacts -- ultimately threatening our nation's economic and national security. In 2016, EO 13744, Coordinating Efforts to Prepare the Nation for Space Weather Events, directed the DOC and therefore NOAA to "provide timely and accurate operational space weather forecasts, watches, warnings, alerts" and to "ensure the continuous improvement of operational space weather services." In 2020, the *Promoting Research and Observations of Space Weather to Improve the Forecasting of Tomorrow (PROSWIFT) Act* (P.L. 116-181) further authorized NOAA

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to sustain, improve, and expand space-based space weather observations.

NOAA's satellites collect essential data that serve as a long-term record for monitoring key environmental parameters, and NOAA's space weather programs are integral to meeting the Administration's science goals, including EO 14008, Tackling the Climate Crisis at Home and Abroad, through improved observations and forecasting for the American public. Observations provided by NOAA's space weather programs will support NOAA's Strategic Plan 2022-2026 by building a climate-ready nation. Space weather also continues to be critical to all space assets and the establishment of space commerce.

Space weather programs develop, build and deploy space-based observational capabilities to provide crucial data necessary to understand, forecast, and prepare for space weather phenomena. They comprise services and data products from NOAA and partner-operated space-based instruments and observatories as well as input derived from commercial services. The programs develop source-unique as well as enterprise products and services that are source-agnostic. They also support ongoing improvement of mission impact through proving ground efforts that explore and assess the value of new observations or products and facilitate user readiness. This also includes ground system development and sustainment to support space weather observations.

Space weather programs will be coordinated with the Office of the Federal Coordinator for Meteorology, NWS, NASA, the Department of Defense, the National Science Foundation, our research and academic community, and our international partner satellite agencies.

NOAA's space weather capability is derived from two programs:

- **Space Weather Follow On (SWFO):** The SWFO program is designed to meet NOAA's need for operational CME imagery and NESDIS-72



Space Weather describes the phenomena that impact systems and technologies in orbit and on Earth. Space Weather can occur anywhere from the surface of the sun to the surface of the earth. (Credit: [NOAA, NWS Space Weather Prediction Center](https://www.noaa.gov/education/outreach-and-communication/education-and-outreach/education-and-outreach/education-and-outreach/education-and-outreach/))

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in situ solar wind measurements. NOAA is working to have instruments in place to address the very high risk of loss of these observations before legacy space-based systems cease to provide useful data. CME and solar wind measurements are necessary for NOAA to provide warnings for the two major types of space weather events that affect the Earth: solar radiation storms and geomagnetic storms. Satellites are mostly impacted by solar radiation storms. Commercial airlines are rerouted during solar radiation and/or geomagnetic storms. These storms cause communication blackouts and impacts to navigation accuracy. The most extreme geomagnetic storms have resulted in severe impacts to commercial power grids and impacted hundreds of millions of people. Satellite data, including CME imagery and measurement of solar wind plasma, are critical to providing accurate and early warnings of these potentially destructive space weather events. Requirements for these measurements derive from the NOAA Space Weather Mission Service Area Observational User Requirements Document baselined by the NOAA Observing System Council in November 2017.

Currently, CME measurements at the Earth-Sun Lagrange point1 (L1) point are provided only by the NASA-European Space Agency research Solar and Heliospheric Observatory (SOHO) that was launched in 1995. SOHO is more than 25 years old and is operating well past its mission design life. Without CME imagery, the 1-4 day lead-time of likely storm conditions will be degraded, thereby affecting the accuracy of geomagnetic storm watches and endangering U.S. infrastructure. SWFO's design ensures the continuity of CME imagery for operational use by the NWS Space Weather Prediction Center for geomagnetic storm watches beyond SOHO. NOAA is working with the Naval Research Laboratory to develop flight CCORs to obtain CME imagery necessary for tracking eruptive events from the sun and provide initial estimates of the likelihood and severity of any impacts to Earth.

SWFO will also replenish the capability of detecting solar wind upstream from Earth. Currently, solar wind measuring capability is provided by NOAA's Deep Space Climate Observatory (DSCOVR), with the over 25-year-old Advanced Composition Explorer (ACE) providing backup. However, DSCOVR is a research-grade satellite, also past its mission life, and is susceptible to mission failure with the loss of any of several single string critical components. Loss of DSCOVR without a ready replacement will significantly reduce NOAA's ability to monitor solar wind and provide short-term warnings (15-45 minutes) of space weather storms. The Solar Wind Instrument Suite (SWIS) to be accommodated on the SWFO-L1 satellite mission will provide the required solar wind data. The SWIS will include a Solar Wind Plasma Sensor (SWiPS), a set of magnetometers (MAG), and a low-energy ion spectrometer called the SupraThermal Ion Sensor (STIS).

The SWFO Program will use a rideshare opportunity with NASA's Interstellar Mapping and Acceleration Probe (IMAP) mission scheduled for launch in 2025. NOAA has established an interagency agreement with NASA for assisted acquisition of the SWFO-L1 spacecraft and the SWIS instruments. NOAA is developing the ground segment including NOAA acquisition of the

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command and control for mission operations, acquisition of the SWFO Antenna Network for continuous real time data acquisition, and the product generation and distribution capability to distribute products to operational and retrospective users. The Naval Research Laboratory, with NOAA oversight, is responsible for the development and delivery of the CCOR instruments under an interagency agreement. One CCOR will be accommodated on the SWFO-L1 mission that will launch as a rideshare on the IMAP launch. The second CCOR will be hosted on the GOES-U satellite which plans to launch in 2024. Flying a second CCOR in a geostationary orbit adds operational resilience and reliability to the CME imagery necessary for space weather warnings and forecasting.

The SWFO Program successfully completed the Milestone 2/3 review October 31, 2019. On November 19, 2019, the Deputy Secretary of Commerce signed the SWFO Milestone 2/3 Decision Memorandum establishing the program baseline. The SWFO-L1 instruments and spacecraft will begin assembly, integration and testing during FY 2023.

- **Space Weather Next (SW Next):** SW Next sustains, improves, extends, and mitigates potential gaps in observations to support NOAA space weather forecast operations as authorized by the *PROSWIFT Act* (P.L. 116-181) and driven by the National Space Weather Strategy and Action Plan (March 2019). This work is required to sustain continuity of observations from all applicable orbits and operational product improvements within NOAA's NWS. The program will serve as the next generation of space weather monitoring observatories providing essential, sustained observations to meet NOAA mission needs.

Pre-formulation and formulation activities establish and baseline SW Next and NESDIS continues to engage the space weather stakeholder community, industry, academia, interagency working groups, and advisory groups to define requirements. Concept designs, trade studies, and analysis of alternatives are necessary in preparation for Department of Commerce Milestones and NASA Key Decision Points. The program will provide observations from diverse vantage points. SW Next includes an L1 continuity project, instruments for GEO, and may include projects to sustain and extend observations from LEO and other orbits as appropriate to meet the NOAA mission need in the most cost-effective manner. The SW Next L1 Series will sustain and continue the CME and solar wind measurements established by SWFO. The SW Next GEO Series will sustain and continue the space weather observations now performed by the GOES-R Series. Space weather monitoring instruments for other orbits such as LEO and highly elliptical orbit, if included in the SW Next program, would improve and expand space-based weather observations for predicting geomagnetic and space weather storms and protecting vulnerable U.S. infrastructure.

NESDIS continues to develop a CCOR for deployment in partnership with the European Space Agency (ESA) L5 *Vigil* mission that is anticipated to launch in 2029. This coronagraph will be constructed under interagency agreement with the Naval

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Research Laboratory and will improve near-real time coronal mass ejection imagery. ESA's L5 mission provides a unique vantage point to observe the solar wind and coronal mass ejections all the way from the Sun to Earth. CMEs drive the most severe geomagnetic storms and their propagation is significantly impacted by structures in the solar wind. The addition of L5 observations will improve arrival and duration forecasts of CMEs, as well as characterization of interactions with Earth's magnetosphere (e.g., direct-hit, glancing blow, etc). Watch and forecast products are necessary for protection of the bulk power industry, aviation, and GNSS users among others. The off sun-Earth line L5 solar wind data will increase the lead time and confidence in the predicted solar wind that will arrive at Earth 3-7 days in the future. This data will improve the Geomagnetic Storm Watch product and to provide real-time validation of space weather forecasting models.

In support of the NOAA Space Weather Gap Mitigation plan (June 2020), NESDIS is solidifying plans to exploit mission data from NOAA partners for contingency observations. Partner observations under consideration include coronagraph observations from the upcoming NASA PUNCH mission, solar wind data from the NASA IMAP mission, and may include other partner assets at L1 that may provide temporary and partial coverage.

In November 2022, the Deputy Secretary of Commerce signed the SW Next Milestone 1 Decision Memorandum and authorized development of the SW Next portfolio. NESDIS will manage space weather observations as a portfolio, while maintaining transparency into the development schedule, and the annual and life cycle costs for all individual programs and projects comprising the observing system elements. NESDIS plans to complete Milestone 2 for its L1 mission in FY 2023.

Common Ground Services (CGS): CGS plans and executes common ground services for NOAA's satellite, data, and information capabilities. Ground services are critical to acquiring, processing, and managing the environmental data from satellite missions and deriving value from the investments other organizations have made in the space segment. CGS facilitates access to non-NOAA domestic and international satellites, as well as supports commercially-acquired data. In collaboration with NCEI, CGS also provides long-term archive services for all approved NOAA and external partners' environmental data sources.

CGS core responsibilities include: developing and sustaining the NCCF, which facilitates ingesting, processing, and archiving of data from NOAA managed systems, non-NOAA sources, and product portfolio management to ensure delivery of high priority products aligned with user needs. Consolidating data in the NCCF will significantly enhance access to and usability of NOAA's data, which is expected to grow from 55 to 400 petabytes by 2030. This will also enable NOAA and other users to quickly develop new applications, facilitate research by the academic community, and facilitate the use of artificial intelligence and machine learning to exploit big data sets. CGS activities also include planning cloud-related acquisitions; sustainment of on-premise systems prior to transition to the

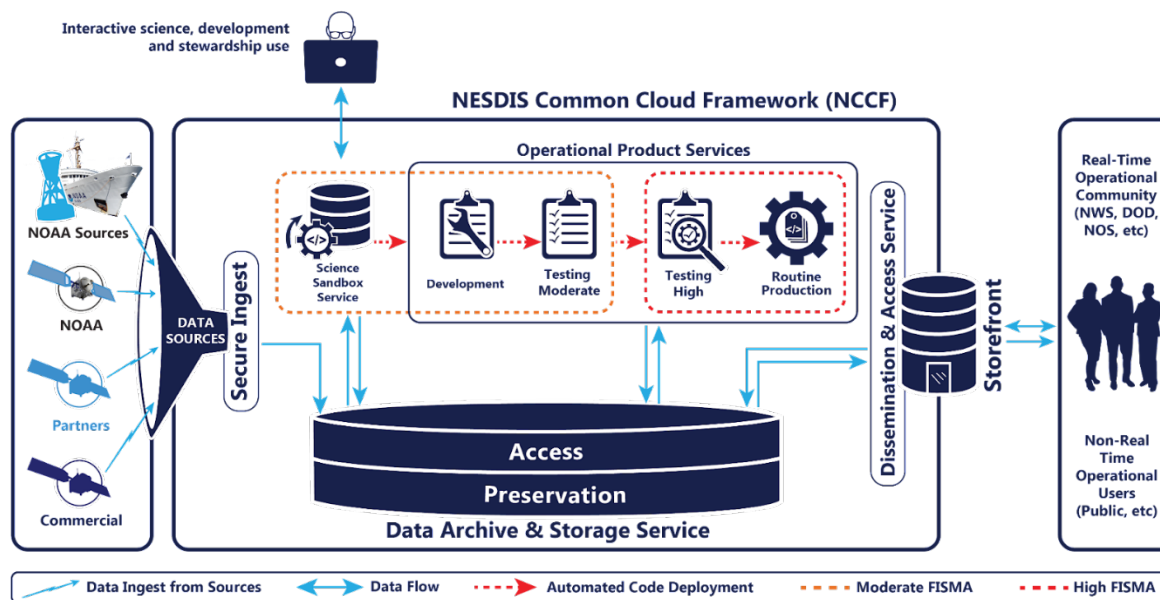
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cloud; and management, engineering, integration and testing, transition to operations, and overall sustainment of common ground services. In addition, CGS participates in system verification and validation efforts, as well as life cycle reviews for major satellite acquisition programs and projects.

In FY 2021, NOAA implemented DACS, a cloud-enabled, end-to-end ground service capability that provides a secure, scalable, cost effective, portfolio approach of managing NOAA's data. The DACS initiative: 1) evolves the ground service enterprise to leverage cloud computing for data ingest, processing, dissemination, and archive; 2) allows NOAA to utilize data and observations from an increasingly capable and diverse array of partner and commercial systems to meet mission requirements in a cost-effective manner; and 3) provides a framework for managing all of NOAA/NESDIS data. NOAA transitioned initial operational services to a cloud architecture in FY 2021. The FY 2022

investment continued development of the infrastructure framework by adding archive functionalities, initiated migration of legacy product processing to the NCCF, and generated products to support multiple NOAA mission service areas such as weather forecasting, ocean prediction, and ecosystem monitoring. In FY 2022 and FY 2023, NOAA completed the migration of legacy product processing, initiated product processing of JPSS products in the cloud, onboarded and processed products for the European Metop, Meteosat Third Generation, and Sentinel satellites to the NCCF, and initiated product generation of GOES products in the NCCF. Each of these datasets provide continuity for NOAA's weather forecasting mission.

Overall, the cloud-enabled DACS will continue to expand to include archive and stewardship of NOAA's satellite holdings, as well as expand dissemination services from the cloud. In addition to resolving many data access and latency issues and providing nearly unlimited scalability, NOAA data in the cloud can significantly reduce costs and expand the size and diversity of NOAA user



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communities and data applications.

In FY 2023, NOAA implemented a Data Access and Distribution initiative which expanded and accelerated the development and migration of data to the NCCF, centralizing data from multiple processing systems into a single processing environment where users can more easily find, access, and use NOAA's data. NOAA began providing increased data volumes from a diverse suite of sources in concert with tools, platforms, information, and products and services to enhance discoverability, access, and usability of NOAA data for climate and other emerging applications. Moreover, NOAA is working to ensure that this data is interoperable, analysis-ready, and transformed into more useful formats (e.g., cloud-optimized, AI-ready formats), which will allow decision makers at all levels to leverage the information more rapidly and improve accessibility and usefulness of NOAA science and services for all users, including stakeholders in historically underrepresented communities. This initiative also expanded NOAA's capacity to host and serve data beyond satellite-centric observations, including airborne and maritime platforms that support hydrographic surveys, fish assessments, and conservation and recovery of protected species - areas where improved access to analysis-ready data will help decision makers respond to events driven by the changing climate. Eventually, this initiative will result in a cloud-based repository of curated data that can be easily used by the broader Earth observation enterprise, as well as a user-facing data access portal in the cloud linked to the aforementioned data holdings. Further, this initiative supports international efforts to acquire and share data to advance weather and climate monitoring and prediction, and allows NOAA to meet the World Meteorological Organization's preliminary recommendation for sharing core and recommended data on a free and open basis to advance predictive and research capabilities globally.

Systems/Services Architecture & Engineering (SAE): SAE provides analysis based on emerging capabilities and user needs to identify the highest value approaches to the NESDIS enterprise architecture, including flight, ground, and related services, to meet NESDIS, NOAA, and National needs. SAE ensures NESDIS-wide activities are aligned to the enterprise architecture vision, including managing the mission concept development activities for the next generation LEO, GEO, and SWO programs; creating and maintaining NESDIS-wide systems engineering and program management policies and procedures; governing the suite of products and services NESDIS provides to users from our own systems, partner systems, and commercial data to optimally meet user needs; and managing NESDIS-wide risk assessments and strategic plan implementation. SAE also manages the Commercial Data Program and Joint Venture Partnerships.

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The SAE Subactivity is divided into three Line Items:

- **Architecture, Requirements, & Planning:** SAE leads and manages NESDIS' assessments of and planning for future enterprise architectures to meet NESDIS Level Requirements. This includes performing architecture trade studies (within NOAA as well as with industry, partners, and the science community), pre-formulation activities, demonstrations, and the development of roadmaps to achieving future architectures. Starting from the foundation of the NESDIS Level Requirements, SAE manages the NESDIS requirements development and change process for NESDIS level and program level requirements, leads the prioritization and governance process for managing NESDIS' baseline products and services, and validates that baseline products are meeting requirements. SAE also guides NESDIS in the implementation of its strategic plan, interfaces with other agencies in service to NESDIS strategic goals, manages the NESDIS enterprise risk process, and develops and maintains systems engineering and program management guidance applicable to all NESDIS programs and activities.

SAE's Architecture, Requirements, & Planning responsibilities also include:

- Undertaking quantitative assessments for objective analyses to evaluate relative value and benefits of future data sources and satellite architectures;
- Creating and implementing NESDIS enterprise policies, processes and procedures for alignment of systems engineering and project management activities;
- Providing an independent assessment to the milestone decision authority for all DOC Acquisition Milestones and NASA Key Decision Points and other program or project milestones to ensure systemic compliance with architecture and effective implementation of requirements; and,
- Managing the implementation of the NOAA Administrative Order 212-16, Observing Systems Portfolio Management (November 2016), including validation of NOAA observation requirements, and conducting observing system impact and portfolio analyses. SAE supports all NOAA Line Offices and manages the NOAA Observing System Integrated Analysis tool, which is used to manage NOAA's current and future observing system investments.

Commercial Data Program: The NOAA Commercial Space Policy (January 2016)⁴ calls for NOAA to: 1) undertake pilot projects to demonstrate the ability of the commercial sector to establish and sustain capabilities to meet NOAA's ongoing operational needs, and 2) purchase commercial data to support those operational needs once a pilot project has successfully demonstrated the commercial sector's capability and readiness. NESDIS conducts both of these activities via the Commercial Data Program. This approach is consistent with the *Weather Research and Forecasting Innovation Act of 2017* (P.L. 115-25),

⁴ <https://www.noaa.gov/organization/administration/nao-217-109-noaa-commercial-space-policy>

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which directs NOAA to purchase weather data through contracts with commercial providers and assess the accuracy, value, and impact of that commercial data on NOAA's forecasts, products, and services, and the *PROSWIFT Act of 2020* (P.L. 116-181), which specifically directed NOAA to establish a pilot program to enter into contracts with one or more entities in the commercial space weather sector.

NESDIS regularly conducts assessments to determine the viability of commercial solutions to address NOAA observing system objectives prior to considering the purchase of commercial data for operational use. NOAA conducted the CWDP Round 1 in 2016-2018, as well as an expanded CWDP Round 2 in 2018-2020, both focused on demonstrating Global Navigation Satellite System Radio Occultation (GNSS RO) data. NOAA used Round 2 of the CWDP to confirm the readiness of the commercial sector to provide GNSS RO data for operational use in NOAA's NWP models. This approach is consistent with the *Weather Research and Forecasting Innovation Act of 2017* (P.L. 115-25), and NOAA's plans for obtaining GNSS RO data from a combination of government assets, partner contributions, and commercial purchases. In FY 2020, NOAA awarded its first contracts to purchase commercially available GNSS RO data for use in NOAA's operational weather forecasts, and NOAA began using this commercial RO data in operational NWP models in May 2021. A second multi-year contract vehicle is anticipated to be awarded in mid-FY 2023.

Results from additional RFIs released in 2020 (i.e., microwave) and 2021 (i.e., space weather) showed that there are data types beyond GNSS RO ready for piloting, which indicated a need to initiate CWDP Rounds for space weather data and related capabilities. Analysis conducted in FY 2022 revealed that microwave sensor data was not yet viable and therefore NOAA is no longer pursuing a pilot at this time. NOAA initiated a space weather data pilot in FY 2023 and is currently evaluating data for potential operational use. In FY 2023 NOAA conducted market research to revisit the viability of GNSS reflectometry data for piloting, and in FY 2024 intends to issue solicitations for the purchase of operational data, pending commercial sector readiness.

Through CWDP, NESDIS will continue to:

- Test commercially available capabilities, including space weather, to assess the accuracy, value, and impact of the commercial data or service – new capabilities will be evaluated by comparison to established and validated NOAA operational products and deliverables;
- Ensure the necessary ground systems, services, IT security interfaces, and data processing are in place for ingesting the commercial data selected; and,
- Deliver assessment report(s) on the viability of the pilot data set(s) and the capabilities of the commercial systems to meet NOAA observation requirements for operational services.

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If NOAA determines that data or services obtained and evaluated through the CWDP are cost effective, operationally viable, and appropriate for meeting a NOAA observation requirement, NESDIS will pursue purchase of the commercial data or service via the Commercial Data Purchase, within the Commercial Data Program.

Critical to the purchase of commercial data, NOAA will consistently evaluate the quality of the data offerings, assess the on-going impact of the commercial data on NOAA's mission objectives, and conduct cost-benefit analyses to determine appropriate amounts of data to be purchased in future years.

- **Joint Venture Partnerships:** The *National Integrated Drought Information System Reauthorization Act of 2018* (P.L. 115-423) amends the *Weather Research and Forecasting Innovation Act of 2017* (P.L. 115-25) and directs NOAA to analyze data sources that can lower the cost of observations or provide value-adding technological advancements to help improve skill in climate and weather forecasting. Partners in industry and other government agencies are key to NESDIS' ability to meet this mandate. Further, the *PROSWIFT Act of 2020* (P.L. 116-181) directs NOAA to facilitate advances in space weather prediction and forecasting; increase coordination of space weather research to operations and operations to research; and, improve preparedness for potential space weather phenomena. NESDIS conducts each of these directed activities via Joint Venture Partnerships.

Joint Venture Partnerships was established in FY 2020 to initiate activities with NASA, other agencies, and the commercial sector. Joint Venture Partnerships enables a consistent, prioritized approach across NESDIS, based on enterprise-wide architecture analysis, to initiate new NOAA programs, leverage partner data, and operationalize new technologies, focusing heavily on, but not limited to, innovations in LEO, GEO, and SWO instruments, spacecraft development, satellite operations, and ground communications. Joint Venture leverages the ongoing work of NOAA's U.S. government agency partners and industry to meet NOAA needs, with the potential for large return on investment of NOAA funds, and is the first critical step in designing any new NOAA system, leveraging any partner data source, and making use of any new technology.

Through Joint Venture Partnerships, NESDIS leverages capabilities being developed by other Federal partners and industry in four areas: exploiting partner data, exploiting partner technologies, partnering to supplement other agencies' initiatives that will add value to NOAA's mission, and initial concept development to operationalize new data and technology. Specifically, Joint Venture Partnerships allows NESDIS to:

- Assess non-NOAA data sources, including NASA's Earth Science and Heliophysics satellite programs and Department of

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- Defense space-based environmental monitoring capabilities, for incorporation into NOAA operations;
- Evaluate new technology for incorporation into NOAA operations;
- Support other Federal agencies' data and technology development to cost effectively meet NOAA needs, including co-implementing NASA Announcements of Opportunity such as Earth Venture and Earth Science Technology Office opportunities. NOAA's support funds unique operational characteristics for the selected capabilities, such as download bandwidth, ingest and processing of data on operational timelines, and the development of operational algorithms for NOAA use;
- Determine the best concepts to transition to operations by leveraging ongoing industry development of new observation capabilities, spacecraft design, and/or ground system capabilities. NESDIS will use additional Broad Agency Announcements or other contract actions to industry and academia as the basis of NOAA's future satellite systems mission and instrument concept assessment and design.

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		2024 Base		2024 Estimate		Increase from 2024 Base	
		<u>Personnel</u>		<u>Amount</u>		<u>Personnel</u>	
						<u>Amount</u>	
Geostationary	Pos./BA	34	285,000	34	417,429	0	132,429
Earth Orbit (GEO)	FTE/OBL	29	285,000	29	417,429	0	132,429

Geostationary Extended Observations (+\$132,429, 0 FTE/ 0 Positions) - NOAA requests a planned increase of \$132.4 million, for a total of \$417.4 million, to support the development of the GeoXO program. GeoXO advances NOAA’s weather, ocean, and climate observational capabilities to support necessary U.S. forecasting and prediction operations. GeoXO will continue and expand observations provided by the GOES-R Series, bringing new capabilities to address emerging environmental issues and challenges that threaten the security and well-being of every American.

In FY 2022, NOAA completed the imager Phase A formulation studies. In FY 2023, NOAA will complete the Phase A formulation studies for the remaining GeoXO instruments and the spacecraft. In December 2022, NOAA received formal approval from the Deputy Secretary of Commerce for the GeoXO constellation at DOC Acquisition Milestone 2/3 (MS2/3), establishing the program baseline at \$19.6 billion. Having completed MS2/3, NOAA plans to award the development contract for the imager instrument in Q2 FY 2023 and the sounder instrument in Q4 FY 2023. In FY 2024, NOAA plans to award the development contracts for other instruments and spacecraft.

Schedule and Milestones:

FY 2024

- Award development contracts for ocean color, lightning mapper, and atmospheric composition instruments and spacecraft (Phase B-D)
- Complete Preliminary Design Review for the Imager

FY 2025

- Complete GeoXO Mission Definition Review, Key Decision Point B, Program Preliminary Design Review, and Key Decision Point C
- Complete Preliminary Design Review for spacecraft and non-Imager instruments

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FY 2026

- Complete Critical Design Review (CDR) for the imager and sounder instruments, and spacecraft
- Complete requirement definition for GeoXO Ground System

FY 2027

- Complete CDRs for the remaining instruments
- Complete the Program CDR
- Initiate procurement activities for GeoXO Ground System

FY 2028

- Complete the System Requirements Review for the Ground System
- Complete the Pre-Environmental Review for the ocean color, lightning mapper, and atmospheric composition instruments

Deliverables:

- GeoXO Baseline Report (FY 2026)

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Performance Measures	2024	2025	2026	2027	2028
Percent of milestones completed on time					
With Increase	75%	75%	75%	75%	75%
Without Increase	0%	0%	0%	0%	0%
Outyear Costs:					
Direct Obligations	132,429	386,000	406,500	1,035,000	1,035,000
Capitalized	132,429	386,000	406,500	1,035,000	1,035,000
Uncapitalized	0	0	0	0	0
Budget Authority	132,429	386,000	406,500	1,035,000	1,035,000
Outlays	55,620	162,120	170,730	434,700	434,700
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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Outyear Funding Estimates*

GEO	2023 & Prior**	2024	2025	2026	2027	2028	CTC	Total
Change from 2024 Base	N/A	132,429	386,000	406,500	1,035,000	1,035,000	N/A	N/A
Total GeoXO PAC Request	445,000	417,429	671,000	691,500	1,320,000	1,320,000	14,779,460	19,644,389

* Outyears are estimates. Future requests will be determined through the annual budget process. Therefore, the PAC profile will be updated on an annual basis. GeoXO levels are based on the baseline established at MS2/3 in December 2022.

** The FY 2023 & Prior column accounts for the FY 2023 Enacted, as well as any reductions for deobligations.

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
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Activity: Systems Acquisition
Subactivity: Geostationary Earth Orbit (GEO)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1 Full-time permanent compensation	2,380	4,660	5,077	5,077	0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	2,380	4,660	5,077	5,077	0
12 Civilian personnel benefits	786	1,491	1,625	1,625	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	29	29	29	29	0
22 Transportation of things	0	0	0	0	0
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental Payments to others	0	0	0	0	0
23.3 Communications, utilities and misc charges	0	0	0	0	0
24 Printing and reproduction	0	0	0	0	0
25.1 Advisory and assistance services	456	428	428	428	0
25.2 Other services from non-Federal sources	367	345	345	345	0
25.3 Other goods and services from Federal sources	142,279	276,917	276,366	408,795	132,429
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	155	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	0	0	0	0	0
31 Equipment	0	0	0	0	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	1,130	1,130	1,130	1,130	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total obligations	147,582	285,000	285,000	417,429	132,429

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		2024 Base		2024 Estimate		Decrease from 2024 Base	
		<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>
GOES-R Series	Pos./BA	51	301,000	51	276,000	0	(25,000)
	FTE/OBL	48	301,000	48	276,000	0	(25,000)

GOES-R Series (-\$25,000, 0 FTE/ 0 Positions) - NOAA proposes a planned funding reduction to the GOES-R Series program. The remaining funds will continue integration and testing for the GOES-U satellite, the final satellite in the GOES-R Series program. Funds will also be used to complete the recapitalization of the GOES-R Series ground system in compliance with requirements under the *Consolidated Appropriations Act, 2014 (P.L. 113-76)*, which limit DOC, DOJ, NASA, and NSF from using appropriated funds to acquire a high- or moderate-impact system produced, manufactured, or assembled by China. The planned launch date for the GOES-U satellite remains April 2024, with a launch commitment date of Q1 FY 2025.

Schedule and Milestones:

FY 2024

- Complete GOES-U I&T
- Ship GOES-U to launch base and prepare to launch GOES-U
- Launch GOES-U and conduct post launch checkout and calibration activities (planned launch April 2024)
- Sustainment activities

FY 2025

- Complete post launch checkout and calibration activities
- Complete GOES-U product validation and transition GOES-U to operations
- Sustainment activities

FY 2026 – FY 2028

- Sustainment activities

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Deliverables:

Spacecraft	Launch Commitment Date	Target Launch Date
GOES-U	Q1 FY 2025	April 2024

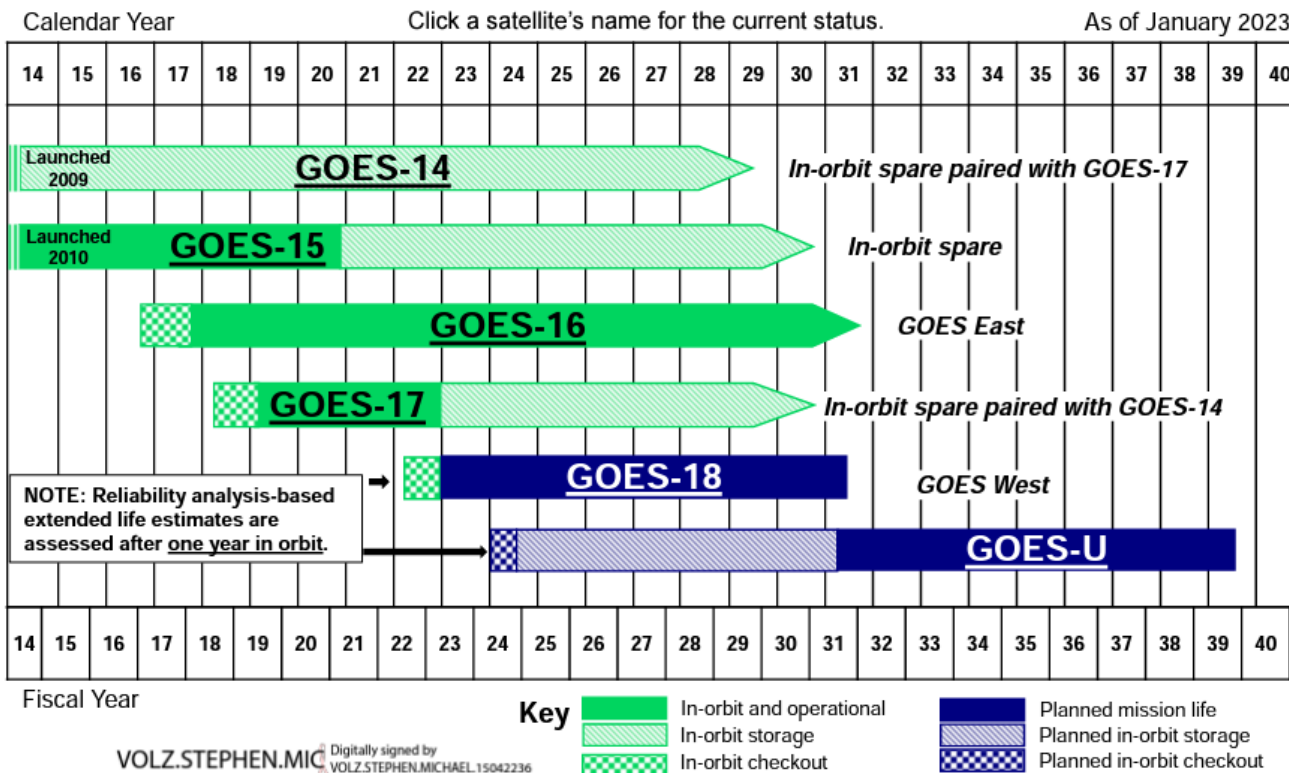
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NOAA Geostationary Satellite Programs Continuity of Weather Observations



Scenario: GOES-16 is primary until end of life; GOES-U (-19) is in-orbit spare in East



Approved: VOLZ.STEPHEN.MICHAEL.1504223694
 Assistant Administrator for
 Satellite and Information Services

Operational satellite extended life estimates (indicated by an arrow) are based on July 2022 reliability analyses (60% confidence) for satellites in orbit for at least one year. GOES: Geostationary Operational Environmental Satellites

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Performance Measures	2024	2025	2026	2027	2028
Percent of milestones completed on time					
With Decrease	75%	75%	75%	75%	75%
Without Decrease	75%	75%	75%	75%	75%
Outyear Costs:					
Direct Obligations	(25,000)	(201,000)	(205,000)	(205,000)	(205,000)
Capitalized	(25,000)	(201,000)	(205,000)	(205,000)	(205,000)
Uncapitalized	0	0	0	0	0
Budget Authority	(25,000)	(201,000)	(205,000)	(205,000)	(205,000)
Outlays	(10,500)	(84,420)	(86,100)	(86,100)	(86,100)
FTE	0	0	0	0	0
Positions	0	0	0	0	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM DECREASE FOR 2024
(Dollar amounts in thousands)**

Outyear Funding Estimates*

GOES-R Series	2023 & Prior**	2024#	2025#	2026#	2027#	2028#	CTC	Total
Change from 2024 Base	N/A	(25,000)	(201,000)	(205,000)	(205,000)	(205,000)	N/A	N/A
Total GOES-R Series PAC Request	9,877,325	276,000	100,000	96,000	96,000	96,000	480,762	11,022,087
Total GOES-R Series ORF Request	237,300	33,900	33,900	33,900	33,900	33,900	271,200	678,000
GOES-R Series LCC (PAC & ORF)	10,114,625	309,900	133,900	129,900	129,900	129,900	751,962	11,700,087

* Outyears are estimates. Future requests will be determined through the annual budget process. Therefore, the PAC profile will be updated on an annual basis.

** The FY 2023 & Prior column accounts for the FY 2023 Enacted, as well as any reductions for deobligations.

The COVID-19 pandemic resulted in cost impacts to the GOES-R Series ground system server replacement. In the FY 2023 President’s Budget, NOAA re-phased funding within the LCC to replenish reserves to an acceptable level in order to maintain schedule and minimize risks to the GOES-T and GOES-U launches. NOAA pulled forward \$25 million and \$28.5 million in FY 2023 and FY 2024, respectively; this funding was pulled forward from the sustainment phase of the GOES-R Series life cycle. After the award of the GOES-U launch services contract in September 2021 and the successful launch of GOES-18 (formerly GOES-T) in March 2022, NOAA determined this re-phasing was no longer necessary. The funding profile supports the GOES-U launch and sustainment of the GOES-R Series through FY 2036. The LCC remains unchanged.

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Systems Acquisition

Subactivity: Geostationary Operational Environmental Satellite - R Series (GOES-R)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1 Full-time permanent compensation	8,850	7,943	8,356	8,356	0
11.3 Other than full-time permanent	3	0	0	0	0
11.5 Other personnel compensation	131	40	40	40	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	8,984	7,983	8,396	8,396	0
12 Civilian personnel benefits	2,886	2,554	2,687	2,687	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	146	146	146	146	0
22 Transportation of things	0	0	0	0	0
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	437	437	437	437	0
23.2 Rental Payments to others	0	0	0	0	0
23.3 Communications, utilities and misc charges	0	0	0	0	0
24 Printing and reproduction	2	2	2	2	0
25.1 Advisory and assistance services	131,794	117,232	116,597	116,597	0
25.2 Other services from non-Federal sources	31,529	31,529	31,529	31,529	0
25.3 Other goods and services from Federal sources	145,717	130,130	130,220	105,220	(25,000)
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	2,259	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	122	122	122	122	0
31 Equipment	0	0	0	0	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	10,865	10,865	10,865	10,865	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	1	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total obligations	334,742	301,000	301,000	276,000	(25,000)

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Polar Weather	Pos./BA	57	183,500	57	342,410	0	158,910
Satellites (PWS)	FTE/OBL	52	183,500	52	342,410	0	158,910

Polar Weather Satellites (PWS) (+\$158,910, 0 FTE/ 0 Positions) – NOAA proposes an increase to PWS to return to the original annual funding profile. During FY 2024, JPSS-3 will complete satellite environmental testing. NOAA will also continue the development of the spacecraft and ATMS, CrIS, VIIRS, and OMPS instruments for JPSS-4, maintaining synergies and efficiencies of the block buy approach for these elements of the PWS. Finally, NOAA will continue the sustainment of the globally distributed ground system supporting the Suomi NPP, NOAA-20 and NOAA-21 satellites and continue development and testing of the ground system.

Schedule and Milestones:

FY 2024

- Continue JPSS-3 instrument integration and testing, pre-ship review
- JPSS-4 OMPS instrument pre-ship review
- Sustain ground system to support Suomi NPP, NOAA-20 and NOAA-21

FY 2025

- Enter JPSS-3 into storage with periodic instrument and spacecraft checkout
- Deliver JPSS-4 instruments, begin instrument integration and testing
- Continue JPSS-4 satellite integration and testing
- Sustain ground system to support Suomi-NPP, NOAA-20 and NOAA-21

FY 2026

- JPSS-3 periodic instrument and spacecraft checkout while in storage
- Complete JPSS-4 instrument integration and testing, pre-ship review
- Sustain ground system to support Suomi-NPP, NOAA-20 and NOAA-21

FY 2027

- Deliver JPSS-3 satellite to launch site

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)**

- Conduct launch site integration and test in preparation for JPSS-3 launch
- Sustain ground system to support NOAA-20 and NOAA-21

FY 2028

- JPSS-3 Launch Commitment Date
- Sustain ground system to support NOAA-20 and NOAA-21

Deliverables:

- On-orbit support for Suomi NPP, NOAA-20 and NOAA-21

Satellite	Launch Commitment Date*	Target Launch Date**
JPSS- 3	Q1 FY 2028	TBD
JPSS-4	Q1 FY 2033	TBD

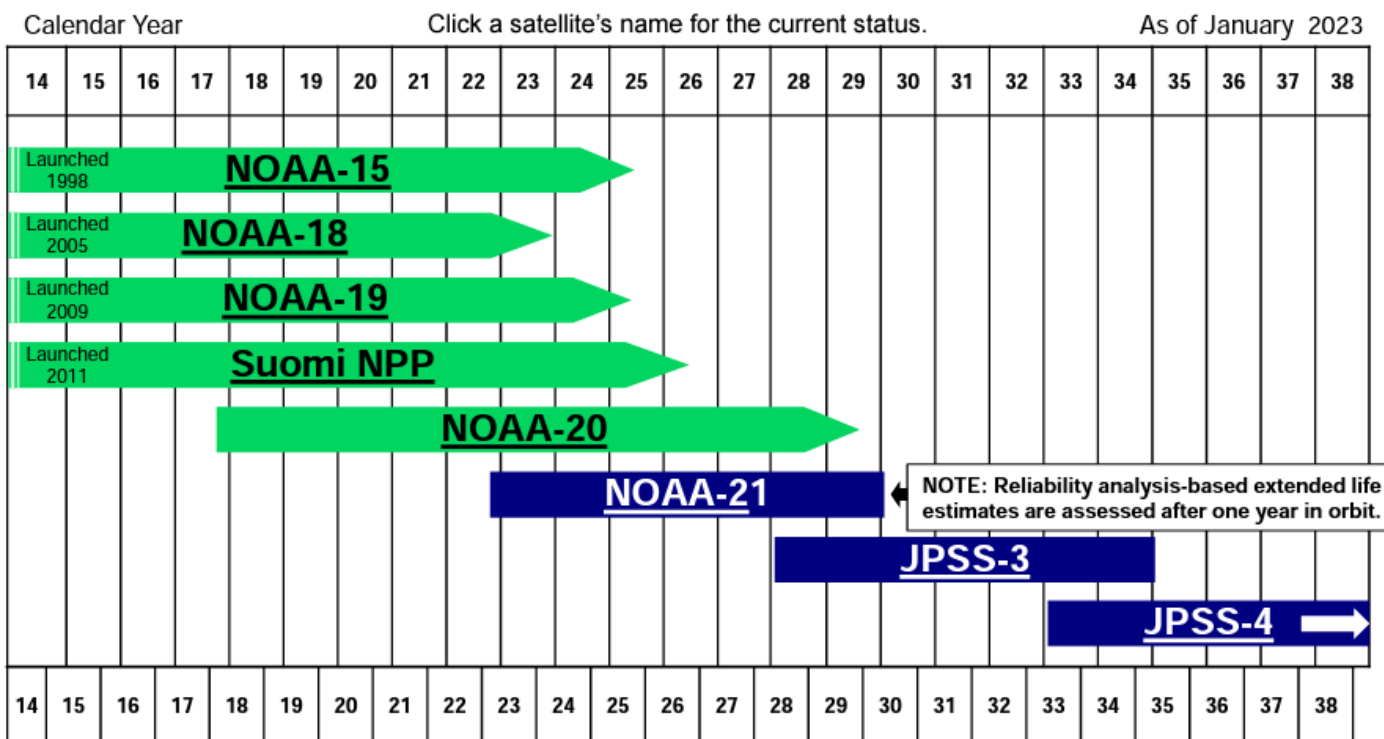
* Launch commitment dates will be re-evaluated based on annual appropriations, the performance of on-orbit assets, and the overall constellation risk posture.

** Target Launch Date is only known after coordination with the launch services provider and in accordance with the NESDIS 1330 Polar-Orbiting Launch Policy.

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 Procurement, Acquisition, and Construction
PROGRAM INCREASE FOR 2024
 (Dollar amounts in thousands)



NOAA Polar Satellite Programs Continuity of Weather Observations



Fiscal Year

Key In-orbit and operational Planned mission life
→ Planned mission life beyond 2038

Approved: VOLZ.STEPHEN.MICHAEL.1504223694
 Assistant Administrator for
 Satellite and Information Services

Operational satellite extended life estimates (indicated by an arrow) are based on July 2022 reliability analyses (60% confidence) for satellites in orbit for at least one year.
 Suomi NPP: Suomi National Polar-orbiting Partnership; JPSS: Joint Polar Satellite System

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM INCREASE FOR 2024**
(Dollar amounts in thousands)

Performance Measures	2024	2025	2026	2027	2028
Percent of Milestones completed on time					
With Increase	75%	75%	75%	75%	75%
Without Increase	75%	75%	75%	75%	75%
Outyear Costs:					
Direct Obligations	158,910	158,910	158,910	158,910	158,910
Capitalized	158,910	158,910	158,910	158,910	158,910
Uncapitalized	-	-	-	-	-
Budget Authority	158,910	158,910	158,910	158,910	158,910
Outlays	66,742	66,742	66,742	66,742	66,742
FTE	0	0	0	0	0
Positions	0	0	0	0	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM INCREASE FOR 2024**
(Dollar amounts in thousands)

Outyear Funding Estimates*

Polar Weather Satellites	2023 & Prior**	2024	2025	2026	2027	2028	CTC	Total
Change from 2024 PWS Base	N/A	158,910	158,910	158,910	158,910	158,910	N/A	N/A
Total PWS	13,143,604	342,410	342,410	342,410	342,410	342,410	1,922,931	16,778,585
JPSS (PAC)^	10,935,535	92,600	9,620	0	0	0	0	11,037,755
JPSS (ORF)	134,790	74,790	74,790	0	0	0	0	284,370
Total JPSS	11,070,325	167,930	84,410	0	0	0	0	11,322,125
PFO (PAC)^	2,215,869	257,610	340,590	350,210	350,210	350,210	2,001,427	5,865,630
PFO (ORF)^^	0	0	0	74,790	74,790	74,790	747,900	972,270
Total PFO	2,215,869	257,610	340,590	425,000	425,000	425,000	2,748,831	6,837,900

* Outyears are estimates. Future requests will be determined through the annual budget process. Therefore, the PAC profile will be updated on an annual basis.

** The FY 2023 & Prior column accounts for the FY 2023 Enacted and any reductions for deobligations in prior years.

^ JPSS (PAC) and PFO (PAC) includes PAC funding supporting PWS and CGS (Operational Phase Transfer in FY 2023).

^^ The PFO Operational Phase Transfer will be recalculated in FY 2026 to account for current economic conditions.

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Systems Acquisition
Subactivity: Polar Weather Satellites (PWS)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1 Full-time permanent compensation	11,230	11,746	12,357	12,357	0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	125	125	125	125	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	11,354	11,871	12,482	12,482	0
12 Civilian personnel benefits	3,734	3,799	3,994	3,994	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	132	132	132	132	0
22 Transportation of things	1	1	1	1	0
23.1 Rental payments to GSA	1,321	1,593	1,593	1,593	0
23.2 Rental Payments to others	0	0	0	0	0
23.3 Communications, utilities and misc charges	38	38	38	38	0
24 Printing and reproduction	13	15	15	15	0
25.1 Advisory and assistance services	68,875	27,000	27,000	27,000	0
25.2 Other services from non-Federal sources	12,914	5,000	5,000	5,000	0
25.3 Other goods and services from Federal sources	255,911	117,184	116,378	275,288	158,910
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	11,134	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	183	183	183	183	0
31 Equipment	919	74	74	74	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	22,731	16,610	16,610	16,610	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	2	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total obligations	389,263	183,500	183,500	342,410	158,910

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Increase from 2024 Base	
		<u>Personnel</u> <u>Amount</u>		<u>Personnel</u> <u>Amount</u>		<u>Personnel</u>	<u>Amount</u>
Low Earth Orbit (LEO)	Pos./BA	15	88,330	15	133,590	0	45,260
	FTE/OBL	12	88,330	12	133,590	0	45,260

Near Earth Orbit Network (+\$45,260, 0 FTE/ 0 Positions) – NOAA requests a planned increase for the Near Earth Orbit Network (NEON, formerly known as LEO Weather Satellites) to continue the development of the QuickSounder demonstration project and formulation activities for the LEO portfolio. In FY 2023, NOAA will support the refurbishment of the ATMS Engineering Design Unit (EDU) and will award the development contract for the commercial spacecraft for the QuickSounder. NOAA will also award broad agency announcement study contracts to evaluate the technological readiness, feasibility and cost effectiveness for instruments on future LEO missions. In addition, NOAA will be working on a LEO architecture study to formulate mission concepts and define the end state for the LEO architecture.

FY 2024 funds will continue to support the instrument development studies and exploration of innovative smallsat development approaches, including leveraging commercial capabilities and partnering with commercial entities. Understanding the opportunities and risks of commercial capabilities, including building spacecraft, launch vehicles, and ground services, is critical for developing and implementing a robust program to successfully meet mission requirements. This work will build off of complementary efforts funded within the Joint Venture program.

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Schedule and Milestones:

FY 2024

- QuickSounder DOC Milestone 3
- QuickSounder NASA KDP C⁵
- QuickSounder System Integration Review
- Award commercial launch services for QuickSounder
- Initiate Phase A studies for NEON Series 1

FY 2025

- Complete refurbishment of ATMS EDU
- Integrate ATMS EDU into QuickSounder spacecraft
- NEON Series 1 DOC Milestone 2

FY 2026

- QuickSounder Mission NASA KDP E
- QuickSounder Launch Commitment Date
- QuickSounder DOC Milestone 4
- Initiate NEON Series 1 Microwave Sounder instrument development
- NEON Series 1 NASA System Definition Review
- NEON Series 1 DOC Milestone 3

FY 2027 – FY 2028

- Continue NEON Series 1 Microwave Sounder instrument development
- Initiate NEON Series 1 Microwave Sounder satellite spacecraft development
- Initiate NEON Series 1 Infrared Sounder instrument development

Deliverables:

- Launch QuickSounder satellite mission

⁵QuickSounder is classified as a streamlined mission with fewer documentation requirements and process reviews; KDP B and KDP E are not required.

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Performance Measures	2024	2025	2026	2027	2028
Percent of Milestones completed on time					
With Increase	75%	75%	75%	75%	75%
Without Increase	0%	0%	0%	0%	0%
Outyear Costs:					
Direct Obligations	45,260	121,670	121,670	121,670	121,670
Capitalized	45,260	121,670	121,670	121,670	121,670
Uncapitalized	-	-	-	-	-
Budget Authority	45,260	121,670	121,670	121,670	121,670
Outlays	19,009	51,101	51,101	51,101	51,101
FTE	0	0	0	0	0
Positions	0	0	0	0	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)**

Outyear Funding Estimates*

LEO	2023 & Prior**	2024	2025	2026	2027	2028	CTC	Total
Change from 2024 Base	N/A	45,260	121,670	121,670	121,670	121,670	N/A	N/A
Total NEON Request	115,316	123,590	200,000	200,000	200,000	200,000	TBD	TBD
Total Other LEO Programs (PAC)#	163,053	0	0	0	0	0	TBD	TBD
Total LEO Request (PAC)^^	278,369	123,590	200,000	200,000	200,000	200,000	TBD	TBD

* Outyears are estimates. Future requests will be determined on an annual basis and informed by the various studies as the program moves through the formulation gateways.

** The FY 2023 & Prior column accounts for the FY 2023 Enacted as well as any reductions for deobligations.

Total Other LEO Programs (PAC) includes CDARS, COSMIC-2/GNSS RO, and POES Extension PAC funding only. Funding for CDARS was transferred to ORF in FY 2023 via an operational phase transfer. Funding for COSMIC-2/GNSS RO is proposed to transfer to ORF in FY 2024 via an operational phase transfer (see pg. NESDIS-6). FY 2023 was the final year of funding for POES Extension (see pg. NESDIS-105).

^^ Total LEO Request includes NEON, CDARS, COSMIC-2/GNSS RO, and POES Extension PAC funding only.

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Systems Acquisition
Subactivity: Low Earth Orbit (LEO)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1 Full-time permanent compensation	1,586	1,659	1,745	1,745	0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	16	16	16	16	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	1,602	1,675	1,761	1,761	0
12 Civilian personnel benefits	532	536	564	564	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	23	24	24	24	0
22 Transportation of things	0	0	0	0	0
23 Rent, Communications and Utilities	0	0	0	0	0
23.1 Rental payments to GSA	19	19	19	19	0
23.2 Rental Payments to others	0	0	0	0	0
23.3 Communications, utilities and misc charges	0	0	0	0	0
24 Printing and reproduction	0	0	0	0	0
25.1 Advisory and assistance services	12,319	12,319	12,319	12,319	0
25.2 Other services from non-Federal sources	259	259	259	259	0
25.3 Other goods and services from Federal sources	35,732	78,502	70,290	115,550	45,260
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	237	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	0	0	0	0	0
31 Equipment	0	0	0	0	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	3,094	3,094	3,094	3,094	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	1	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total obligations	53,820	96,430	88,330	133,590	45,260

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM DECREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>
Low Earth Orbit (LEO)	Pos./BA	15	88,330	15	78,330	0	(10,000)
	FTE/OBL	12	88,330	12	78,330	0	(10,000)

Polar Operational Environmental Satellites (POES) Extension (-\$10,000, 0 FTE/ 0 Positions) – NOAA requests a planned decrease for the POES Extension to conclude this two-year investment effort that began in FY 2022. While the legacy POES satellites (NOAA-15, NOAA-18, and NOAA-19) are beyond their design life, the spacecraft and many instruments and channels are operational and continue to provide valuable early-morning orbit data to numerical weather prediction models and for situational nowcasting needs.

Schedule and Milestones:

FY 2024

- Commercial ground system operations and maintenance
- Polar products processing and distribution
- IT Security fixes/upgrades and scanning/patching
- IT Security scanning and patching

FY 2025

- Commercial ground system operations and maintenance
- Polar products processing and distribution
- IT Security fixes/upgrades and scanning/patching
- IT Security scanning and patching

Deliverables:

- Strategic technology refresh of the polar products system
- Commercial ground system

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM DECREASE FOR 2024
(Dollar amounts in thousands)

Performance Measures	2024	2025	2026	2027	2028
Percent of Milestones completed on time					
With Decrease	75%	75%	75%	75%	75%
Without Decrease	0%	0%	0%	0%	0%
Outyear Costs:					
Direct Obligations	(10,000)	0	0	0	0
Capitalized	(2,500)	0	0	0	0
Uncapitalized	(7,500)	0	0	0	0
Budget Authority	(10,000)	0	0	0	0
Outlays	(4,200)	(5,800)	0	0	0
FTE	0	0	0	0	0
Positions	0	0	0	0	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM DECREASE FOR 2024
(Dollar amounts in thousands)**

Outyear Funding Estimates*

LEO	2023 & Prior**	2024	2025	2026	2027	2028	CTC	Total
Change from 2024 Base	N/A	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)	N/A	N/A
Total POES Extension	30,000	0	0	0	0	0	0	30,000
Total Other LEO Programs (PAC)#	248,369	123,590	200,000	200,000	200,000	200,000	TBD	TBD
Total LEO Request (PAC)	278,369	123,590	200,000	200,000	200,000	200,000	TBD	TBD

* Outyears are estimates. Future requests will be determined through the annual budget process. Therefore, the PAC profile will be updated on an annual basis.

** The FY 2023 & Prior column accounts for the FY 2023 Enacted, as well as any reductions for deobligations.

Total Other LEO Programs (PAC) includes CDARS, COSMIC-2/GNSS RO, and POES Extension PAC funding only. Funding for CDARS was transferred to ORF in FY 2023 via an operational phase transfer. Funding for COSMIC-2/GNSS RO is proposed to transfer to ORF in FY 2024 via an operational phase transfer (see pg. NESDIS-6). FY 2023 was the final year of funding for POES Extension (see pg. NESDIS-105).

Department of Commerce
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Procurement, Acquisition, and Construction
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Systems Acquisition
Subactivity: Low Earth Orbit (LEO)

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1 Full-time permanent compensation	1,586	1,659	1,745	1,745	0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	16	16	16	16	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	1,602	1,675	1,761	1,761	0
12 Civilian personnel benefits	532	536	564	564	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	23	24	24	24	0
22 Transportation of things	0	0	0	0	0
23 Rent, Communications and Utilities	0	0	0	0	0
23.1 Rental payments to GSA	19	19	19	19	0
23.2 Rental Payments to others	0	0	0	0	0
23.3 Communications, utilities and misc charges	0	0	0	0	0
24 Printing and reproduction	0	0	0	0	0
25.1 Advisory and assistance services	12,319	12,319	12,319	12,319	0
25.2 Other services from non-Federal sources	259	259	259	259	0
25.3 Other goods and services from Federal sources	35,732	78,503	70,290	60,290	(10,000)
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	237	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	0	0	0	0	0
31 Equipment	0	0	0	0	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	3,094	3,094	3,094	3,094	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	1	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total obligations	53,820	96,430	88,330	78,330	(10,000)

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Increase from 2024 Base	
		<u>Personnel</u>		<u>Amount</u>		<u>Personnel</u>	<u>Amount</u>
Space Weather	Pos./BA	49	151,606	49	225,000	0	73,394
Next (SW Next)	FTE/OBL	33	151,606	33	225,000	0	73,394

Space Weather Next (+\$73,394, 0 FTE/ 0 Positions) – NOAA requests a planned increase for the SW Next program. NOAA continues to develop and deploy observational capabilities with respect to space weather and perform actions as detailed in the NOAA Space Weather Gap Mitigation plan including plans for contingency space weather observations by exploiting observations from NOAA partners.

In FY 2024, NOAA will execute a comprehensive space weather program plan. Initial projects include an L1 continuity project and an L5 coronagraph project in partnership with the European Space Agency (ESA), with ESA providing the launch, spacecraft, additional observations of value to NOAA’s mission, and the satellite operations. The L1 Series project will provide continuity of observations as NOAA’s Space Weather Follow On program reaches its design life. Coronagraph imagery from the L5 observation point was identified by the NSOSA independent Space Platform Requirements Working Group as the single most impactful new observation to improve NOAA’s space weather mission. The compact coronagraph for ESA’s L5 Vigil mission will be developed by the Naval Research Laboratory as a near copy of those built for the SWFO-L1 and GOES-U missions. NOAA is evaluating government and commercial procurement options for future coronagraphs to meet Sun-Earth line space weather observation requirements at either L1 or GEO orbits in a cost-effective and timely manner.

NOAA will also conduct pre-formulation and formulation activities for instruments for observation of X-Ray and Extreme UltraViolet (EUV) Irradiances and EUV imagery, coronagraph white light imagery, and magnetic field imagery of the Sun; instruments to measure magnetospheric magnetic field and energetic particles; and instruments to observe the Earth’s thermosphere and aurora.

In FY 2022, the SW Next program completed Milestone 1. During FY 2023, the L1 mission will establish requirements and acquisition strategy and receive approval for program development. In FY 2024, the L1 mission will begin its preliminary design and detail

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technical requirements.

Schedule and Milestones:

FY 2024

- L1 Series project System Definition Review
- L1 Series project NASA Key Decision Point (KDP) B
- L1 Series project Preliminary Design Review
- L5 coronagraph Critical Design Review for partner mission with ESA

FY 2025

- L1 Series project KDP C
- L5 coronagraph NASA KDP D
- GEO Series project System Requirements Review

FY 2026

- L1 Series project L1-A⁶ Critical Design Review
- GEO Series project DOC Milestone 2/3
- GEO Series project System Definition Review
- GEO Series project NASA KDP B

FY 2027⁷

- L1 Series Project L1-A NASA KDP D
- L5 coronagraph delivery for partner mission with ESA

FY 2028⁵

- L1 Series project L1-A KDP E

⁶ L1-A denotes the first satellite planned within the L1 Series.

⁷ GEO Series milestones are still under development.

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Deliverables:

Provide continuity of space weather ionosphere, thermosphere, solar and heliospheric observations to ensure accurate and timely alerts and warnings for the protection of critical infrastructures and societal and economic impacts due to space weather.

Performance Measures	2024	2025	2026	2027	2028
Percentage of projected milestones to be completed annually for the Space Weather Next program. This includes key decision points and major reviews for the program.					
With Increase	75%	75%	75%	75%	75%
Without Increase	0%	0%	0%	0%	0%
Outyear Costs:					
Direct Obligations	73,394	79,594	79,594	79,594	79,594
Capitalized	73,394	79,594	79,594	79,594	79,594
Uncapitalized	0	0	0	0	0
Budget Authority	73,394	79,594	79,594	79,594	79,594
Outlays	30,830	33,430	33,430	33,430	33,430
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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Outyear Funding Estimates*

SWO	2023 & Prior**	2024	2025	2026	2027	2028	CTC	Total
Change from 2024 Base	N/A	73,394	79,594	79,594	79,594	79,594	N/A	N/A
Total SW Next Request#	206,606	225,000	231,200	231,200	231,200	231,200	TBD	TBD

* Outyears are estimates. Future requests will be determined through the annual budget process and informed by the various studies as the program moves through the formulation gateways.

** The FY 2023 & Prior column accounts for the FY 2023 Enacted, as well as any reductions for deobligations.

SW Next includes \$6.6 million transferred from the Projects, Planning, and Analysis PPA in the FY 2023 Enacted, formerly referred to as SWO Base.

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Systems Acquisition
Subactivity: Space Weather Observations (SWO)

Object Class		2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1	Full-time permanent compensation	1,603	4,861	5,273	5,273	0
11.3	Other than full-time permanent	23	0	0	0	0
11.5	Other personnel compensation	15	67	67	67	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	1,641	4,928	5,340	5,340	0
12	Civilian personnel benefits	534	1,497	1,709	1,709	0
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	28	28	28	28	0
22	Transportation of things	0	0	0	0	0
23	Rent, communications, and utilities	0	0	0	0	0
23.1	Rental payments to GSA	97	97	97	97	0
23.2	Rental Payments to others	0	0	0	0	0
23.3	Communications, utilities and misc charges	0	0	0	0	0
24	Printing and reproduction	0	0	0	0	0
25.1	Advisory and assistance services	8,606	32,880	32,157	32,157	0
25.2	Other services from non-Federal sources	472	10,887	10,887	10,887	0
25.3	Other goods and services from Federal sources	43,027	101,052	101,151	174,545	73,394
25.4	Operation and maintenance of facilities	0	0	0	0	0
25.5	Research and development contracts	0	0	0	0	0
25.6	Medical care	0	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0	0
26	Supplies and materials	1	1	1	1	0
31	Equipment	27	27	27	27	0
32	Lands and structures	0	0	0	0	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	209	209	209	209	0
42	Insurance claims and indemnities	0	0	0	0	0
43	Interest and dividends	0	0	0	0	0
44	Refunds	0	0	0	0	0
99	Total obligations	54,642	151,606	151,606	225,000	73,394

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		2024 Base		2024 Estimate		Decrease from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Space Weather	Pos/BA	27	136,200	27	97,200	0	(39,000)
Follow On (SWFO)	FTE/OBL	22	136,200	22	97,200	0	(39,000)

Space Weather Follow On (-\$39,000, 0 FTE/ 0 Positions) – NOAA requests a planned decrease for the SWFO program. Funding will support a SWFO-L1 mission with a SWIS for solar wind observations and a CCOR for CME imagery at Lagrange point 1. The funding also supports the integration of a CCOR on the GOES-U spacecraft that is expected to launch in 2024.

The SWFO program is being developed to take advantage of a rideshare launch opportunity with NASA’s IMAP mission scheduled for launch in FY 2025. Funding is essential for SWFO to maintain the schedule and milestones to meet the NASA IMAP rideshare. Leveraging the IMAP rideshare opportunity is the most timely and cost effective mechanism to ensure space weather forecasting continuity.

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Schedule and Milestones:

FY 2024

- SWFO-L1 Pre-environmental Review
- Planned GOES-U launch with integrated SWFO CCOR

FY 2025

- SWFO-L1 Pre-ship Review
- Ship SWFO-L1 spacecraft to IMAP launch vehicle for integration
- Rideshare launch of SWFO-L1 spacecraft with IMAP
- SWFO-L1 mission Initial Operational Capability

FY 2026

- SWFO-L1 mission Full Operational Capability

FY 2027

- Sustainment activities

FY 2028

- Sustainment activities

Deliverables

- Provide timely access to operational solar wind data and CME imagery for short and long-term warnings of geomagnetic storms

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Performance Measures	2024	2025	2026	2027	2028
Percentage of projected milestones to be completed annually to meet the LRD for SWFO-L1. This includes key decision points, major reviews, testing, and delivery of the following instruments: CCOR-1, SWiPS, MAG, and STIS					
With Decrease	75%	75%	75%	75%	75%
Without Decrease	75%	75%	75%	75%	75%
Outyear Costs:					
Direct Obligations	(39,000)	(95,000)	(113,900)	(114,400)	(122,592)
Capitalized	(39,000)	(95,000)	(113,900)	(114,400)	(122,592)
Uncapitalized	0	0	0	0	0
Budget Authority	(39,000)	(95,000)	(113,900)	(114,400)	(122,592)
Outlays	(16,380)	(39,900)	(47,840)	(48,050)	(51,490)
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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Outyear Funding Estimates*

SWFO	2023 & Prior**	2024	2025	2026	2027	2028	CTC	Total
Change from 2024 Base	N/A	(39,000)	(95,000)	(113,900)	(114,400)	(122,592)	N/A	N/A
Total SWFO Request	496,692	97,200	41,200	22,300	21,800	13,608	0	692,800

* Outyears are estimates. Future requests will be determined through the annual budget process. Therefore, the PAC profile will be updated on an annual basis.

** The FY 2023 & Prior column accounts for the FY 2023 Enacted as well as any reductions for deobligations.

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Systems Acquisition
Subactivity: Space Weather Follow On (SWFO)

	Object Class	2022 Enacted	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1	Full-time permanent compensation	3,530	3,345	3,345	3,345	0
11.3	Other than full-time permanent	0	0	0	0	0
11.5	Other personnel compensation	20	20	20	20	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	3,550	3,365	3,365	3,365	0
12	Civilian personnel benefits	1,160	1,080	1,080	1,080	0
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	15	15	15	15	0
22	Transportation of things	0	0	0	0	0
23	Rent, communications, and utilities	0	0	0	0	0
23.1	Rental payments to GSA	132	135	135	135	0
23.2	Rental Payments to others	0	0	0	0	0
23.3	Communications, utilities and misc charges	0	0	0	0	0
24	Printing and reproduction	0	0	0	0	0
25.1	Advisory and assistance services	34,362	33,651	33,651	33,651	0
25.2	Other services from non-Federal sources	219	215	215	215	0
25.3	Other goods and services from Federal sources	91,846	95,476	95,476	56,476	(39,000)
25.4	Operation and maintenance of facilities	0	0	0	0	0
25.5	Research and development contracts	13,426	0	0	0	0
25.6	Medical care	0	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0	0
26	Supplies and materials	29	30	30	30	0
31	Equipment	31	0	0	0	0
32	Lands and structures	0	0	0	0	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	2,233	2,233	2,233	2,233	0
42	Insurance claims and indemnities	0	0	0	0	0
43	Interest and dividends	3	0	0	0	0
44	Refunds	0	0	0	0	0
99	Total obligations	147,006	136,200	136,200	97,200	(39,000)

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		2024 Base		2024 Estimate		Increase from 2024 Base	
		<u>Personnel</u> <u>Amount</u>		<u>Personnel</u> <u>Amount</u>		<u>Personnel</u>	<u>Amount</u>
Common Ground	Pos./BA	78	105,433	78	120,911	0	15,478
Services (CGS)	FTE/OBL	74	105,433	74	120,911	0	15,478

Data-source Agnostic Common Services (DACS) (+\$15,478, 0 FTE/ 0 Positions) – NOAA requests an increase to realize the full functionality of the NCCF, continue to leverage partner and commercial observations, and deliver enhanced products and services to meet NOAA’s environmental and climate mission. With this funding, NOAA will complete the development of an artificial intelligence-enabled science testing environment within the NCCF, which will provide streamlined integration between developers and scientists, support data visualization, and deliver more weather, climate, and oceanic insights to stakeholders and the public. Further, NOAA will migrate NESDIS science teams into the testing environment to support algorithm development activities and begin the development of an automated algorithm deployment pipeline within the NCCF. NOAA will also support the preparation and migration of operational and stewardship requirements in the NCCF to provide timely core services for data discoverability and access. Finally, NOAA will use this funding to actively manage the IT security that is required to safely use non-NOAA data that is ingested and incorporated into NOAA models and systems.

The NCCF and cloud environment provides unsurpassed scalability for NOAA to leverage more complex and innovative satellite data. NOAA’s multi-year investment and development in the NCCF has led us to the utilization phase. In this phase, NOAA will leverage the NCCF for enhanced innovation and development, which will result in increased delivery of value to customers and stakeholders. NOAA will expand its weather forecasting and climate monitoring missions by processing geostationary sounding and atmospheric chemistry data from the European MTG-S1 mission satellite, high quality imagery of atmospheric aerosols, land use data, and water cycle measurements from the Sentinel-2 and Global Observing SATellite for Greenhouse gases and Water cycle (GOSAT-GW) satellites. This supports EO 14008, Tackling the Climate Crisis at Home and Abroad, by maintaining and archiving long term climate records, and supporting the ingest and archive of new observations for monitoring climate change in an environment that protects NOAA from cybersecurity threats.

Crucial to this initiative is enhanced user readiness, especially in regard to the preparation and guidance of stakeholders who will be

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able to utilize the higher capacity and volume of data. The increase in DACS will serve NOAA's stakeholders through curated trainings and new science approaches that allow users to fully exploit the use of innovative satellite data and products that are enabled through the application of complex, high-resolution data. NOAA recognizes the ever-evolving complexity of increased volumes of data as not just a technical problem, but also an application problem. From an infrastructure perspective, the NCCF, with funding from the DACS initiative, has the ability to manage this.

Without the FY 2024 investment NOAA will not be able to expand use of the cloud infrastructure built over the past three years to accommodate the significant increase in volume and diversity of observations from partner missions, impacting NOAA's ability to: maintain and evolve global modeling with the Unified Forecast System; support healthy, productive, and resilient ocean and coastal ecosystems; and forecast severe weather events. In addition, NOAA science teams will remain on premises which will obstruct their ability to take advantage of new cloud-based tools that will provide data insights which leverage AI and ML techniques. In this way, NOAA will continue to be forced to operate older on-premise science development systems in a hybrid environment within the NCCF, driving increases in egress costs as scientists access this vital data as opposed to working alongside it. Continued reliance on these legacy systems will increase NOAA's systems risk, as the technology ages, impacting critical operational functions in place today.

Schedule and Milestones:

FY 2024

- Begin development of six new products from partner data sources (e.g., MTG-S1, Advanced Land Observing Satellite, GOSAT-GW)
- Begin migration of NESDIS science teams into the testing environment to support algorithm development activities to the NCCF
- Begin development of automated algorithm deployment pipeline within NCCF

FY 2025

- Complete development of automated algorithm deployment pipeline within NCCF
- Complete development of initial four products and begin development of seven more new products from partner data sources
- Transition initial six products into operations in NCCF using automated deployment pipeline
- Further accelerate migration of archived environmental data holdings to the NCCF
- Continue to develop, optimize, and provide trainings to enhance user readiness

FY 2026 - FY 2028

- Continue to develop and operationalize satellite data products on the order of nine per year
- Complete migration of NESDIS science teams into the testing environment to support algorithm development activities to the

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NCCF

- Enable artificial intelligence and machine learning workflows in the science testing environment, resulting in the development of innovative science products

Deliverables:

- Forty new satellite data products in the operational development pipeline through FY 2028
- An AI-enabled science development testing environment within NCCF
- An automated algorithm deployment pipeline within NCCF to more rapidly provision science products to users

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Performance Measures	2024	2025	2026	2027	2028
Enhanced or new products and services made available to the designated user community which utilize partner data sources based on NESDIS core mission data product categories					
With Increase	18	26	26	26	26
Without Increase	12	17	17	17	17
Outyear Costs:					
Direct Obligations	15,478	15,478	15,478	15,478	15,478
Capitalized	0	0	0	0	0
Uncapitalized	15,478	15,478	15,478	15,478	15,478
Budget Authority	15,478	15,478	15,478	15,478	15,478
Outlays	6,501	6,501	6,501	6,501	6,501
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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Outyear Funding Estimates*

Common Ground Services (CGS)	2023 & Prior**	2024	2025	2026	2027	2028	CTC	Total
Change from 2024 Base	N/A	15,478	15,478	15,478	15,478	15,478	N/A	N/A
Total DACS Request**	65,059	45,500	45,500	45,500	45,500	45,500	N/A	N/A
Total Other CGS Programs^	143,955	75,411	75,411	75,411	75,411	75,411	N/A	N/A
Total CGS Request	209,014	120,911	120,911	120,911	120,911	120,911	N/A	N/A

* Outyears are estimates. Future requests will be determined through the annual budget process. Therefore, the PAC profile will be updated on an annual basis.

** DACS was established in FY 2021, so the 2023 & Prior column does not reflect any funding prior to FY 2021.

^ Total other CGS Programs includes CGS Base Funding and Data Access and Distribution.

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Systems Acquisition
Subactivity: Common Ground Services

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base	
11.1	Full-time permanent compensation	6,752	10,298	11,790	11,790	0
11.3	Other than full-time permanent	19	0	0	0	0
11.5	Other personnel compensation	132	132	132	132	0
11.8	Special personnel services payments	0	0	0	0	0
11.9	Total personnel compensation	6,902	10,430	11,922	11,922	0
12	Civilian personnel benefits	2,359	3,337	3,815	3,815	0
13	Benefits for former personnel	1	0	0	0	0
21	Travel and transportation of persons	56	105	105	105	0
22	Transportation of things	0	1	1	1	0
23	Rent, communications, and utilities	0	0	0	0	0
23.1	Rental payments to GSA	657	800	800	800	0
23.2	Rental Payments to others	0	0	0	0	0
23.3	Communications, utilities and misc charges	32	80	80	80	0
24	Printing and reproduction	1	2	2	2	0
25.1	Advisory and assistance services	27,203	44,091	42,644	50,383	7,739
25.2	Other services from non-Federal sources	24,678	25,396	24,875	32,614	7,739
25.3	Other goods and services from Federal sources	245	19,639	19,639	19,639	0
25.4	Operation and maintenance of facilities	0	0	0	0	0
25.5	Research and development contracts	2,005	0	0	0	0
25.6	Medical care	0	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0	0
26	Supplies and materials	81	359	359	359	0
31	Equipment	673	673	673	673	0
32	Lands and structures	0	0	0	0	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	3,045	519	519	519	0
42	Insurance claims and indemnities	0	0	0	0	0
43	Interest and dividends	3	0	0	0	0
44	Refunds	0	0	0	0	0
99	Total obligations	67,942	105,433	105,433	120,911	15,478

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		2024 Base		2024 Estimate		Increase from 2024 Base	
		<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>
Systems/Services	Pos./BA	42	68,500	42	74,500	0	6,000
Architecture & Engineering	FTE/OBL	34	68,500	34	74,500	0	6,000

Commercial Data Purchase (+\$6,000, 0 FTE/ 0 Positions) – NOAA requests a planned increase to expand the purchase of commercial data, including GNSS RO, for operational use. It will also support continued development and sustainment of the infrastructure and capability to securely import, evaluate, transfer, process, disseminate, and store external data from commercial providers for operational use.

In FY 2023, NOAA plans to award its second multi-year contract to purchase commercially available GNSS RO data for use in NOAA’s operational weather forecasts. The amount of GNSS RO data purchased in outyears will depend on the appropriated budget as well as vendor prices, quality and availability of data from commercial providers. Furthermore, space weather or other potential value-added sources on the cusp of viable data will be evaluated through continuing commercial data pilots to determine projected impact and value to NOAA’s mission. NOAA plans to conduct additional commercial data pilot projects in FY 2024, and will diversify operational investments in commercial data following a successful pilot phase.

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Schedule and Milestones:

FY 2024

- Issue an RFI to pulse the commercial sector for emerging data types
- If RFI evaluation results are positive, issue a Request for Proposal (RFP) for to-be-determined data stream to pilot
- Execute GNSS RO IDIQ (2023-2028) contract Delivery Order(s) for continued operational data purchases
- If the 2023 Space Weather pilot (ionospheric measurements) is deemed ready for operational use, execute new commercial contracts to acquire ionospheric data operationally
- Review existing commercial data streams and balance NOAA's commercial portfolio based on projected impact and value to NOAA's mission to frame future plans

FY 2025 – FY 2028

- Issue annual RFIs to pulse the commercial sector on whether new data types are emerging
- If RFI evaluation results are favorable, issue an RFP(s) for potential data stream to pilot
- Execute GNSS RO IDIQ contract Delivery Order(s) for continued operational data purchases
- Issue solicitation for follow-on data purchase contracts and award contracts as appropriate
- Continually review existing commercial data streams and balance NOAA's commercial portfolio based on projected impact and value to NOAA's mission to frame future plans

Deliverables:

- Commercial GNSS RO data processed and delivered to NWS and other international NWP Centers for use in operational NWP models
- Pending successful space weather pilot and subsequent contract award, commercial GNSS-RO data processed and delivered to SWPC for use in space weather models
- Pending successful piloting efforts and subsequent contract award, provide new (emergent) commercial data types (e.g., space weather) to the NWS for use in operational NWP models
- Continue to document results of GNSS RO and other new data streams (TBD) impact analysis and evaluation studies
- Execute operational commercial service contracts with commercial providers, pending pilot results

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Performance Measures	2024	2025	2026	2027	2028
Percent increase in the number of operational RO counts procured per fiscal year					
With Increase	35%	25%	20%	20%	20%
Without Increase	0%	0%	0%	0%	0%
Outyear Costs:					
Direct Obligations	6,000	6,000	6,000	6,000	6,000
Capitalized	0	0	0	0	0
Uncapitalized	6,000	6,000	6,000	6,000	6,000
Budget Authority	6,000	6,000	6,000	6,000	6,000
Outlays	2,520	2,520	2,520	2,520	2,520
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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Outyear Funding Estimates*

SAE	2023 & Prior**	2024	2025	2026	2027	2028	CTC	Total
Change from 2024 Base	N/A	6,000	6,000	6,000	6,000	6,000	N/A	N/A
Total Commercial Data Purchase	42,000	25,000	25,000	25,000	25,000	25,000	N/A	N/A
Total Other SAE Programs	167,490	49,500	29,500	29,500	29,500	29,500	N/A	N/A
Total SAE Request	209,490	74,500	54,500	54,500	54,500	54,500	N/A	N/A

* Outyears are estimates. Future requests will be determined through the annual budget process. Therefore, the PAC profile will be updated on an annual basis.

** SAE was established in FY 2020; 2023 & Prior column does not reflect any funding prior to FY 2020.

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Systems Acquisition
Subactivity: Systems/Services Architecture & Engineering

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1 Full-time permanent compensation	5,312	5,535	5,826	5,826	0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	97	100	100	100	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	5,409	5,635	5,926	5,926	0
12 Civilian personnel benefits	1,833	1,700	1,900	1,900	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	30	90	90	90	0
22 Transportation of things	0	0	0	0	0
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	520	530	530	530	0
23.2 Rental Payments to others	0	0	0	0	0
23.3 Communications, utilities and misc charges	25	25	25	25	0
24 Printing and reproduction	6	6	6	6	0
25.1 Advisory and assistance services	47,280	53,168	52,678	58,678	6,000
25.2 Other services from non-Federal sources	3,505	3,575	3,575	3,575	0
25.3 Other goods and services from Federal sources	5,400	2,500	2,500	2,500	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	1,555	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	18	25	25	25	0
31 Equipment	6	0	0	0	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	2,142	1,245	1,245	1,245	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	1	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total obligations	67,730	68,500	68,500	74,500	6,000

**Department of Commerce
National Oceanic and Atmospheric Administration
Mission Support
Budget Estimates, Fiscal Year 2024**

Executive Summary

For FY 2024, NOAA requests a total of \$605,565,000 and 823 FTE/ 863 positions for Mission Support, including an increase of \$72,068,000 and 0 FTE/ 0 positions in program changes.

In FY 2024, Mission Support will continue to provide the services that are essential to the safe and successful execution of NOAA's Mission.

The Mission Support budget is organized into seven activities within the Operations, Research, and Facilities (ORF) account.

- Executive Leadership provides centralized executive management as well as policy formulation and direction.
- Mission Services and Management includes such activities as financial reporting, budgeting, information technology, acquisition and grants, human resource services, and facilities management.
- IT Security leads priority cyber security initiatives.
- Payment to the DOC Working Capital Fund provides centralized services to NOAA's Line Offices and Staff Offices.
- Facilities Maintenance supports a centralized approach to addressing facilities maintenance and repair projects across NOAA.
- The Office of Space Commerce plays a key role in coordinating with the Executive Branch's activities surrounding the National Space Policy and the U.S. Space Priorities Framework.
- Office of Education provides expert support of education activities to NOAA Line, Program, and Staff Offices while promoting NOAA services and products and their benefits to the public.

The Mission Support budget is organized under one activity within the Procurement, Acquisition, and Construction (PAC) account: NOAA Construction provides for restoration of capital assets including alteration or modification of properties.

Significant Adjustments:

Inflationary Adjustments

NOAA's FY 2024 Base includes a net increase of \$25,037,000 and 0 FTE/ 0 positions to account for the full funding requirement for certain inflationary adjustments to current programs for Mission Support activities. This includes inflationary increases for labor and non-labor activities including benefits and rent charges from the General Services Administration.

**Department of Commerce
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Mission Support
Budget Estimates, Fiscal Year 2024**

Department of Commerce Enterprise Services Initiative:

Department of Commerce's Enterprise Services Office (DOC ESO) provides transactional and corporate-wide services in the Human Resources (HR), Acquisition Services, Financial Management, and Information Technology functional areas. HR was the first functional area to transition to the Enterprise Services model and NOAA was the first DOC ESO customer for these services starting in late FY 2016. Since then, NOAA has received and been charged for an increasing number of HR transactional and processing services to include Personnel Action Requests, payroll, employee separations and limited processing of, and compensation and benefits. NOAA/Office of Human Capital Services still provides all NOAA personnel with retirements and benefits counseling and processing services. In mid FY 2022, NOAA joined other government agencies in subscribing to OPM's existing USAStaffing application and service and continued its participation in FY 2023 to conduct full scale hiring. In FY 2024, NOAA will continue to expand its talent acquisition services using USAStaffing to include expanded recruiting, hiring and retention projects while relying on the Department to provide HR transactional services.

Department of Commerce
National Oceanic and Atmospheric Administration
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

		2022 Actual		2023 Enacted		2024 Base		2024 Estimate		Increase/Decrease From 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
MISSION SUPPORT (MS)											
Executive Leadership	Pos/BA	123	28,110	124	31,743	124	33,269	124	33,269	0	0
	FTE/OBL	93	29,073	124	31,743	124	33,269	124	33,269	0	0
Mission Services and Management	Pos/BA	638	166,501	663	182,375	663	181,887	663	185,255	0	3,368
	FTE/OBL	553	172,553	630	182,375	630	181,887	630	185,255	0	3,368
IT Security	Pos/BA	20	15,325	22	16,393	22	16,700	22	16,700	0	0
	FTE/OBL	16	14,722	22	16,393	22	16,700	22	16,700	0	0
Payment to the DOC Working Capital Fund	Pos/BA	0	64,784	0	71,299	0	94,457	0	94,457	0	0
	FTE/OBL	0	68,082	0	71,299	0	94,457	0	94,457	0	0
Facilities Maintenance	Pos/BA	0	6,244	0	6,500	0	6,500	0	6,500	0	0
	FTE/OBL	0	1,692	0	6,500	0	6,500	0	6,500	0	0
Office of Space Commerce	Pos/BA	20	15,928	36	70,000	36	70,299	36	87,999	0	17,700
	FTE/OBL	11	15,453	29	70,000	29	70,299	29	87,999	0	17,700
Office of Education	Pos/BA	16	33,617	16	35,450	16	35,685	16	35,685	0	0
	FTE/OBL	16	33,234	16	35,450	16	35,685	16	35,685	0	0
Hollings Scholarship	Pos/BA	0	7,012	0	0	0	0	0	0	0	0
	FTE/OBL	6	3,274	0	0	0	0	0	0	0	0
NOAA Community Project/ NOAA Special Projects	Pos/BA	0	4,022	0	4,700	0	4,700	0	0	0	(4,700)
	FTE/OBL	0	3,241	0	4,700	0	4,700	0	0	0	(4,700)

**Department of Commerce
National Oceanic and Atmospheric Administration
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)**

TOTAL MISSION SUPPORT – ORF	Pos/BA	817	341,543	861	418,460	861	443,497	861	459,865	0	16,368
	FTE/OBL	695	341,324	821	418,460	821	443,497	821	459,865	0	16,368
Construction	Pos/BA	3	57,740	2	90,000	2	90,000	2	145,700	0	55,700
	FTE/OBL	1	10,361	2	90,000	2	90,000	2	145,700	0	55,700
TOTAL MISSION SUPPORT – PAC	Pos/BA	3	57,740	2	90,000	2	90,000	2	145,700	0	55,700
	FTE/OBL	1	10,361	2	90,000	2	90,000	2	145,700	0	55,700
Spectrum Relocation Fund – ORF	Pos/BA	0	0	0	40,900	0	0	0	0	0	0
	FTE/OBL	0	15,745	0	18,538	0	18,336	0	18,336	0	0
Spectrum Relocation Fund-PAC	Pos/BA	0	0	0	6,100	0	0	0	0	0	0
	FTE/OBL	0	17,923	0	18,160	0	6,571	0	6,571	0	0
Spectrum Pipeline - ORF	Pos/BA	0	0	0	0	0	0	0	0	0	0
	FTE/OBL	0	0	0	2,063	0	0	0	0	0	0
TOTAL MISSION SUPPORT	Pos/BA	820	399,283	863	555,460	863	533,497	863	605,565	0	72,068
	FTE/OBL	697	385,353	823	547,221	823	558,404	823	630,472	0	72,068

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM DECREASE FOR 2024**
(Dollar amounts in thousands)

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
NOAA Community Project Funding/	Pos./BA	0	4,700	0	0	0	(4,700)
NOAA Special Projects	FTE/OBL	0	4,700	0	0	0	(4,700)

Terminate NOAA Community Project Funding/NOAA Special Projects (-\$4,700, 0 FTE/0 Positions) - This program change removes funding for one-time congressionally directed projects provided in the FY 2023 enacted bill.

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(Dollar amounts in thousands)

Activities: Executive Leadership, Mission Services and Management, IT Security, Payment to the DOC Working Capital Fund, Facilities Maintenance, Office of Space Commerce, and Office of Education,

Goal Statement

The objectives of these Mission Support activities are to: 1) develop policies regarding the administration of NOAA programs with Federal agencies, the Congress, and private industry; and 2) develop and implement policy, planning, and program oversight.

Base Program

NOAA's Mission Support services are the backbone of NOAA's programs and mission. These services provide the planning, administrative, financial, procurement, information technology, human resources, and infrastructure services that are essential to the safe and successful execution of NOAA's mission.

Statement of Operating Objectives

Schedule and Deliverables:

AGO

- Continue efforts to decrease backlog of required contract closeouts
- Continue to execute Bipartisan Infrastructure Law and Inflation Reduction Act grants and contracts
- Strengthen alignment of acquisition resources to NOAA program requirements
- Increase AGO/Program Office engagement early in the acquisition/grants lifecycle

OCAO

- Continue implementation of the Silver Spring Metro Center Consolidation Project to reduce NOAA's leased portfolio costs in the National Capital Region

Department of Commerce
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(Dollar amounts in thousands)

- Continue implementation of the NOAA Asset Management Program to support data driven decision making and reporting
- Increase focus on timely resolution of leases, and initiate property disposals
- Begin implementing strategic priorities of the Facilities Strategic Plan and portfolio investment priorities in the Facilities Investment Plan
- Address needs of NOAA's highest priority facilities associated with NOAA's growing Deferred Maintenance and Repair backlog
- Continue implementing measures to improve the safety culture that has been established at NOAA over the past four years
- Successfully execute construction and repair projects on time and within budget

OCFO

- Continue to obtain an annual 'unqualified opinion' on the audit of NOAA's consolidated financial statements
- Continue to deliver DOC Strategic Planning and Performance elements ahead of schedule
- Execute at least one major economic reporting product (e.g. Marine Economy Satellite Account)

OCIO

- Incorporate machine learning and automation into Security Operations
- Expand NOAA's enterprise network to achieve economic efficiencies and increased reliability
- Optimize sustainable relationships with industry to continue to provide enhanced, cloud-based access to NOAA's open environmental data
- Support NOAA's transition to and increased utilization of the cloud
- Secure NOAA's access to a radio frequency spectrum that fulfills mission requirements

OHCS

- Modernize a Full Service HR Model for NOAA in concert with the Department's Enterprise Service solutions
- Improve NOAA's ability to attract, hire and retain diverse talent in both scientific and support fields, especially among historically underserved communities
- Modernize the NOAA workforce with flexibilities for work location and schedule to attract and retain personnel with needed skills and experience wherever they may be found
- Expand programs, such as the Total Worker Health Program, to achieve better work-life balance to improve retention rates, especially in critical skill areas
- Mature use of HR IT tools and state-of-the-art records management practices for analysis of HR data to improve delivery of mission critical services
- Expand Training and Development Services across NOAA and improve Commerce Learning Center infrastructure

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(Dollar amounts in thousands)

- Provide consultative services to NOAA management with the Employee and Labor Relations Program, supporting 20 bargaining units
- Provide investigations support for Workforce Violence Response Program (WVPRP) and the Office of Inclusion and Civil Right (OICR)
- Provide operational support services for Executive outreach, recruitment, and continuing education.

OICR

- Process Equal Employment Opportunity (EEO) complaints of discrimination
- Sustain and maintain a Model EEO program (EEO Commission mandate)
- Conduct targeted outreach (underrepresented populations)
- Conduct organizational climate assessments
- Foster an inclusive culture within the agency
- Manage the Agency's Diversity and Inclusion Implementation Plan
- Educate the workforce (EEO & Diversity and Inclusion training; Special Emphasis Programs)
- Manage Special Emphasis Programs and Employee Resource Groups

WVPRP

- Maintain victim advocacy and consultation services to ensure coverage across NOAA's geographical footprint
- Maintain the Rape, Abuse & Incest National Network (RAINN) contract for continued crisis response and victim advocacy services through a NOAA dedicated sexual assault and sexual harassment (SASH) hotline/helpline and website
- Develop and maintain an integrated SASH database to safeguard sensitive information and conduct trend analysis
- Develop toolkits for employees and management, as well as outreach materials
- Continue to support and participate in the National Academies of Science, Engineering, and Medicine Action Collaborative on Preventing Sexual Harassment in Higher Education
- Develop mandatory annual SASH training and supplemental training to address other forms of sexual misconduct, stalking, domestic violence, and psychological safety
- Solicit feedback from the workforce and develop courses of action for preventive and responsive measures to address SASH
- Conduct NOAA's Annual Sexual Assault Awareness and Prevention Month and National Domestic Violence Month campaigns

OSC

- Continue to support space situational awareness and space traffic management (SSA/STM) through assessments, advanced analytics developments, and end-to-end functional demonstrations

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(Dollar amounts in thousands)

- Further develop capabilities of the SSA Traffic Coordination System for Space (TraCSS), formerly the Open Architecture Data Repository, as a reference design for transition to operations
- Achieve TraCSS Initial Operational Capability (IOC)
- Advance U.S. leadership in the global commercial space industry through interagency policy coordination
- Execute industry outreach events, including Track 1.5 events, multiple CEO Roundtables with Deputy Secretary, and senior DOC participation at domestic and international events
- Conduct requirements definition and demonstration of capabilities to support the commercial industry mechanism to ensure space weather forecasting continuity
- Establish DoD and Space Surveillance Network (SSN) information flow to DOC
- Ingest space weather data into TraCSS proving ground to improve SSA product accuracy
- Establish, in coordination with U.S. Government and industry partners, standards for the verification and validation of SSA information
- Engage international partners to reach international consensus on Rules of the Road for future space operations

OED

- Advance education both within NOAA and with the public we serve
- Educate and train students in NOAA-related fields through the José E. Serrano Educational Partnership Program with Minority Serving Institutions (MSIs) and the Hollings Scholarship Program
- Support meaningful watershed education through the Bay Watershed Education and Training Program
- Support formal and informal education projects that build community resilience through the Environmental Literacy Program
- Coordinate educational activities across NOAA and with external partners to ensure that these efforts are effective and continually improve

Department of Commerce
National Oceanic and Atmospheric Administration
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JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Comparison by subactivity		2022 Actual		2023 Enacted		2024 Base Program	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Executive Leadership	Pos/BA	123	28,110	126	31,743	126	33,269
	FTE/OBL	93	29,073	126	31,743	126	33,269
Mission Services and Management	Pos/BA	638	166,501	652	182,375	652	181,887
	FTE/OBL	553	172,553	628	182,375	628	181,887
IT Security	Pos/BA	20	15,325	22	16,393	22	16,700
	FTE/OBL	16	14,722	22	16,393	22	16,700
DOC Working Capital Fund	Pos/BA	0	64,784	0	71,299	0	94,457
	FTE/OBL	0	68,082	0	71,299	0	94,457
Facilities Maintenance	Pos/BA	0	6,244	0	6,500	0	6,500
	FTE/OBL	0	1,692	0	6,500	0	6,500
Office of Space Commerce	Pos/BA	20	15,928	36	70,000	36	70,299
	FTE/OBL	11	15,453	29	70,000	29	70,299
Education	Pos/BA	16	33,617	16	35,450	16	35,685
	FTE/OBL	16	33,234	16	35,450	16	35,685
Hollings Scholarship	Pos/BA	0	7012	0	0	0	0
	FTE/OBL	6	3274	0	0	0	0
NOAA Community Project Funding/ NOAA Special Projects	Pos/BA	0	4,022	0	4700	0	4700
	FTE/OBL	0	3,241	0	4700	0	4700
Total Mission Support	Pos/BA	817	341,543	852	418,460	852	443,497
	FTE/OBL	695	341,324	821	418,460	821	443,497

Department of Commerce
National Oceanic and Atmospheric Administration
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Executive Leadership

Executive Leadership supports the leadership and management of NOAA, and represents NOAA at the executive level with other Federal agencies, Congress, NOAA stakeholders, and private industry.

The Offices of the Under Secretary/Assistant Secretary and Deputy Under Secretary (USAO): These offices support NOAA's leadership. Program activities consist of formulating and executing policies for achieving NOAA objectives, responding to Executive Branch policy decisions, and exercising delegated authority in committing NOAA to courses of action. USAO also includes the following offices:

Office of Legislative and Intergovernmental Affairs (OLIA): This office serves as the primary liaison for NOAA with the members and staff of Congress. The office is responsible for the planning, direction, and coordination of legislative programs that are of immediate concern to the Office of the Under Secretary.

Office of Communications and External Affairs: This office is the principal point of contact for NOAA programs with the public and the news media. Its staff advises NOAA and other Departmental officials on all aspects of media relations and communication issues.

Office of International Affairs (OIA): This office coordinates NOAA and other leadership officials' relationships with international programs, as directed by the Office of the Under Secretary. The Director of the Office of International Affairs exercises a leadership role in establishing policies, guidelines, and procedures for NOAA's international programs.

Interagency Meteorological Coordination Office (IMCO): This office ensures Federal coordination functions for the Department pursuant to the Weather Research and Forecasting Innovation Act (Public Law No. 115-25, Title IV, sec. 402). The IMCO serves as the administrative headquarters of the Interagency Council on Advancing Meteorological Services, an Executive Branch office chartered under the authority of the Director of Science and Technology Policy. This office is funded through an assessment of funds from NWS, OAR, and NESDIS.

Office of General Counsel (OGC): OGC provides legal advice, review, and representation on a host of complex matters arising from the fulfillment of NOAA's mission. NOAA OGC ensures NOAA management decisions are made with necessary consideration of proper legal requirements, procedures, and options.

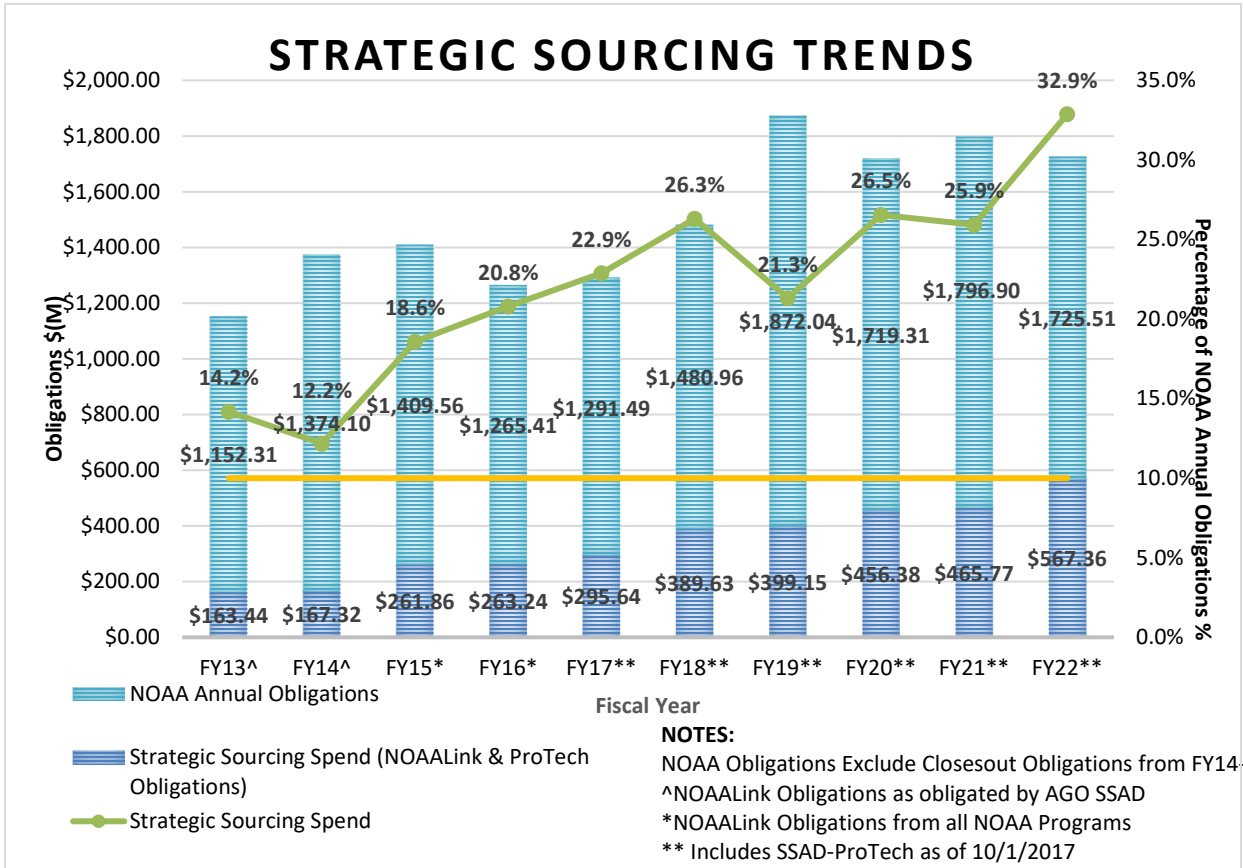
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(Dollar amounts in thousands)**

Mission Services and Management

Mission Services and Management is the mission-enabling arm of NOAA that supports all operational activities and is essential to its success.

Acquisition and Grants Office

(AGO): AGO provides high-value services to NOAA Line and Staff Offices, compliant with laws and regulations, on time, and at the best value to the government through the planning, solicitation, award, administration, and closeout of nearly 24,000 acquisition and financial assistance transactions annually. NOAA’s ability to accomplish its mission and achieve its goals depends significantly on AGO’s ability to process over \$4 billion annually in accordance with statutory and regulatory requirements. In FY 2022 for example, AGO obligated over \$1.7 billion and managed over 5,000 active contracts valued at over \$12 billion. AGO executed over 2,500 financial assistance transactions to award \$2.8 billion. NOAA also successfully executed over 11,000 acquisition and over 800 financial assistance closeout actions in FY 2022.

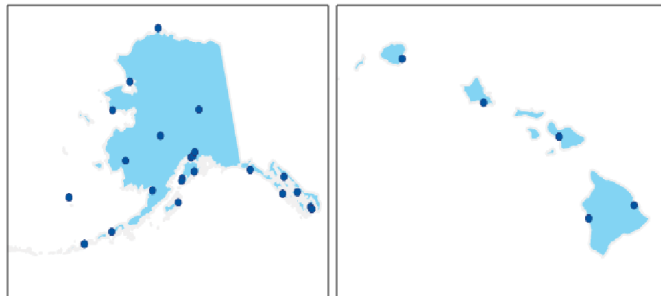
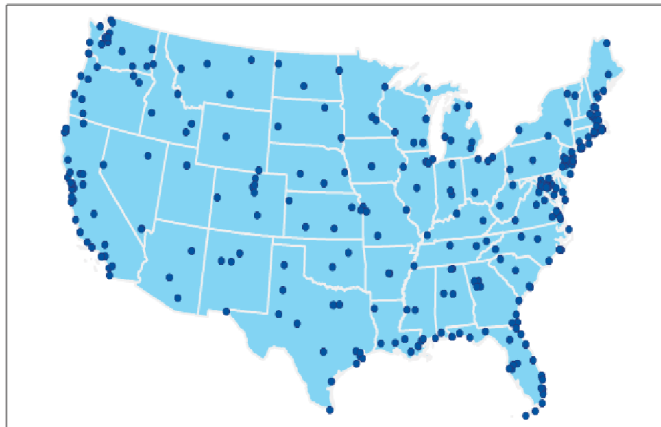


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In addition, NOAA continued its strong support of small businesses in FY 2022, obligating \$968 million to small businesses equating to a 53 percent overall small business achievement for the year. AGO also continued to place emphasis on NOAA’s two key strategic sourcing initiatives, NOAALink program and ProTech Acquisition Initiative, to improve efficiency and reduce costs. In FY 2022, 32.9 percent of NOAA dollars were awarded via strategic sourcing vehicles.

Office of the Chief Administrative Officer (OCAO): NOAA’s national scope and mission requires a diverse portfolio of geographically distributed facilities. OCAO supports NOAA-wide mission accomplishment by oversight, technical expertise and support services for the stewardship of NOAA’s assets, facilities, and infrastructure. NOAA’s real property portfolio has more than 620 facilities, including 4,675

acres of land across 160 real estate markets, including over 400 NOAA-owned facilities with an estimated replacement value of \$3 billion. OCAO administers a personal property portfolio of approximately 141,000 personal property assets valued at over \$17 billion. OCAO manages NOAA’s Safety and Occupational Health program, coordinates security and anti-terrorism risk protection, and ensures best business practices around records and financial controls.



Current NOAA Footprint

In recent years, NOAA launched its 2030 Footprint initiative to develop and implement best practices and tools for facilities sustainment. The initiative consists of three major projects: 1) developing and implementing a Strategic Facilities Plan for 2030, 2) consolidating four locations around the National Capital Region into NOAA Headquarters in Silver Spring, MD, and 3) implementing asset management tools to track the condition of NOAA’s facilities. In 2023, OCAO initiated the final phase of the National Capital Region consolidation project in order to reduce NOAA’s footprint and to provide more efficient operations.

In 2022, NOAA successfully completed all regional footprint studies to support the development of a Facilities Strategic Plan in 2022. Asset management tools were implemented and NOAA validated 80 percent of its gross square footage in 2022 enabling the projection of actionable maintenance requirements for FY 2023 and beyond. This facility analysis effort is projected to be 100 percent complete in FY 2023 in order to accommodate even more accurate and detailed projections of NOAA’s facility maintenance and recapitalization needs.

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(Dollar amounts in thousands)

In FY 2022 NOAA completed a comprehensive review of its portfolio requirements including:

1. An assessment of active capital projects and related requirements to complete;
2. The identification of strategic investment priorities to include investments in critical mission facilities in the Northwest, Northeast and Southeast regions;
3. Leasehold requirements for new leases coming due in FY 2024 that have an anticipated requirement for tenant improvements and move costs;
4. An annual review of investment priorities for Deferred Maintenance & Repair projects; and
5. Identified recurring property disposal requirements for the disposition of owned properties no longer required.

These products were incorporated into a comprehensive five-year Facilities Investment Plan. The results of this plan were prioritized and used to inform the requirements for the FY 2024 Federal Budgeting process.

In 2023, OCAO initiated the final phase of the National Capital Region consolidation project in order to reduce NOAA's footprint and to provide more efficient operations.

Office of the Chief Financial Officer (OCFO): OCFO serves as NOAA's principal financial manager. NOAA has annual appropriated resources of almost \$10.6 billion and recorded net capital asset value of \$13.4 billion in FY 2021. OCFO is responsible under the CFO Act to provide the leadership necessary for NOAA to obtain an annual 'unqualified opinion' on the audit of its consolidated financial statements. The areas under the direction of the OCFO are the Budget Office, the Finance Office, Performance, Risk and Social Science Office (PRSSO), Program Integration Office, the DOC Working Capital Fund (WCF), Common Services and the NOAA Direct Bill. The Budget Office provides oversight, management, outreach and communication of the budget process, which includes coordinating the preparation of budget submissions, and allocating and controlling the execution of all budgetary resources. The Finance Office ensures that the consolidated financial statements and reports are accurate, manages and operates the financial management system, and is responsible for the timely payment of bills. The PRSS Office leads and deploys best practices from strategic planning, social science integration, enterprise performance and risk management, and evidence building to advance NOAA's mission. The Program Integration Office plans and manages the design, development, implementation, and transition of key cross-cutting Departmental and NOAA enterprise systems, including the BAS implementation project.

DOC Accounting System (CBS application): The CBS application is scheduled to be replaced with DOCs Business Applications Solution applications of Oracle EBS and an Enterprise Data Warehouse (EDW). Assuming the target go-live date of October 1, 2023 is met, CBS and the NOAA data warehouse will begin sunsetting activities for non-production environments in FY 2024.

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JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

The production CBS and Data Warehouse environments will be maintained for most, if not all, of fiscal year 2024 to accommodate tasks such as FY 2023 year end close activities, the FY 2023 financial and IT audits, support of crosswalk activities for Economic Development Administration (EDA) grant transactions, and to ensure access to legacy data until the BAS enterprise DW is fully vetted and validated. This requires that the application environment(s) continue to be operated, maintained, and patched. Although NOAA will no longer own or operate its own financial systems after sunseting CBS, NOAA's financial systems support will continue to provide expertise in BAS reports development, production support activities, subject matter expertise, internal and DOC change control board (CCB) representation, and data analytics leadership. Additionally, help desk, training services, and tier 2 support will remain in place in support of these activities as well as for full ongoing support of NOAA's E2 travel system user community.

Common Services (CS) account: The Common Services account supports the NOAA CFO in providing resources for NOAA-wide activities and services provided through the DOC and other agencies through Memoranda of Understanding (MOU) and/or Interagency Agreements (IA). CS funds the Departmental Management Advances and Reimbursements (A&R) accounts providing a centralized funding source for special services and tasks provided by the DOC; off-site health services at the Census Bureau Health Unit; OPM USAJobs portal usage and maintenance; and other miscellaneous services and products.

NOAA Direct Bill Process: The NOAA Direct Bill process enables NOAA Line and Staff Office service providers to assess other Line and Staff Offices for their proportionate share of the costs of enterprise-wide programs or services. Direct Bill proposals are only for unique services/products that provide an enterprise-wide benefit or that consolidate funding for enterprise solutions.

Office of the Chief Information Officer (OCIO): NOAA OCIO's operating model focuses on service delivery, customer experience, innovation, and security with a mission to provide a secure and agile information enterprise with advanced computing capability that propels NOAA's scientific and operational missions. The cornerstone of the operating model is delivering shared enterprise information services through technology advancements including cloud computing, mobile devices, and access to NOAA open data. The OCIO, through the NOAA Chief Data Officer (CDO), serves as the NOAA lead for execution of the NOAA Data Strategy and Action Plan, NOAA Data Management Handbook, open government data services, as well as compliance with a wide range of Federal policies including the Evidence Act, Freedom of Information Act (FOIA), Paperwork Reduction Act (PRA), Information Quality Act (IQA), and Privacy Act. The CDO leads NOAA's geospatial and GIS services through the NOAA Geospatial Information Officer (GIO), including oversight of enterprise software licensing agreements, GIS tools and service delivery, and compliance with applicable Federal policies (e.g. Geospatial Data Act of 2018). The NOAA Open Data Dissemination (NODD) Program provides public access, at no cost to the user, to NOAA's open data on commercial cloud platforms through public-private partnerships. These partnerships remove obstacles to the public use of NOAA data, help avoid costs and risks associated with Federal data access services, and leverage operational public-private partnerships with the cloud computing and information services industries.

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OCIO provides the enterprise IT infrastructure that connects and manages networks, telecommunications, systems, and people to enable NOAA to provide data observation, ingestion, assimilation and modeling, processing, dissemination, and archiving capabilities at greater scales. N-Wave delivers stable, secure, high-speed network services to enable the vast missions of its stakeholder community within the Federal government. Our national network infrastructure extends across the contiguous U.S., Alaska and Hawaii, reaching remote field sites, major campuses, data centers, and supercomputing facilities. Combined with our scalable cloud solutions, robust catalog of enterprise managed services and advanced network operations, N-Wave supports all stakeholder missions with integrity, transparency and flexibility, and employs a unique partnership approach to provide the best customer experience. In FY 2022, N-Wave leveraged many partnerships to offer high quality, highly scalable networking solutions and services to Federal agency and scientific, research, and education partners across the country. Partnering with Front Range Gigapop (FRGP) and the Western Regional Network (WRN) led to opportunities for N-Wave's growth and expansion across the state of California. Through extensive design, engineering, partnership coordination, and deployment, N-Wave established a new high-speed network core in Alaska, initially connecting six NOAA sites, upgrading the Gilmore Creek Satellite Ground Station LAN, and setting the foundation for multi-agency and Department of Defense (DoD) use to include the Defense Meteorological Satellite Program and the civil augmentation, U.S. Space Force program. OCIO has established five NOAA Information Resources Management strategic goals: (1) promote our people who make the mission possible; (2) propel the mission; (3) protect the mission; (4) deliver customer-centric service excellence; and (5) optimize for maximum NOAA value. OCIO improves customer experience and productivity by increasing collaboration tool utilization, and focused resources on modernizing and streamlining IT systems to protect against cyber-attack, equipment malfunctions, or natural disasters. The Research and Development (R&D) High Performance Computing (HPC) program provides research that contributes directly to operating high performance computers and data systems for NOAA to deliver improved weather models. These models are used to understand and predict weather, and to produce decision-support tools that facilitate understanding weather, mitigation strategies, and adaptation options for the Nation. The goal of the program is to develop, test, and apply state-of-the-science computer-based simulation models, based upon a strong scientific foundation while leveraging leading edge HPC and information technologies. The objective is to increase the skill, resolution, complexity, and throughput of computer model-based projections.

Office of Human Capital Services (OHCS): OHCS provides human capital programs, consultative services, policies and processes that facilitate the acquisition, development and retention of a diverse, highly skilled, motivated, and effective workforce capable of accomplishing the Agency's mission. OHCS provides a wide range of human capital functions including strategic human capital planning, labor-management and employee relations, strategic recruitment and hiring, program evaluation, customer experience, quality assurance, HR policy, performance management and incentives, executive and employee support, leadership and career development, HR data analytics and forecasting, as well as HR information technology systems.

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In FY 2022, OHCS updated the NOAA Strategic Human Capital Management Plan, engaged vendors, e.g. YRCi, partners, and stakeholders to provide improved workforce planning support, adopted new technologies to improve recruiting and hiring, and led a significant inter-office review of workforce HR policies and practices to reintegrate the workforce in the latter stages of the COVID-19 Pandemic and into FY 2023.

In FY 2023, OHCS continues to identify ways to reduce average time-to-hire, placing significant emphasis on targeted recruitment efforts, by building talent pipelines, collaborating and maintaining partnerships with colleges and universities, utilizing student programs (i.e.- Recent Graduates, Presidential Management Fellows, Direct Hiring Authority, etc.), and promoting recruitment of veterans and individuals with disabilities. OHCS, the Office of Education, and Office of Inclusion and Civil Rights jointly sponsor special emphasis projects to attract STEM and other critical skill candidates to join the NOAA workforce. OHCS will continue to expand its dynamic LANTERN (Leveraging Abilities, Needs, Talents Energies & Resources Network) program where Line and Staff Offices provide detail opportunities to NOAA personnel that support distinct organizational needs while promoting individual professional growth and experience. OHCS will conduct a comprehensive program assessment of its Leadership Competencies Development Program (LCDP) while launching new cohorts of its Mid-Career Development and Foundational Leadership Development (FLDP) Programs. OHCS will continue to promote, manage, and expand the President's Management Council's Interagency Rotation Program to match NOAA's high-potential GS 13-15s (or equivalent) with six-month full-time interagency rotational assignments that enable emerging Federal leaders to expand their management skills, broaden their organizational experience, and foster networks they can leverage in the future. OHCS will continue to identify opportunities for NOAA senior executives to enhance their continuing education through a program first initiated in FY 2022 in concert with a nationally known university to provide tailored programs of instruction.

In FY 2024, OHCS will expand its use of the Consulting and Customer Engagement operating model to guide HR personnel in developing and fostering effective and impactful customer interactions. OHCS leverages these operating models to achieve customer-centric approaches and solutions to create products and services tailored to our customer's needs. These techniques provide improved transparency of human capital actions and greater consistency of services while capitalizing on economies of scale and efficiency, improving the quality of services provided. In addition, OHCS will continue to develop and field modern performance management systems and mature specific centers of expertise to advance strategic and practical developments in workforce planning, succession management, performance culture, employee learning, customer experience, as well as human resource analytics and forecasting.

In FY 2024, NOAA will mature each of these program areas which are critical to supporting NOAA's efforts to hire an increasingly diverse and highly educated workforce, enhance equity among all personnel, and improve overall employee satisfaction. OHCS will continue to expand its NOAA-wide supervisory training, leadership development and mentoring programs and will continue to enhance agency capabilities around change management and change leadership efforts. OHCS will continue to improve its ability to provide tailored HR

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consultative services to support NOAA's organizational excellence while continuing to adapt to new hybrid working environments and situations.

Office of Inclusion and Civil Rights (OICR): OICR is responsible for ensuring NOAA-wide compliance with EEO and Civil Rights laws, regulations, executive orders, and policies that prohibit discrimination on the basis of race, color, religion, sex, national origin, age, disability, sexual orientation, and genetic information. OICR manages the agency's EEO complaint program for a workforce of almost 12,000. Compliance rates for processing informal cases within prescribed timelines remain consistent with EEO Commission statutory requirements. During FY 2022, OICR experienced a four percent decrease in the processing of EEO pre-complaints than FY 2021 and a timely rate of 85 percent, a decrease of five percent from the previous year. The efforts of a dedicated OICR staff resulted in 42 percent (a 16 percent increase from 2021) of NOAA's pre-complaints not entering into the formal EEO complaint process. In addition, OICR maintained an over 50 percent rate for EEO/Alternative Dispute Resolution participation, exceeding the EEOC-MD-715 Federal goal. Each EEO case negatively impacts the mission fiscally and in terms of mission performance. In FY 2023, OICR continues to seek innovative methods to enhance efficiency in all EEO program functions.

OICR also manages the agency's Diversity and Inclusion (DEIA) program and oversees affirmative employment initiatives. OICR's mission is to ensure that DEIA is a business priority that becomes ingrained into NOAA's organizational culture enhancing it's standing as an Employer of Choice. OICR identifies and deploys DEAI best practices to promote DEIA agency-wide. In addition, NOAA was selected as one of the Top 20 supporters of Historically Black Colleges and Universities for the past 4 consecutive years. To ensure the agency's workforce is knowledgeable about practices which promote inclusion and strategies to overcome barriers to diversity, OICR provide EEO and DEIA training at all levels. OICR staff provide advice and counsel to employees and agency leaders regarding conducting outreach activities to underrepresented populations, organizational climate, and strategies to attract, hire, develop, and retain a highly skilled and diverse workforce.

To promote DEIA and cultural awareness, OICR annually offers ten Special Emphasis Programs which focus special attention on certain groups that are not represented or have less than expected participation rates in specific occupational categories or grade levels within the agency's workforce. OICR staff serve as Special Emphasis Program Managers who provide oversight and guidance for 11 Employee Resource Groups which serve a valuable resource for employees and NOAA leaders. In FY 2022, OICR hosted ten Special Emphasis Observance Programs. From an outreach perspective, OICR ensures NOAA's presence at affinity group conferences to attract underrepresented populations within the civilian labor force and further promote NOAA as an Employer Choice.

OICR conducts annual Organizational Climate Assessments to gather information from the workforce about perceptions of the culture within the agency. The data obtained is analyzed to identify practices that may have a negative impact on organizational effectiveness. The OICR

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Director meets with Line/Staff Office senior leaders on a quarterly basis to discuss and assist with developing courses of action to address EEO/DEIA issues. OICR is committed to expanding its DEIA portfolio to keep the needle moving towards greater diversity, equity, inclusion, and accessibility.

Workplace Violence Prevention and Response Program (WVPRP): The WVPRP supports the NOAA Deputy Under Secretary of Operations. The WVPRP will develop comprehensive, trauma-informed support services for all NOAA employees, contractors, and affiliates who experience SASH. This dictates that there be full-time Regional Coordinators for the agency who screen, train and develop Federal volunteer victim advocates across NOAA by region, and will facilitate responding to and assigning advocates to impacted persons seeking support. For example, the successful partnership with Fisheries Office of Law Enforcement (OLE) when the WVPRP's Alaska Regional Coordinator participated in the OLE Alaska Division Pulse Operation for Observer Safety in Unalaska. WVPRP and OLE conducted training for fishing industry partners to include fishing process plant managers and employees, vessel captains, and crew members to increase awareness of SASH risk reduction and prevention efforts in Dutch Harbor, one of NOAA's most vulnerable populations. The program also develops comprehensive, tailored and centralized SASH prevention training for all NOAA employees; tracks reports of workplace violence and coordinates the annual congressional report on SASH at NOAA; provides ongoing consultation to leadership; and coordinates the development of the workplace violence prevention plan, which creates goals to be reviewed biannually. WVPRP efforts have been highlighted as best practice efforts within publications by the National Academies of Science related to relevant STEM institutions. In 2022, WVPRP provided a total of 26 NOAA-wide training session to employees and supervisors. Over 4,300 NOAA employees registered for the training events, yielding a 60 percent rate of attendance. During NOAA's 2022 Sexual Assault Awareness and Prevention Month campaign, the keynote address was delivered by Ms. Anita Hill, Attorney, Author, and Advocate for Women's Rights. The month-long campaign reached approximately 2,000 NOAA personnel. In FY 2024, WVPRP will continue to enhance trend analysis capabilities, assess organization climate, identify and mitigate risks, develop action plans, and monitor progress towards goals in support of NOAA's mission (Science, Service, and Stewardship) and NOAA's Diversity and Inclusion Strategic Plan (FY 2020-2024). The WVPRP staff will continue to market the program and build rapport with the NOAA workforce in remote locations and targeted areas exhibiting a prevalence of SASH incidents.

IT Security

The mission of the IT Security Program is to defend NOAA's data, networks, equipment, intellectual property and personnel against a wide variety of adversaries ranging from nation states to lone-wolf attackers. Successful attacks by adversaries could negatively impact NOAA's ability to keep nearly 330 million Americans, as well as others, safe and informed of weather, environmental, and other events with widespread economic impact. Additionally, with NOAA's reliance on information systems and data connected to the Internet, cyber-espionage is an effective, low-cost, low-risk way to compromise data and information products and services. NOAA's interconnected nature

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presents significant risk to IT infrastructure components and data. OCIO implements NOAA's IT Security Program through a risk-based approach that emphasizes vulnerability management to achieve defense in depth via a common prevention, response, and mitigation strategy to manage mission risk related to cyber security threats.

High-priority risks include insider threat, network segmentation, national/international/non-state adversaries, social engineering attacks, botnets, and malware/ransomware. Major initiatives include improving system segmentation to limit adversaries from traversing from external facing systems to internal resources, full monitoring of all NOAA end points, improving the quality of enterprise IT security services and the implementation of all five phases of the DHS Continuous Diagnostic Monitoring Program.

The IT Security Program continues its efforts to increase the efficiency of base-level functionality, which resulted in significantly increased visibility into defending the NOAA networks and systems. This includes building out our sensors so more NOAA systems are sending information to our centralized network defense systems, better integration of cyber threat intelligence, and better processes and procedures to use this data. The NOAA Cyber Security Center (NCSC) delivers enterprise-wide cybersecurity services to all NOAA systems; these services include Security Operations Center (SOC) operations, Trusted Internet Connection (TIC) operations, endpoint security, audit log archival, incident response, IT security policy, compliance, risk management, oversight and training, continuous monitoring, IT security infrastructure, and IT security project management. In FY 2022, the IT Security Program conducted an NCSC "Go Live" of security orchestration, automation, and response (SOAR) technology, which represents a positive paradigm shift in protecting NOAA's mission. The NCSC provided continuous enterprise monitoring, situational awareness, and cyber security incident response, intelligently protecting and analyzing threats to NOAA and DOC IT operations and assets. The IT Security Program completed Department of Homeland Security (DHS) training required to establish a NOAA High Value Asset (HVA) assessment team.

Payment to the Department of Commerce (DOC) Working Capital Fund (WCF)

The DOC WCF provides centralized services to NOAA's Line and Staff Offices in the most efficient and economical manner. Organizational units within DOC provide the administrative, legal, information technology, financial, and policy support needed to accomplish NOAA's overall mission. The WCF was established pursuant to 5 USC 607 (15 USC 1521). Unlike other DOC bureaus, the NOAA contribution to the WCF is provided by specific allocation within the NOAA appropriation.

Facilities Maintenance

As facilities maintenance requirements have grown, mission funds have been used to address safety and health related facility issues as well as an increasing number of critical maintenance and sustainability issues. With the advent of the Asset Management Program and the

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implementation of the Army Corps of Engineers BUILDER™ software, NOAA is able to accurately project facilities maintenance needs and identify the level of unfunded deferred maintenance and repair (DM&R) backlog requirements. BUILDER™ demonstrates that this portfolio liability exceeds \$1.0 billion. Addressing DM&R backlog requirements is key to reducing the pressure on mission funding. NOAA will continue to review DM&R requirements annually and prioritize them to ensure the most critical issues are corrected first.

Office of Space Commerce

The Office of Space Commerce (OSC) plays a key role in coordinating with the Executive Branch's activities surrounding the National Space Policy and the U.S. Space Priorities Framework. OSC is the principal unit for space commerce policy activities within the Department of Commerce. The OSC is responsible for three major tasks: (1) advocacy for the U.S. Commercial Space Industry, both at home and abroad; (2) regulation of the U.S. Remote Sensing Industry; and (3) establishment of a Space Situational Awareness (SSA) system for global commercial and civil space alert and preparedness. In FY 2024, OSC is planning to achieve operational Traffic Coordination Space System (TraCSS), Initial Operating Capability (IOC). Commercial operators can use space situational awareness products and services to enhance the safety and security of their on-orbit operations.

Commercial Remote Sensing Regulatory Affairs: continues coordination and facilitation of the Advisory Committee on Commercial Remote Sensing (ACCRES), which provides information, advice, and recommendations to the Under Secretary of Commerce for Oceans and Atmosphere on matters relating to the U.S. satellite commercial remote sensing industry and NOAA's activities. It also conducts activities for implementing the regulations on private remote sensing space systems per 15 CFR Part 960. These activities include issuing and modifying licenses to operate remote sensing systems, monitoring regulatory compliance of licensed systems, and monitoring global availability of remote sensing data made available by foreign sources.

Office of Education

The Office of Education guides and underpins education activities to build a more efficient and effective portfolio that is better supports NOAA priorities. Activities build capacity in science, technology, engineering, and mathematics (STEM) and environmental education through use of NOAA assets to reach more people in effective ways. The Office supports NOAA's mission by working with students, educators, and the general public so they understand NOAA's science and can use it to make decisions. The Office fosters a diverse future workforce by providing quality educational opportunities for the next generation, including competitive scholarships, internships, and professional training for post-secondary students.

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The Office of Education provides advice and counsel to the Under Secretary of Commerce for Oceans and Atmosphere in matters pertaining to education, coordinates education activities across NOAA through the NOAA Education Council, and represents the Agency in inter-agency education initiatives. The Office lays out the goals and objectives for NOAA's education programs and supports data-driven program assessments, enabling a learning culture able to evolve and improve education efforts. The Office also works with institutions and networks to build capacity to advance NOAA's mission through formal (K-12) and informal education at national, regional, and community levels. Among the Office's FY 2022 accomplishments:

- Developed the first NOAA Citizen Science Action Plan and community of practice for the agency with projects that engage over 500 thousand volunteers annually, contributing over one million volunteer hours estimated at a value of over \$30 million each year.
- Developed an implementation plan with over 98 strategies that supports the NOAA Education 2021-2040 Strategic Plan by working with programs across the Agency, as required by America COMPETES Act.
- Coordinated 25 aquariums and marine science education institutions through the Coastal Ecosystems Learning Centers network and 186 educational institutions through the Science on a Sphere® network.
- In 2022, NOAA celebrated the Bay Watershed Education and Training (B-WET) program's 20th anniversary. In the 20 years B-WET has been working around the country, it has been a powerful catalyst for environmental literacy.

José E. Serrano Educational Partnership Program with Minority Serving Institutions (EPP/MSI): EPP/MSI provides financial assistance, through competitive processes, to students and MSIs that train students and conduct research in NOAA mission sciences. The program's goal is to increase the number of students, particularly from underrepresented groups, who are trained and earn degrees directly related to NOAA's mission. Long-term goals of the program include increasing the diversity of the STEM and NOAA workforce and fostering American competitiveness in STEM fields. Among EPP/MSI's accomplishments in FY 2022:

- 2,677 postsecondary degrees have been awarded to EPP/MSI supported students in NOAA mission fields since 2001, including 359 PhDs. Over 655 of these students have received Master's degrees. From 2003-2019, EPP/MSI Cooperative Science Center (CSC) Institutions awarded 54 percent of doctoral degrees in atmospheric sciences, 35 percent of doctoral degrees in marine science, and 30 percent of doctoral degrees in environmental sciences earned by African Americans. Additionally, CSCs awarded 39 percent of doctoral degrees in marine science doctoral, 21 percent of doctoral degrees in atmospheric sciences, and 19 percent environmental science doctoral degrees earned by Latinos
- 335 students studying NOAA mission fields are currently in the pipeline
- 3 graduate students attending Cooperative Science Centers were selected for the EPP/MSI Graduate Fellowship program

For more information, please visit the EPP/MSI website: <http://www.noaa.gov/epp>

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Ernest F. Hollings Scholarship Program: The NOAA Hollings Scholarship Program is a competitive program that increases undergraduate training in oceanic and atmospheric sciences, research, technology, and education. The program catalyzes scientific research through work-based learning experiences, improves environmental literacy, and prepares the STEM workforce for the future. It recruits and prepares students for careers with NOAA and other natural resource and science organizations at the Federal, state and local levels of government, in academia and the private sector, as well as in science and environmental education. In 2022, the Hollings Scholarship Program supported 127 new scholars (class of 2022) while continuing to support 125 scholars from the class of 2021.

Based on the FY 2024 Request of \$6.824 billion, NOAA estimates it will have \$6.824 million for the Hollings Scholarship Program. For more information, please visit the Hollings Scholarship website: <http://www.noaa.gov/hollings>

Environmental Literacy Grants: NOAA's Environmental Literacy Grants provide support for STEM and environmental education projects that engage and involve children, youth, and adults in using NOAA-related sciences to improve ecosystem stewardship and increase resilience to extreme weather and climate events. Multi-year grants and cooperative agreements are competitively awarded to formal (K-12) and informal educational institutions within the United States. Since 2015, the program has prioritized funding community resilience education projects that empower people, especially those who have been historically marginalized, to learn about and become involved in creating a healthier, more resilient, and equitable community. Environmental Literacy Grants accomplishments include the following:

- Since the program's inception in 2005, the Environmental Literacy program has supported 154 awards
- In FY 2022, 52 institutions helped people become more aware of how to increase their resilience to hazardous weather, changes in climate, and other environmental threats assessed by NOAA. In FY 2022, over 7,000 youth and adults participated in informal science education programs
- In FY 2022, 2,000 formal and informal educators participated in ongoing professional learning communities designed to empower each educator with the confidence and competence to teach NOAA-related topics as well as use NOAA's assets to educate others
- In FY 2022, over 6,000 K-12 students from at least 245 public, charter, and private schools participated in formal science education programs

For more information, please visit <https://www.noaa.gov/office-education/elp>

Bay-Watershed Education and Training (B-WET): The NOAA B-WET program is an environmental education program that promotes locally relevant, authentic experiential learning focused on K-12 students and educators. B-WET funding is provided through competitive grants that support the Meaningful Watershed Educational Experience (MWEE): a learner-centered framework that focuses on investigations into local environmental issues and leads to informed action. B-WET serves seven regions of the country: California,

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Chesapeake Bay, Great Lakes, Gulf of Mexico, Hawaii, New England, and Pacific Northwest. This regional approach allows the B-WET program to support grantee capacity building and respond to local education and environmental priorities. B-WET accomplishments include the following:

- B-WET grants reached over 49,000 students and 2,800 teachers in 2022 through awards to 145 institutions
- Since the program's inception in 2002, NOAA has supported 929 projects
- The Department of Education has provided NOAA \$2.45 million to support a partnership with the Nita M. Lowey 21st Century Community Learning Centers (21st CCLC). Since 2020, B-WET has supported 30 grants serving 18 states and engaged 97 local 21CCLCs, 5,970 youth, and 830 21st CCLC staff. These projects provide locally relevant, out-of-school time STEM programming to students in high-poverty and low performing schools based on the B-WET MWEE model and include NOAA assets and expertise

For more information, please visit the B-WET website: <https://www.noaa.gov/office-education/bwet>.

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		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Mission Services	Pos./BA	663	181,887	663	185,255	0	3,368
and Management	FTE/OBL	630	181,887	630	185,255	0	3,368

Transitioning to DOC Business Application System (BAS) (+\$3,368, 0 FTE/ 0 Positions) – This request will support NOAA’s financial systems while the Commerce Business System (CBS) and associated systems are decommissioned. With the implementation of the Business Application System (BAS) in October 2023, NOAA’s Financial Systems Division will support NOAA’s BAS interests, while also providing support for the FY 2023 reporting and audit requirements based on legacy CBS data. NOAA’s CBS support contract will continue to be required throughout much of FY 2024 as NOAA’s CBS and Data Warehouse environments are decommissioned. This decommissioning will occur gradually of the course of the year, beginning in Q2, after all FY 2023 year-end closing activities have been completed and after a determination has been made that the BAS Enterprise Data Warehouse and data lake have met NOAA’s full needs for data access. NOAA also requires funds to maintain support for its Help Desk Support contract. While some contractor support will be decreased in a phased approach as C. Suite and CBS are decommissioned, the E2 Travel System is out of scope for BAS and support of this application will remain at the Bureau level. In addition, support for data calls and legacy CBS reporting requirements will continue to be supported by this help desk.

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	2024	2025	2026	2027	2028
Outyear Costs:					
Direct Obligations	3,368	3,368	3,368	3,368	3,368
Capitalized	0	0	0	0	0
Uncapitalized	3,368	3,368	3,368	3,368	3,368
Budget Authority	3,368	3,368	3,368	3,368	3,368
Outlays	2,088	2,088	2,088	2,088	2,088
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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(Direct Obligations amounts in thousands)

Activity: Mission Services and Management
Subactivity: Mission Services and Management

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1 Full-time permanent compensation	71,973	83,767	87,716	87,716	0
11.3 Other than full-time permanent	9	9	9	9	0
11.5 Other personnel compensation	2,073	2,114	2,114	2,114	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	74,055	85,890	89,839	89,839	0
12 Civilian personnel benefits	25,708	28,634	29,725	29,725	0
13 Benefits for former personnel	15	16	16	16	0
21 Travel and transportation of persons	477	487	492	492	0
22 Transportation of things	136	139	142	142	0
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	6,198	6,322	6,499	6,499	0
23.2 Rental Payments to others	646	659	659	659	0
23.3 Communications, utilities and misc charges	479	488	488	488	0
24 Printing and reproduction	105	107	109	109	0
25.1 Advisory and assistance services	16,068	14,390	14,390	14,390	0
25.2 Other services from non-Federal sources	34,323	31,615	25,857	29,225	3,368
25.3 Other goods and services from Federal sources	12,924	12,183	12,183	12,183	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	505	515	530	530	0
31 Equipment	798	813	841	841	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	92	93	93	93	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	24	24	24	24	0
44 Refunds	0	0	0	0	0
99 Total obligations	172,553	182,375	181,887	185,255	3,368

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		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Office of Space	Pos./BA	36	70,299	36	87,999	0	17,700
Commerce	FTE/OBL	29	70,299	29	87,999	0	17,700

Space Commerce (+\$17,700, 0 FTE/ 0 Positions) – This request will allow the Office of Space Commerce (OSC) to continue to progress toward meeting its target of achieving Full Operating Capability in FY 2025. Additional funding will support improvement in the safety of commercial space activities as Earth’s orbits become increasingly congested with space traffic and debris.

Through its ongoing industry engagements, OSC is developing engineering requirements and pilot programs leading to an operational Traffic Coordination Space System (TraCSS). The TraCSS, formerly known as the Open Architecture Data Repository (OADR), will be able to ingest diverse industry and government data sources, integrate and validate data inputs, and process new and existing information to produce and disseminate SSA data products to satellite owner/operators. The TraCSS will operate 24 hours per day, 7 days a week. The cloud-based data warehouse operating platform will provide connectivity to a multitude of data sources, secure storage of the various data sources ingested, and data conditioning and tagging to enable interoperability of retrieval of data sets. Sources of data include, but are not limited to, unclassified data from the Department of Defense, NASA, commercial data providers, commercial and civil satellite owner/operators, and international partners in addition to those from the Department of Commerce.

OSC, in partnership with industry, government partners, and academia, will create a proving ground environment to allow for collaboration among government, industry, and academic labs on a National Institute of Standards and Technology compliant, secure, cloud-based network. The OSC will execute real-time exercises with industry and government to further define, pilot, test and evaluate system performance as the TraCSS is designed and constructed.

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)

Schedule and Milestones:

- Continue to conduct user engagements with international partners to support sharing of data, sources and responsibilities
- Ingest space weather data into TraCSS proving ground to improve SSA product accuracy
- Conduct TraCSS operational readiness review

Deliverables:

- Complete transition with Department of Defense for SSA services and data and strategy for achieving operational readiness
- Performance evaluation of the LEO pilot and acquisition strategy for the regime
- Award GEO and LEO commercial operational and proving ground data contract options for TraCSS
- Utilize satellite telemetry to support autonomous SSA for large LEO constellations
- Data sharing agreements with international partners
- TraCSS Initial Operational Capability in FY 2024
- Full Operating Capability in FY 2025

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)**

Performance Measures

	2024	2025	2026	2027	2028
Milestones achieved towards establishment of SSA services for civil and commercial stakeholders					
With Increase	80%	80%	80%	80%	80%
Without Increase	40%	40%	40%	40%	40%
Outyear Costs:					
Direct Obligations	17,700	17,700	17,700	17,700	17,700
Capitalized	17,700	17,700	17,700	17,700	17,700
Uncapitalized	0	0	0	0	0
Budget Authority	17,700	17,700	17,700	17,700	17,700
Outlays	11,505	11,505	11,505	11,505	11,505
FTE	0	0	0	0	0
Positions	0	0	0	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Office of Space Commerce
Subactivity: Office of Space Commerce

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1 Full-time permanent compensation	1,475	3,889	4,107	4,107	0
11.3 Other than full-time permanent	2	0	0	0	0
11.5 Other personnel compensation	24	70	70	70	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	1,501	3,959	4,177	4,177	0
12 Civilian personnel benefits	529	1,395	1,476	1,476	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	108	450	450	450	0
22 Transportation of things	0	5	5	5	0
23 Rent, communications, and utilities	0	177	177	177	0
23.1 Rental payments to GSA	0	150	150	150	0
23.2 Rental Payments to others	8	0	0	0	0
23.3 Communications, utilities and misc charges	181	1,342	1,342	1,342	0
24 Printing and reproduction	23	10	10	10	0
25.1 Advisory and assistance services	985	2,700	2,700	2,700	0
25.2 Other services from non-Federal sources	576	35,203	35,203	35,203	0
25.3 Other goods and services from Federal sources	11,509	24,400	24,400	42,100	17,700
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	12	59	59	59	0
31 Equipment	14	150	150	150	0
32 Lands and structures	1	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	5	0	0	0	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	1	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total obligations	15,453	70,000	70,299	87,999	17,700

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Activity: Construction

Goal Statement

The Construction activity ensures that NOAA has safe and modern facilities to support NOAA's critical science, service, and stewardship mission. NOAA facilities support experts across the Nation delivering critical services from highly specialized laboratories, state-of-the-science data assimilation, modeling and prediction centers, satellite operations facilities, ship and aircraft operations centers, weather forecast offices and fisheries and ocean science centers to ensure the lives, livelihoods, and lifestyles of every American.

Base Program

NOAA's facilities portfolio constitutes a significant capital investment with over 620 facilities across 160 markets and 6,965,592 total Usable Square Feet, including over 400 owned properties with an estimated replacement exceeding \$3 billion in value. NOAA takes its fiduciary responsibilities seriously to ensure the portfolio is capable of supporting its mission in a cost-effective manner, and secures the safety and long-term sustainability for its employees and the Nation. Each facility requires financial investments for maintenance, repairs, and modernization to effectively sustain and evolve our science capabilities to support the current and future missions. Facilities analysis and construction planning activities are being utilized to enable NOAA to capture current and future mission requirements. With the limited funding available, NOAA endeavors to complete appropriate analyses and pre-design work, and determine suitable acquisition strategies that make the actual construction phase as efficient and effective as possible. NOAA's facilities work includes the critical tasks of National Environmental Policy Act (NEPA) planning, special environmental studies, facilities condition surveys, and any other activities to help ensure successful acquisition and completion of construction projects within budget and schedule.

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)**

Statement of Operating Objectives

Schedule and Deliverables:

- Allocate \$4.0 million for the repayment of the Judgment Fund for the La Jolla Settlement
- Prioritize funding for NOAA’s capital investment facilities needs and deferred maintenance and repair backlog
- Conduct Business Case Analysis (BCA) and develop program of requirements for the Southeast and Northeast Fisheries Science Centers based on recommendations from the Regional Footprint Studies
- Continue planning activities to refine the Northwest Regional Footprint Study opportunities to improve mission execution
- Begin construction of Northwest Fisheries Science Center Manchester Lab
- Complete the final phase of the SSMC Consolidation Project
- Begin construction of the Charleston Pier project
- Continue construction of the Newport Pier
- Initiate projects on the Disposal List
- Begin leasehold improvements for locations in Baysboro, FL and Gloucester, MA
- Complete the Program of Requirements for NOAA Headquarters lease re-compete; GSA regional office to submit Prospectus to GSA National Office for pending OMB and Congressional review

		<u>Explanation and Justification</u>					
		2022		2023		2024	
		Actual		Enacted		Base	
<u>Comparison by subactivity</u>		Personnel	Amount	Personnel	Amount	Personnel	Amount
Construction	Pos/BA	3	57,740	2	90,000	2	90,000
	FTE/OBL	1	10,361	2	90,000	2	90,000
Total Construction	Pos/BA	3	57,740	2	90,000	2	90,000
	FTE/OBL	1	10,361	2	90,000	2	90,000

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Construction

Constructing new facilities and reinvesting in existing facilities in accordance with the NOAA Facilities Strategic Plan and Facilities Investment Plan and/or compliance with the NOAA Facilities Council guidance is critical to sustaining and evolving mission capabilities. Conducting and effectively managing construction projects on facilities that have major deferred maintenance issues corrects health and life safety issues, averts emergency repairs and associated costs, reduces energy costs through creation of more efficient and sustainable building systems, brings facilities up to current safety, environmental and building code standards, and minimizes overall sustainment costs while ensuring NOAA facilities support assigned science missions.

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
NOAA Construction	Pos./BA	2	90,000	2	145,700	0	55,700
	FTE/OBL	2	90,000	2	145,700	0	55,700

Capital Investment Planning and Design (+\$55,700, 0 FTE/ 0 Positions) – NOAA requests an increase to keep pace with maintenance and repair of its aging infrastructure and significantly improve facilities across the Nation through investments for maintenance, repairs, modernization, and replacement to effectively sustain and evolve our science capabilities.

NOAA’s facilities portfolio constitutes a significant capital investment with over 620 facilities across 160 real estate markets and 6,965,592 total Usable Square Feet, including over 400 owned properties with an estimated replacement exceeding \$3 billion in value. NOAA has fiduciary responsibilities to ensure the portfolio is capable of supporting its mission in a cost-effective manner and secure safety and long-term sustainability for employees and the Nation. NOAA maintenance has not kept pace with its aging infrastructure. Therefore, starting in FY 2024, NOAA proposes to significantly invest in facilities with an influx of funding to accompany the strategic priorities identified in the Facilities Strategic Plan (FSP) and the highest ranked priorities in the Facilities Investment Plan (FIP).

The top three strategic priorities are in the Northwest, Northeast and Southeast regions with the most maintenance requirements, and where highest modernization efforts are required. This funding will address ongoing planning efforts and support design activities. NOAA will also tackle other high priority owned and non-owned projects including lease improvements and disposals. Lastly, the requested funding will address the highest risk deferred maintenance and repair (DM&R) projects critical to achieving NOAA’s mission.

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)**

With this increase, combined with base funding, NOAA will support the following projects:

Project Name	FY 2024 Estimate
Silver Spring Main Campus (SSMC) Consolidation	\$6,000
DM&R (PAC)	\$30,000
La Jolla Judgement Fund	\$4,000
Strategic Initiatives (including NW/NE/SE)	\$46,800
Leasehold Improvements	\$25,000
Property Disposal	\$2,000
Owned Facilities (prioritization - planning and design)	\$31,900
Total	\$145,700

Silver Spring Main Campus (SSMC) Consolidation - NOAA plans to complete the construction of Phase 3 of the SSMC Consolidation effort. Design of Phase 3 will be completed in FY 2023 with construction commencing in FY 2024. Successful execution of this project requires upfront costs to realize recurring long-term savings.

DM&R (PAC) - NOAA plans to address its significant and deficient backlog of DM&R. The capital improvements for DM&R projects are identified as those that extend the useful life of a facility, or significantly improve the efficiency of facility systems according to the Construction Work-in Progress (CWIP) policy. NOAA’s approach to tackle the DM&R significantly increased in FY 2023 and NOAA intends to increase resources for this in FY 2024.

Strategic Initiatives (including NW/NW/SE) – NOAA plans to develop planning and engineering documentation (including a Business Case Analysis (BCA) and other studies) and design documentation to advance priority Capital investment projects as identified in the Facilities Strategic Plan (FSP) and prioritized in the FIP. The primary focus areas for these efforts in the near term include the Seattle Area, the Northeast region, and the Southeast region. Specifically, this budget request will complete planning efforts for the Southeast Region and initiate design actions for the Northeast and Seattle area regions.

Leasehold Improvements - NOAA plans to invest in leasehold improvements projects submitted in the FIP with the highest priority executable needs identified by the Line Offices in conjunction with the Real Property Management Division. The funding will be used to assess the readiness of projects and execute improvements beyond what the line offices could provide.

Property Disposals - NOAA plans to dispose of property identified in the Facilities Investment Plan (FIP) in accordance with the Federal Management Regulation (41 CFR §102-75) unless otherwise authorized by legislation. Disposal projects take multiple years to complete and begin with environmental studies. Disposing of Federal real property is an important part of the facilities lifecycle process that allows NOAA to remove excess property from its portfolio.

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)

Owned Facilities (prioritization - planning and design) - NOAA plans to develop planning and engineering documentation (including a Business Case Analysis (BCA) and other studies based on location) and design documentation to advance priority Capital investment projects (owned and non-owned) as prioritized in the Facilities Investment Plan. This is separate from those efforts to support facility Strategic Initiatives.

Schedule and Milestones

FY 2024

- Prioritize funding for NOAA's capital investment facilities needs based on the data collected through FIP process
- Conduct planning and/or design activities for high priority projects
- Conduct Business Case Analysis and develop program of requirements for the Southeast and Northeast facilities, including Fisheries Science Centers, based on recommendations from the Regional Footprint Studies
- Continue planning activities to refine the Northwest Regional Footprint Study opportunities to improve mission execution
- Continue Leasehold improvements for new Weather Forecast Office & River Forecast Center (WFO/RFC) at in State College, PA , and begin planning activities at NMFS facilities located in Baysboro Station, FL and Gloucester, MA

Deliverables:

FY 2024

- Analysis of Alternatives to reallocate resources and programs to more capable, modern facilities that better align with mission requirements for the Western Regional Center (WRC)
 - Design acquisition actions will be initiated in FY 2024
- Complete the final phase of SSMC Consolidation Project
- Program of Requirements for SSMC/NOAA Headquarters lease recompetes
 - GSA regional office to submit Prospectus to GSA National Office for pending OMB and Congressional review

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)**

	2024	2025	2026	2027	2028
Outyear Costs:					
Direct Obligations	55,700	55,700	55,700	55,700	55,700
Capitalized	55,700	55,700	55,700	55,700	55,700
Uncapitalized	0	0	0	0	0
 Budget Authority	 55,700	 55,700	 55,700	 55,700	 55,700
Outlays	36,205	36,205	36,205	36,205	36,205
FTE	0	0	0	0	0
Positions	0	0	0	0	0

Outyear Funding Estimates:

Subactivity/PPA	2023 & Prior	2024	2025	2026	2027	2028	CTC	Total
Change from 2024 Base	N/A	55,700	55,700	55,700	55,700	55,700	N/A	TBD
Total Request	90,000	145,700	145,700	145,700	145,700	145,700	N/A	TBD

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)**

Activity: NOAA Construction
Subactivity: NOAA Construction

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1 Full-time permanent compensation	77	161	161	161	0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	3	5	5	5	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	80	166	166	166	0
12 Civilian personnel benefits	29	60	60	60	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	0	1	1	1	0
22 Transportation of things	74	74	74	74	0
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	8	8	8	8	0
23.2 Rental Payments to others	6	6	6	6	0
23.3 Communications, utilities and misc charges	0	0	0	0	0
24 Printing and reproduction	1	5	5	5	0
25.1 Advisory and assistance services	434	6,750	12,750	56,736	43,986
25.2 Other services from non-Federal sources	5,649	37,579	31,579	35,793	4,214
25.3 Other goods and services from Federal sources	846	846	846	846	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	921	0	0	0	0
31 Equipment	274	0	0	0	0
32 Lands and structures	2,038	44,500	44,500	52,000	7,500
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	0	0	0	0	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	1	5	5	5	0
44 Refunds	0	0	0	0	0
99 Total obligations	10,361	90,000	90,000	145,700	55,700

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**Department of Commerce
National Oceanic and Atmospheric Administration
Office of Marine and Aviation Operations
Budget Estimates, Fiscal Year 2024**

Executive Summary

For FY 2024, NOAA requests a total of \$495,576,000 and 1,261 FTE/ 1,304 positions for Office of Marine and Aviation Operations, including a net decrease of \$10,969,000 and an increase of 34 FTE/ 45 positions in program changes.

OMAO manages a variety of specialized ships and aircraft that make up the NOAA Fleet and plays a critical role in the in-situ collection of oceanographic, atmospheric, hydrographic, and fisheries data in support of NOAA's missions. The NOAA Fleet operates throughout the world supporting a wide array of NOAA missions including climate research, fisheries research, nautical charting, hurricane reconnaissance and research, snow surveys, and specialized atmospheric and ocean research. In addition, NOAA ships and aircraft provide emergency response capabilities. Following major natural and environmental disasters, NOAA ships and aircraft conduct emergency navigation hazard surveys that help ports reopen quickly and obtain aerial images of disaster-torn areas. These surveys are often the only source of data providing critical information for first responders, disaster response, and residents.

NOAA ships range from large oceanographic research vessels capable of exploring the world's deepest oceans to smaller ships responsible for charting the shallow bays and inlets of the United States. NOAA aircraft range from high altitude jets, capable of penetrating hurricanes and tracking ocean winds, to aircraft well-suited for water resource management data collection and marine mammal surveys where slower airspeeds and low altitudes are essential. OMAO is charged with the safe and efficient operation and maintenance of this NOAA fleet; developing annual Fleet Allocation Plans; conducting lifecycle maintenance; and providing centralized fleet management including: standard procedures, safety inspections, and medical services in partnership with the U.S. Public Health Service Commissioned Corps. OMAO also provides centralized coordination, support and guidance for uncrewed marine and aircraft systems across NOAA, and administers the NOAA-wide Diving and Small Boat Programs. OMAO is committed to maintaining a safe field environment through the coordination of training and certification of officers, crew members, and scientists in at-sea and airborne safety procedures.

OMAO staff includes civilians along with the NOAA Commissioned Officer Corps, one of the Nation's eight uniformed services. NOAA is authorized for 500 NOAA Corps officers, excluding flag officers. The NOAA Corps has the skills to plan, prepare, and execute the acquisition of environmental and scientific data on land, at sea, and in the air. It supports all NOAA's Line Offices, NOAA Headquarters, the Department of Commerce, and commands the NOAA fleet.

**Department of Commerce
National Oceanic and Atmospheric Administration
Office of Marine and Aviation Operations
Budget Estimates, Fiscal Year 2024**

Significant Adjustments:

Inflationary Adjustments

NOAA’s FY 2024 Base includes a net increase of \$9,253,000 and 7 FTE/ 7 positions to account for the full funding requirement for certain inflationary adjustments to current programs for OMAO activities. This includes inflationary increases for labor and non-labor activities including benefits and rent charges from the General Services Administration.

Technical Adjustments

NOAA also requests the following transfers for a net change of \$0 and 0 FTE/ 0 positions to the agency:

From Office	Subactivity	To Office	Subactivity	Amount
OMAO	Aircraft Recapitalization & Construction	OMAO	Platform Capital Improvements & Technology Infusion	\$5,000,000 / 0 FTE / 0 Positions

NOAA requests to transfer a total of \$5,000,000 and 0 FTE/ 0 positions to OMAO’s Platform Capital Improvements & Technology Infusion PPA to allow for better alignment of maintenance funding for aircraft and vessels. In FY 2023, Congress provided funding for Service Depot Level Maintenance for NOAA’s two P-3 Hurricane Hunter aircraft within the Aircraft Recapitalization and Construction PPA. By moving this funding to the Platform Capital Improvements & Technology Infusion PPA, NOAA would consolidate maintenance funding for both vessels and aircraft into one PPA.

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
TRANSFER CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)**

Activity: Platform Capital Improvements and Tech Infusion
Subactivity: Platform Capital Improvements and Tech Infusion

<u>Object Class</u>	<u>2023 Enacted</u>	<u>2024 Transfer</u>	<u>2024 Base</u>
11.1 Full-time permanent compensation	1,000	0	1,000
11.3 Other than full-time permanent	0	0	0
11.5 Other personnel compensation	100	0	100
11.7 NOAA Corps	0	0	0
11.9 Total personnel compensation	1,100	0	1,100
12 Civilian personnel benefits	400	0	400
13 Benefits for former personnel	0	0	0
21 Travel and transportation of persons	0	0	0
22 Transportation of things	30	0	30
23 Rent, communications, and utilities	0	0	0
23.1 Rental payments to GSA	0	0	0
23.2 Rental Payments to others	0	0	0
23.3 Communications, utilities and misc charges	0	0	0
24 Printing and reproduction	0	0	0
25.1 Advisory and assistance services	0	0	0
25.2 Other services from non-Federal sources	22,500	5,000	27,500
25.3 Other goods and services from Federal sources	0	0	0
25.4 Operation and maintenance of facilities	0	0	0
25.5 Research and development contracts	0	0	0
25.6 Medical care	0	0	0
25.7 Operation and maintenance of equipment	0	0	0
25.8 Subsistence and support of persons	0	0	0
26 Supplies and materials	3,000	0	3,000
31 Equipment	970	0	970
32 Lands and structures	0	0	0
33 Investments and loans	0	0	0
41 Grants, subsidies and contributions	0	0	0
42 Insurance claims and indemnities	0	0	0
43 Interest and dividends	0	0	0
44 Refunds	0	0	0
99 Total obligations	28,000	5,000	33,000

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
TRANSFER CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)**

Activity: Aircraft Recapitalization and Construction
Subactivity: Aircraft Recapitalization and Construction

<u>Object Class</u>	<u>2023 Enacted</u>	<u>2024 Transfer</u>	<u>2024 Base</u>
11.1 Full-time permanent compensation	304	0	304
11.3 Other than full-time permanent	0	0	0
11.5 Other personnel compensation	3	0	3
11.7 NOAA Corps	0	0	0
11.9 Total personnel compensation	307	0	307
12 Civilian personnel benefits	108	0	108
13 Benefits for former personnel	0	0	0
21 Travel and transportation of persons	56	0	56
22 Transportation of things	57	0	57
23 Rent, communications, and utilities	0	0	0
23.1 Rental payments to GSA	0	0	0
23.2 Rental Payments to others	0	0	0
23.3 Communications, utilities and misc charges	0	0	0
24 Printing and reproduction	0	0	0
25.1 Advisory and assistance services	0	0	0
25.2 Other services from non-Federal sources	6,324	(5,000)	1,324
25.3 Other goods and services from Federal sources	0	0	0
25.4 Operation and maintenance of facilities	0	0	0
25.5 Research and development contracts	0	0	0
25.6 Medical care	0	0	0
25.7 Operation and maintenance of equipment	0	0	0
25.8 Subsistence and support of persons	0	0	0
26 Supplies and materials	989	0	989
31 Equipment	1,159	0	1,159
32 Lands and structures	0	0	0
33 Investments and loans	0	0	0
41 Grants, subsidies and contributions	0	0	0
42 Insurance claims and indemnities	0	0	0
43 Interest and dividends	0	0	0
44 Refunds	0	0	0
99 Total obligations	9,000	(5,000)	4,000

Department of Commerce
National Oceanic and Atmospheric Administration
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

		2022		2023		2024		2024		Increase/Decrease	
		Actual		Enacted		Base		Estimate		from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
OFFICE OF MARINE AND AVIATION OPERATIONS (OMAO)											
Marine Operations and	Pos/BA	658	192,093	704	204,000	704	208,117	736	224,148	32	16,031
Maintenance	FTE/OBL	569	193,431	688	204,000	688	208,117	712	224,148	24	16,031
Aviation Operations and Aircraft	Pos/BA	94	36,317	103	40,500	103	41,960	103	43,372	0	1,412
Services	FTE/OBL	72	35,942	97	40,500	97	41,960	97	43,372	0	1,412
Autonomous Uncrewed	Pos/BA	12	13,472	16	21,667	16	21,692	16	14,560	0	(7,132)
Technology Operations	FTE/OBL	6	14,720	13	21,667	13	21,692	13	14,560	0	(7,132)
NOAA Commissioned Officer Corps	Pos/BA	355	55,040	360	62,500	367	66,161	380	70,381	13	4,220
	FTE/OBL	345	54,617	356	62,500	363	66,161	373	70,381	10	4,220
TOTAL OMAO - ORF	Pos/BA	1,119	296,922	1,183	328,667	1,190	337,930	1,235	352,461	45	14,531
	FTE/OBL	992	298,710	1,154	328,667	1,161	337,930	1,195	352,461	34	14,531
Marine and Aviation Capital	Pos/BA	56	161,849	69	132,000	69	132,000	69	106,500	0	(25,500)
Investments	FTE/OBL	42	122,872	66	132,000	66	132,000	66	106,500	0	(25,500)
TOTAL OMAO - PAC	Pos/BA	56	161,849	69	132,000	69	132,000	69	106,500	0	(25,500)
	FTE/OBL	42	122,872	66	132,000	66	132,000	66	106,500	0	(25,500)
Medicare Eligible Retiree Health	Pos/BA	0	1,883	0	1,970	0	1,617	0	1,617	0	0
Care Fund	FTE/OBL	0	1,883	0	1,970	0	1,617	0	1,617	0	0
NOAA Corps Commissioned	Pos/BA	0	34,409	0	34,760	0	34,998	0	34,998	0	0
Officers Retirement	FTE/OBL	0	33,626	0	34,760	0	34,998	0	34,998	0	0
TOTAL OMAO	Pos/BA	1,175	495,063	1,252	497,397	1,259	506,545	1,304	495,576	45	(10,969)
	FTE/OBL	1,034	457,091	1,220	497,397	1,227	506,545	1,261	495,576	34	(10,969)

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Activity: Marine Operations and Maintenance

Goal Statement

Optimize NOAA's observational platforms and unique workforce capabilities through continual development and diversification of our personnel. Attract, train and retain the skilled workforce or mariners, engineers, and program managers required to maintain safe and efficient operations through employee focused organizational changes to optimize retention through quality of life and mission performance. Support current and future NOAA data collection requirements, maximize the service life of the NOAA Fleet through maintenance and repair, support NOAA's prioritized ship requirements through execution of the annual Fleet Allocation Plan (FAP), and increase utilization of the NOAA Fleet.

Base Program

Marine Operations and Maintenance supports centralized management of NOAA's research and survey vessels, which operate throughout the world supporting multiple missions including climate research, fisheries surveys, nautical charting and ocean observations. Given the diverse portfolio of NOAA Line Office Program requirements and responsibilities, a single vessel type cannot meet all of NOAA's mission requirements. Thus, NOAA ships range from medium-sized fisheries survey vessels and large oceanographic research vessels capable of exploring the world's deepest oceans, to smaller ships responsible for charting the shallow bays and inlets of the United States. NOAA's primary Marine Operations center is based in Newport, OR, and manages OMAO's two additional Marine Centers – one located in Norfolk, Virginia and another located in Honolulu, Hawaii, as well as multiple port offices around the country. It also supports marine operation activities, including the NOAA Small Boat program and the NOAA Diving Program.

Statement of Operating Objectives

Schedule and Milestones:

FY 2024 - FY 2028

- Improve the workforce diversity, crew readiness, and quality of life for deployed crews through staffing models, training, and onboard technologies
- Implement rotational staffing models across the fleet and target a 96 percent staffing level for authorized positions (402 of 429 positions required to implement)

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- Implement professional mariner training within current positions
- Integrate Fleet Maintenance Plan based on Material Condition Assessments for each vessel, developed through close collaboration with American Bureau of Shipping
- Ensure completion of Operational Readiness Training for all ship personnel Uphold safety standards on all NOAA vessels
- Execute 95 percent of approved Days at Sea (DAS) in the FAP (excluding any DAS lost for weather or removed from the schedule at the request of NOAA Line Office Programs)
- Perform program funded and reimbursable DAS as scheduled in the FAP

Deliverables:

FY 2024

- Provide approximately 2,207 DAS, to include mission and non-mission base funded, program funded and reimbursable funded days
- Survey square nautical miles in support of NOS hydrographic survey activities
- Determine detailed deliverables on a project-by-project basis as documented in the FAP

FY 2025 - FY 2028

- Meet annual ship schedules and milestones as outlined in the FAP

Explanation and Justification

<u>Comparison by subactivity</u>		2022 Actual		2023 Enacted		2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Marine Operations and Maintenance	Pos/BA	658	192,093	704	204,000	704	208,117
	FTE/OBL	569	193,431	688	204,000	688	208,117
Total Marine Operations and Maintenance	Pos/BA	658	192,093	704	204,000	704	208,117
	FTE/OBL	600	193,431	688	204,000	688	208,117

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In FY 2024, OMAO will continue to invest in personnel and training to support hiring and retention of qualified professional mariners, improve diversity, crew readiness, and the quality of life aboard its vessels. Like many sectors, NOAA's world class professional mariner workforce is continuing to experience attrition across all positions. When the ships do not have the appropriate staffing, it can be a safety issue and leads to lost days at sea. NOAA is taking aggressive steps to improve retention through recruitment and hiring bonuses, more flexible family planning policies, rotational crewing strategies, expanded employee recognition programs, crew rest opportunity days, time off awards for professional mariners, and tuition reimbursement to combat this issue. Rotational assignment opportunities are also being increased across the fleet. More transparent paths for advancement are being developed, as well as the integration of a Total Worker Health Program into the everyday lives of all OMAO personnel. Professional Mariner quality of life is an industry issue and there is competition for these positions across federal, state, private sector and international employers. The burnout, uncertainty, and constant changes to the workplace are contributing to crew retention and safety issues. Investments in our workforce that support crew retention are critical to quality of life and future research operations.

In FY 2024, NOAA Ship *Oceanographer*, to be homeported in Honolulu, HI, will be added to NOAA's ship fleet. The ship will be conducting acceptance trials in the Gulf of Mexico with delivery expected in the fourth quarter. The *Oceanographer* will need to be fully staffed in FY 2024 to ensure crew familiarization occurs before commissioning. Crew familiarization includes both training in the classroom and onboard the ship and ensures that the crew is mission ready and can safely and efficiently operate the vessel. Other activities funded under Marine Operations and Maintenance include the repair and maintenance of NOAA ships necessary to meet the rigorous demands of NOAA's scientific and regulatory missions. Regular maintenance, including proper preventive maintenance, is scheduled to ensure readiness prior to and during the field season. This funding allows OMAO to provide ships capable of meeting prioritized, geographical and temporal, at-sea NOAA requirements. NOAA's Fleet Council uses input from across NOAA to define these requirements and inform ship schedules, as captured in the FAP. The FAP details the objective and duration of individual NOAA projects, outlines the annual schedule and milestones to be achieved as agreed to and signed by the NOAA Fleet Council, identifies OMAO scheduled repair and maintenance periods, and operational readiness training.

As part of the preventative maintenance process, Marine Operations continues to implement a Material Condition Assessment (MCA) Program. The MCA is an in-depth survey that will uncover additional maintenance items that have become apparent between major maintenance cycles. MCAs will funnel items directly into work packages for repair periods in order to correct deficiencies and ensure items are addressed before they impact fleet readiness. MCAs are conducted by Marine Operations engineering personnel with assistance from NOAA's fleet inspection team and ship's crew.

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Funds also support unscheduled maintenance costs, which can be attributed to the aging of NOAA’s fleet. These costs can include unplanned maintenance requirements discovered while completing scheduled operational maintenance; scheduled repairs requiring more extensive work than planned initially; costs in excess of the standard 20 percent estimated cost overrun; and urgent responses to machinery or equipment casualties.

NOAA vessels must adhere to safety and emissions requirements and regulations established by a variety of organizations. The American Bureau of Shipping certifies ships as seaworthy. OMAO uses their rules to design its maintenance program and conduct Ship Structure and Machinery Evaluations on the NOAA Fleet. Under the Clean Air Act, the Environmental Protection Agency issues regulations governing airborne emissions that affect ship engine and exhaust components. The U.S. Coast Guard issues regulations on all discharges from ships to ensure marine environments are protected from harmful discharges.

FY 2024 funding will provide for approximately 2,840 DAS with program increase (2,207 DAS without program increase) to support NOAA’s highest-priority requirements. DAS may include OMAO base-funded days, DAS funded by other NOAA Line Office programs, and reimbursable DAS funded by Agencies external to NOAA, as determined during the year of budget execution, based on the availability of vessels and funds. NOAA estimates base funded DAS annually based on a variety of factors including maintenance, staffing, training, outfitting, fuel, and other costs necessary to support reliable and safe ship operations. Program funded and reimbursable DAS are established through Service Level Agreements with NOAA Line Office programs and reimbursable agreements with other agencies, respectively.

The following table outlines the diversity of the active NOAA Fleet and primary mission areas of each vessel:

Ship	Length	Class	Primary Mission	Homeport	Year Launched
<i>Rainier</i>	231 ft.	Ocean	2	Newport, OR	1967
<i>Fairweather</i>	231 ft.	Ocean	2	Ketchikan, AK	1967
<i>Oregon II</i>	170 ft.	Regional	1	Pascagoula, MS	1967
<i>Oscar Elton Sette</i>	224 ft.	Ocean	3	Honolulu, HI	1987
<i>Okeanos Explorer</i>	224 ft.	Ocean	1, 2	Newport, RI	1988

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<i>Gordon Gunter</i>	224 ft.	Ocean	1	Pascagoula, MS	1989
<i>Nancy Foster</i>	187 ft.	Ocean	1	Charleston, SC	1990
<i>Thomas Jefferson</i>	208 ft.	Ocean	2	Norfolk, VA	1991
<i>Ronald H. Brown</i>	274 ft.	Global	3	Charleston, SC	1996
<i>Oscar Dyson</i>	209 ft.	Ocean	1	Kodiak, AK	2003
<i>Henry B. Bigelow</i>	209 ft.	Ocean	1	Newport, RI	2005
<i>Pisces</i>	209 ft.	Ocean	1	Pascagoula, MS	2007
<i>Bell M. Shimada</i>	209 ft.	Ocean	1	Newport, OR	2008
<i>Ferdinand R. Hassler</i>	124 ft.	Regional	2	New Castle, NH	2009
<i>Reuben Lasker</i>	209 ft.	Ocean	1	San Diego, CA	2012
<i>Oceanographer</i>	255 ft.	Ocean	1	Honolulu, HI	2024

In addition to vessel management, Marine Operations and Maintenance supports the following activities:

NOAA Dive Program: The NOAA Dive Center provides diver certification, technical advice, and a standardized equipment program. The NOAA Dive Program, in cooperation with the NOAA Diving Control and Safety Board, issues safe diving standards and practices, according to the Standards of Training, Certification and Watchkeeping for Seafarers and the International Maritime Organization conventions. NOAA maintains approximately 391 divers who perform over 12,000 dives annually in support of NOAA’s mission. Fleet divers help maintain NOAA’s ships with tasks such as cleaning propellers and sea strainers, surveying hulls for damage, and installing transducers. NOAA divers also install observing systems such as tide gauges. Scientists trained as divers

- Mission 1: Assessment and Management of Living Marine Resources
- Mission 2: Charting and Mapping
- Mission 3: Oceanographic Monitoring, Research, and Modeling

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study and describe the habitats and species that NOAA is mandated to protect and manage. These activities enable NOAA to meet requirements and mandates, enhance customer service and operational safety, and facilitate self-sufficiency at sea.

NOAA Small Boat Program: The Small Boat Program is designed to reduce risk, promote standardization, and enhance the safety of NOAA's small-boat operations. It enforces the policy of the safety program and ensures compliance through onsite inspections, risk assessments and marine incident investigations. NOAA maintains over 400 small boats, which are operated and funded within the Line Offices. The Small Boat Program provides technical and marine engineering assistance to Line Office field units as needed and to the NOAA Small Boat Safety Board to ensure compliance with the NOAA Small Boat Standards and Procedures Manual requirements.

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PROGRAM INCREASE FOR 2024**
(Dollar amounts in thousands)

		2024 Base		2024 Estimate		Increase	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Marine Operations and Maintenance	Pos./BA	704	208,117	736	224,348	32	16,231
	FTE/OBL	688	208,117	712	224,348	24	16,231

Enhanced Fleet Operations (+\$16,231, 24 FTE/ 32 Positions) NOAA requests an increase to deliver the 2,840 days at sea necessary for at-sea data collection and other critical mission requirements, such as increased staffing, enhanced ship operations and maintenance, mission and safety system improvements. Funds will also allow for preparation activities for NOAA’s new ships, which are critical to fulfilling NOAA’s diverse and growing mission needs, including fishery surveys, marine ecosystem assessments, and hydrographic surveys.

From FY 2020 through FY 2022, significant days at sea were lost due to staffing shortfalls. NOAA will continue to address the high attrition rate within the professional mariner workforce while maximizing retention through the implementation of quality of life advancements, including crew rest opportunity days, time off awards for professional mariners and tuition reimbursement. Funds will support the implementation of full rotation for engineers aboard NOAA vessels, as well as increased rotation for all other mariner positions.

. NOAA will continue to focus on ship habitability, enhanced mission system maintenance and upgrades, ship system updates, acoustic sonar refreshes, advancements in the marine operations safety management systems and fulfilling regulatory requirements, to ensure every day at sea is maximized. Investments in mission systems are critical to sustaining Fleet readiness, expanding ship capabilities, and executing the Fleet Allocation Plan in support of NOAA’s rigorous scientific and regulatory missions.

The NOAA Ship *Oceanographer*, to be homeported in Honolulu, HI, will become operational in FY 2024. The *Oceanographer* will be conducting acceptance trials in the Gulf of Mexico in FY 2024, with delivery expected in the fourth quarter. This requires the *Oceanographer* to be fully staffed, with mariners familiar with the new vessel’s design and prepared to conduct operations. The crew will need to be in place to complete contractually mandated crew familiarization training and assist in the development of operational and safety procedures. Crew members incur travel costs, because they will be away from their permanent duty stations. Upon delivery, NOAA will need to purchase the fuel and consumables on board the vessel and complete the outfitting.

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OMAO will also begin staffing the NOAA Ship *Discoverer*, to be homeported in Newport, RI. The *Discoverer* is expected to be fully operational in FY 2025. Shore side staff, including both engineers and electronic technicians, will also be added in support of NOAA's growing fleet. NOAA's newest ships will be delivered with quality of life enhancements such as crew rotations to fully support NOAA's world class professional mariner workforce.

Schedule and Milestones:FY 2024

- Target 96 percent professional mariner crew staffing
- Complete staffing for NOAA vessel *Oceanographer*
- Complete outfitting of NOAA vessel *Oceanographer*
- Continue staffing for NOAA vessel *Discoverer*
- Invest in Marine Operations safety management system
- Perform required scheduled ship maintenance requirements

Deliverables:FY 2024

- Target execution of 2,840 DAS
- Improve retention rates for professional mariners
- Conduct crew familiarization training for new vessels
- Develop operational and safety procedures for new vessels

FY 2024 - FY 2027

- Meet annual ship schedules and milestones as outlined in the FAP

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PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)

Performance Measures

	2024	2025	2026	2027	2028
Days at Sea					
With Increase	2,840	2,840	2,840	2,840	2,840
Without Increase	2,207	2,207	2,207	2,207	2,207
Outyear Costs:					
Direct Obligations	16,231	16,231	16,231	16,231	16,231
Capitalized	0	0	0	0	0
Uncapitalized	16,231	16,231	16,231	16,231	16,231
Budget Authority	16,231	16,231	16,231	16,231	16,231
Outlays					
FTE	24	32	32	32	32
Positions	32	32	32	32	32

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PROGRAM CHANGE PERSONNEL DETAIL**

Activity: Marine Operations and Maintenance
Subactivity: Marine Operations and Maintenance
Program Change: Enhanced NOAA Fleet Operations

Title	Grade	Number	Annual Salary	Total Salaries
Chief Engineer		1	177,331	177,331
1st Asst Engineer	WM-1	4	140,116	560,464
2nd Asst Engineer	WM-1	1	125,106	125,106
3rd Asst Engineer	WM-1	3	113,106	339,318
Chief Boatswain	WM-1	4	86,238	344,952
Chief Steward	WM-1	2	80,784	161,568
Senior Survey Tech	WM-1	1	86,239	86,239
Survey Tech	WM-1	2	59,881	119,762
Chief Cook	WM-1	1	65,880	65,880
2nd Cook	WM-1	3	53,394	160,182
Able Seaman	WM-1	6	51,660	309,960
Oiler	WM-1	2	55,621	111,242
Electronic Technician	ZT-4	2	78,489	156,978
Total		32		2,718,982
Less lapse	25.00%	(8)		(679,746)
Total full-time permanent (FTE)		24		2,039,237
2024 Pay Adjustment (5.2%)				106,040
				2,145,277
 <u>Personnel Data Summary</u>				
Full-time Equivalent Employment (FTE)				
Full-time permanent		24		
Total FTE		24		
Authorized Positions:				
Full-time permanent		32		
Total Positions		32		

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Marine Operations and Maintenance
Subactivity: Marine Operations and Maintenance

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1 Full-time permanent compensation	46,343	49,000	52,000	54,145	2,145
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	15,095	16,000	16,000	16,976	976
11.8 Special personnel services payments	0	600	1,200	1,200	0
11.9 Total personnel compensation	61,438	65,600	69,200	72,321	3,121
12 Civilian personnel benefits	19,609	18,593	19,500	20,792	1,292
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	3,592	4,000	4,000	4,100	100
22 Transportation of things	621	652	652	652	0
23 Rent, communications, and utilities	7,303	6,000	6,000	6,000	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental Payments to others	0	0	0	0	0
23.3 Communications, utilities and misc	900	0	0	0	0
24 Printing and reproduction	50	0	0	0	0
25.1 Advisory and assistance services	73,266	85,000	85,000	95,000	10,000
25.2 Other services from non-Federal sources	0	0	0	0	0
25.3 Other goods and services from Federal	0	0	0	0	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	25,119	23,000	23,000	24,600	1,600
31 Equipment	1,523	1,155	765	883	118
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	0	0	0	0	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	10	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total obligations	193,431	204,000	208,117	224,348	16,231

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PROGRAM DECREASE FOR 2024
 (Dollar amounts in thousands)

		<u>2024 Base</u>		<u>2024 Estimate</u>		<u>Decrease</u>	
		Personnel		Personnel		Personnel	Amount
			Amount		Amount		
Marine Operations and Maintenance	Pos./BA	704	208,117	704	207,917	0	(200)
	FTE/OBL	688	208,117	688	207,917	0	(200)

Enterprise Infrastructure Solutions Decrease (-\$200, 0 FTE/ 0 Positions) - NOAA requests a reduction for Enterprise Infrastructure Solutions. Funds provided to the Office of Marine and Aviation Operations through FY 2023 were sufficient to complete the transition of the communications services to GSA's Enterprise Infrastructure Solutions contract vehicle.

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Marine Operations and Maintenance
Subactivity: Marine Operations and Maintenance

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1 Full-time permanent compensation	46,343	49,000	52,000	52,000	0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	15,095	16,000	16,000	16,000	0
11.8 Special personnel services payments	0	600	1,200	1,200	0
11.9 Total personnel compensation	61,438	65,600	69,200	69,200	0
12 Civilian personnel benefits	19,609	18,593	19,500	19,500	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	3,592	4,000	4,000	4,000	0
22 Transportation of things	621	652	652	652	0
23 Rent, communications, and utilities	7,303	6,000	6,000	6,000	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental Payments to others	0	0	0	0	0
23.3 Communications, utilities and misc charges	900	0	700	500	(200)
24 Printing and reproduction	50	0	0	0	0
25.1 Advisory and assistance services	73,266	85,000	84,300	84,300	0
25.2 Other services from non-Federal sources	0	0	0	0	0
25.3 Other goods and services from Federal	0	0	0	0	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	25,119	23,000	23,000	23,000	0
31 Equipment	1,523	1,155	765	765	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	0	0	0	0	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	10	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total obligations	193,431	204,000	208,117	207,917	(200)

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JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollars amounts in thousands)

Activity: Aviation Operations and Aircraft Services

Goal Statement

Provide centralized aircraft systems management and coordination of all airborne activity, support NOAA's prioritized airborne requirements through execution of the Aircraft Allocation Plan (AAP), and safely modify, maintain, and operate NOAA aircraft.

Base Program

NOAA's Aviation Operations and Aircraft Services provide scientists with airborne platforms equipped with comprehensive data collection systems that are capable of assessing severe weather, coastal and marine resources, and the dynamics of complex ecosystems and their climate induced changes. Among their missions, NOAA's diverse and versatile aircraft fly into hurricanes to help predict their track and intensity. They also collect: snowpack measurements to forecast water supplies and spring flooding events, species data critical to managing commercial and recreational fish stocks, and air chemistry data critical to public health. NOAA aircraft are capable of carrying specialized sensors for coastal mapping and shallow-water bathymetric data collection, providing essential data to nautical charting and safe navigation.

Statement of Operating Objectives

Schedule and Milestones:

FY 2024 – FY 2028

- Perform base funded, program funded and reimbursable flight hours as scheduled in the AAP

Deliverables:

FY 2024

- Approximately 5,405 flight hours¹ to include an estimated 4,015 support and base funded hours and 1,389 program and reimbursable funded hours to all NOAA Line Offices
- Other deliverables determined on a project-by-project basis as documented in project flight instructions

¹ Flight hour estimates assume non-hurricane hours are distributed by aircraft type as they were in the FY 2023 Aircraft Allocation Plan. Heavy aircraft cost more than light aircraft to fly so changes in that distribution can cause significant variations in NOAA estimates.

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JUSTIFICATION OF PROGRAM AND PERFORMANCE**
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FY 2024 - FY 2028

- Meet annual aircraft schedules and milestones as outlined on the AAP
- Maintain NOAA aircraft to continue to provide data to NOAA programs

Explanation and Justification

<u>Comparison by subactivity</u>		2022 Actual		2023 Enacted		2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Aviation Operations and Aircraft Services	Pos/BA	94	36,317	103	40,500	103	41,960
	FTE/OBL	72	35,942	97	40,500	97	41,960
Total Aviation Operations and Aircraft Services	Pos/BA	94	36,317	103	40,500	103	41,960
	FTE/OBL	72	35,942	97	40,500	97	41,960

OMAO’s Aircraft Operations Center (AOC), located at the Lakeland Linder Regional Airport in Lakeland, FL, operates NOAA’s aircraft fleet in support of NOAA's mission to understand and predict changes in climate, weather, oceans and coasts, and to assist in conserving and managing coastal and marine ecosystems and resources. The aircraft operate throughout the United States and around the world over open oceans, mountains, coastal wetlands, and the Arctic. AOC provides capable, mission-ready aircraft and professional crews to safely meet NOAA’s scientific and operational mission requirements by assisting with coastal mapping, flood prediction, hurricane prediction modeling, marine mammal population assessments, coastal erosion surveys, oil spill investigations and air quality studies.

NOAA aircraft operate in some of the world's most demanding flight regimes, including flying into the eye of a hurricane and at low altitudes over mountainous terrain and open ocean areas. Each aircraft requires a minimum number of qualified NOAA Corps pilots to conduct operations safely and efficiently, relying on these personnel funded through the NOAA Corps PPA (OMAO-37). OMAO

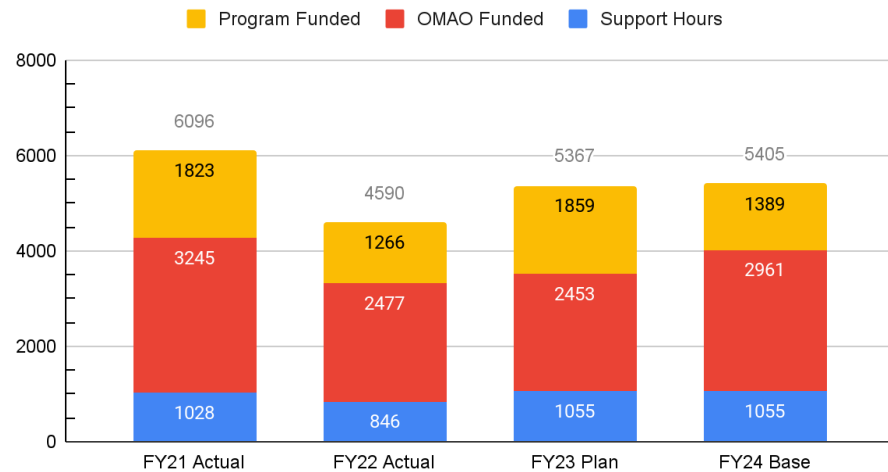
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also ensures that contracted aviation operations are conducted safely by providing technical support, services, and equipment to NOAA Line Offices.

In FY 2024, AOC will provide approximately 5,405 flight hours in support of NOAA scientific airborne requirements. The chart “Flight Hours by Fiscal Year” details the estimated flight hours at the FY 2024 base funding levels and compares those estimates to prior years. The AAP details the objective and duration of individual NOAA projects and identifies OMAO scheduled repair and maintenance periods on specific NOAA aircraft. Demands for time aboard NOAA aircraft are prioritized by the NOAA Fleet Council and outlined in the AAP. These include:

- **OMAO funded hours**, which are dedicated to NOAA’s scientific missions and are entirely funded by the Aviation Operations and Aircraft services PPA.
- **Program funded hours**, which may be funded by programs during the year of budget execution, based on funding and aircraft availability, and rely on OMAO’s flight crews and maintenance for safe and efficient operations. Program-funded flight hours can support any NOAA mission approved by the Fleet Council, including hurricane surveillance and reconnaissance, and are established through Service Level Agreements with NOAA programs, and reimbursable agreements with other agencies.
- **Support hours** include training, calibration, and maintenance flights. These hours ensure the crew and aircraft can safely and accurately collect data in support of NOAA's scientific missions.

Flight Hours by Fiscal Year



NOAA’s aircraft are versatile and can conduct a variety of missions. In FY 2023, NOAA will add a third King Air to its fleet. This aircraft has the potential to meet mission requirements in a rapidly changing arctic, expand capabilities for water resource management, map our shorelines, and provide critical emergency response data to the Nation. NOAA has historically been limited in its ability to deploy aircraft to Alaska due to long transit times, the need to retain the King Air’s emergency mapping capabilities in the continental US during hurricane season, and multiple missions requiring the aircraft. With this third King Air, NOAA will have greater

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capacity to predict flooding in remote communities and survey marine mammals. These capabilities are foundational for data that builds a climate ready nation. They enable smart, pro-active decision-making for floods, drought, coastal change and marine resources to help communities mitigate the impacts of climate change. NOAA will begin operating this new aircraft in spring of 2024 once trained pilots are available.²

The following table outlines the characteristics and primary mission areas of NOAA’s current aircraft:

Type	Primary Mission	Weight	Combined Flight Hour Capacity	Aircraft	Age (years)
P-3	Weather Forecasting, Research, and Modeling	Heavy	800	<i>N42RF</i>	46
				<i>N43RF</i>	46
G-IV	Weather Forecasting, Research, and Modeling	Heavy	600	<i>N49RF</i>	27
Twin Otter	Assessment and Management of Living Marine Resources	Light	3,000	<i>N57RF</i>	40
				<i>N56RF</i>	39
	<i>N48RF</i>			40	
	<i>N46RF</i>			36	
King Air	Charting and Surveying	Light	3,000	<i>N68RF</i>	12
				<i>N67RF</i>	2
				<i>N65RF</i> ³	NEW

² Additional information about pilots is available on page OMAO-40

³ Delivery of this aircraft is anticipated at the end of FY 2023.

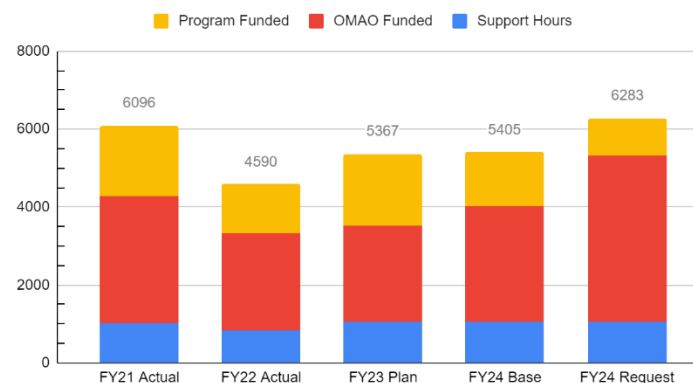
**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM INCREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Aviation Operations and Aircraft Services	Pos./BA	103	41,960	103	44,372	0	2,412
	FTE/OBL	97	41,960	97	44,372	0	2,412

Flight Hours in Support of Cross NOAA Climate Objectives (+\$2,412, 0 FTE/ 0 Positions) - NOAA will increase aircraft

operations in order to support increased airborne data requirements. This request will strengthen NOAA’s ability to meet current and growing demands for airborne data requirements as the Nation works to adapt to and mitigate the impacts of climate change. Increased flight hours will support surveys to better manage water resources in the face of climate-induced flooding and droughts, activities to better understand climate impacts on marine resources, and monitoring of shoreline changes. Specific missions conducted in FY 2024 will be determined through the NOAA Fleet Council.

Flight Hour Estimates



Schedule and Milestones:

FY 2024

- Target of approximately 6,283 flight hours

Deliverables:

FY 2024

- Target of 6,283 flight hours
- More data to understand and mitigate the impacts of climate change

**Department of Commerce
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Operations, Research, and Facilities
PROGRAM INCREASE FOR 2024**
(Dollar amounts in thousands)

Performance Measures	2024	2025	2026	2027	2028
Flight Hours					
With Increase	6,283	6,283	6,283	6,283	6,283
Without Increase	5,405	5,405	5,405	5,405	5,405
Outyear Costs:					
Direct Obligations	2,412	2,412	2,412	2,412	2,412
Capitalized	966	966	966	966	966
Uncapitalized	1,446	1,446	1,446	1,446	1,446
Budget Authority	2,412	2,412	2,412	2,412	2,412
Outlays	1,616	1,616	1,616	1,616	1,616
FTE	0	0	0	0	0
Positions	0	0	0	0	0

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National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Aviation Operations and Aircraft Services
Subactivity: Aviation Operations and Aircraft Services

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1 Full-time permanent compensation	6,467	7,792	8,221	8,221	0
11.3 Other than full-time permanent	0	794	794	794	0
11.5 Other personnel compensation	476	360	360	360	0
11.7 Military Personnel Compensation	140	0	0	0	0
11.9 Total personnel compensation	7,083	8,946	9,375	9,375	0
12 Personnel benefits	2,455	3,560	3,721	3,721	0
13 Benefits for former personnel	171	213	213	213	0
21 Travel and transportation of persons	2,361	1,767	1,779	1,779	0
22 Transportation of things	103	471	478	478	0
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental Payments to others	2,512	3,136	3,173	3,173	0
23.3 Communications, utilities and misc charges	935	935	935	935	0
24 Printing and reproduction	0	0	0	0	0
25.1 Advisory and assistance services	754	0	0	0	0
25.2 Other services from non-Federal sources	9,617	13,524	13,761	14,581	820
25.3 Other goods and services from Federal	1,686	1,686	1,686	1,832	146
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	7,888	5,798	6,420	7,866	1,446
31 Equipment	146	252	257	257	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	230	160	160	160	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	1	2	2	2	0
44 Refunds	0	0	0	0	0
99 Total obligations	35,942	40,450	41,960	44,372	2,412

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM DECREASE FOR 2024
(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>
Aviation Operations and Aircraft Services	Pos./BA	103	41,960	103	40,960	0	(1,000)
	FTE/OBL	97	41,960	97	40,960	0	(1,000)

Reduce Atmospheric Rivers Observations (-\$1,000, 0 FTE/ 0 Positions) – This request reduces the additional funds provided in FY 2023 appropriations for atmospheric river observations.

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Aviation Operations and Aircraft Services
Subactivity: Aviation Operations and Aircraft Services

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1 Full-time permanent compensation	6,467	7,792	8,221	8,221	0
11.3 Other than full-time permanent	0	794	794	794	0
11.5 Other personnel compensation	476	360	360	360	0
11.7 Military Personnel Compensation	140	0	0	0	0
11.9 Total personnel compensation	7,083	8,946	9,375	9,375	0
12 Personnel benefits	2,455	3,560	3,721	3,721	0
13 Benefits for former personnel	171	213	213	213	0
21 Travel and transportation of persons	2,361	1,767	1,779	1,779	0
22 Transportation of things	103	471	478	478	0
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental Payments to others	2,512	3,136	3,173	3,173	0
23.3 Communications, utilities and misc charges	935	935	935	935	0
24 Printing and reproduction	0	0	0	0	0
25.1 Advisory and assistance services	754	0	0	0	0
25.2 Other services from non-Federal sources	9,617	13,524	13,761	13,421	(340)
25.3 Other goods and services from Federal	1,686	1,686	1,686	1,626	(60)
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	7,888	5,798	6,420	5,820	(600)
31 Equipment	146	252	257	257	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	230	160	160	160	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	1	2	2	2	0
44 Refunds	0	0	0	0	0
99 Total obligations	35,942	40,450	41,960	40,960	(1,000)

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollars amounts in thousands)

Activity: Autonomous Uncrewed Technology Operations (AUTO)

Goal Statement

Execute NOAA missions with corporately owned and operated uncrewed systems (UxS) platforms. Transition NOAA missions onto UxS by funding development, testing and evaluation of new UxS platforms. Provide centralized uncrewed marine systems (UMS) services (data collection by private sector UMS service providers) to support NOAA's operational and research missions. Support uncrewed marine and aircraft systems across NOAA by providing a center of technical expertise and through coordinated policies, training and acquisition.

Base Program

The UxS Operations Center provides centralized UxS management and standardization of safety, training, inspections, and operational reviews, and is responsible for the strategic planning of UxS acquisition and operations within NOAA, consistent with NOAA's priorities and data needs. In addition, the UxS Operations Center provides UxS services to NOAA missions through corporately owned, operated and maintained UxS systems. UxS technology encompasses a wide range of platforms, from very small uncrewed aerial drones, to large multi-million dollar surface and underwater marine systems designed to operate in remote locations for extended periods of time. UxS include Uncrewed Aircraft Systems, Uncrewed Marine Systems surface and underwater vehicles, and Remote Operated Vehicles. The technology continues to evolve rapidly and is invaluable in supporting NOAA prioritized mission requirements such as hydrographic and habitat mapping, fishery stock assessment, and climate and weather forecasting.

OMAO partners with OAR to develop and transition new technologies and applications of uncrewed systems to cost effectively meet NOAA's missions. The NOAA Uncrewed Systems Executive Oversight Board (co-chaired by OAR and OMAO) will continue to coordinate UxS activities across NOAA.

Statement of Operating Objectives

Schedule and Milestones:

FY 2024 – FY 2028

- Execute prioritized UxS missions for NOAA's operational and research activities using both NOAA-owned UxS and contracted UxS services

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(Dollars amounts in thousands)

- Transition UxS that have received developmental funding into routine operations, including establishing staffing, training, and maintenance regimes
- Develop, maintain, and coordinate UxS policies and a community of practice in partnership with other NOAA Line Offices
- Provide operational support to NOAA from UxS Operations Center field locations including Gulfport, MS, Lakeland, FL, and Newport, OR
- Continue partnerships with other Federal agencies, academia, and industry to develop and evaluate UxS for NOAA missions
- Plan UxS platform and services acquisitions within NOAA
- Provide Uncrewed Aircraft Systems operational approvals, airworthiness inspections, standardization of training, and coordination of airspace approvals
- Train NOAA personnel to operate UxS

Deliverables:

FY 2024 – FY 2028

- Operate corporately-owned UxS in support of NOAA missions
- Transition NOAA UxS missions to routine operations as resources permit
- Provide funding and technical support of UxS projects in support of NOAA prioritized requirements
- Allocate funding and execute UMS services missions across priority NOAA mission areas
- Prepare for new Class B ships with integrated uncrewed systems through a trained workforce, refined requirements and specifications for acquisition, and mature concepts of operations
- Establish the OMAO UMS Operations Center in Gulfport, MS
- Acquire expertise and guidance, to ensure sound oversight of the purchase and/or lease of proven UxS
- Ensure safety and compliance with aviation regulations and policy
- Develop UxS operational capacity for climate, mapping and fisheries missions

**Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollars amounts in thousands)**

Explanation and Justification

Comparison by subactivity		2022		2023		2024	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Autonomous Uncrewed Technology Operations	Pos/BA	12	13,472	16	21,677	16	21,692
	FTE/OBL	6	14,720	13	21,677	13	21,692
Total Autonomous Uncrewed Technology Operations	Pos/BA	12	13,472	16	21,677	16	21,692
	FTE/OBL	6	14,720	13	21,677	13	21,692

The Autonomous Uncrewed Technology Operations program promotes the safe, efficient, and economical operation of UxS that NOAA uses to collect high-quality environmental data for the agency’s science, products and services. Its services include 1) supporting NOAA LO missions through policies and compliance assurance, training, acquisition, and technical and regulatory expertise; 2) operation of OMAO-owned UxS platforms that are high-value, multi-mission, or complex systems to augment NOAA missions where capacity exists; and 3) transitioning UxS applications for NOAA missions by funding research, development, testing, and evaluation of such applications. UxS allows NOAA to collect mission critical data already collected more efficiently, in higher resolution, or more safely. They also allow NOAA to collect data from remote, inaccessible locations. NOAA currently uses UxS for seafloor and habitat mapping, ocean exploration, marine mammal and fishery stock assessments, emergency response, and at-sea observations that improve forecasting of extreme events, such as harmful algal blooms and hypoxia.

Since its inception in FY 2020, the UxS Operations Center has supported research and development for UxS across NOAA. This has enabled NOAA to identify the most promising technologies and best practices to use UxS operationally across the organization. To do so, the UxS Operations Center has supported diverse academic, intergovernmental and private sector partnerships, including efforts to conduct agency-wide data acquisition from UMS. Deploying UxS has the potential to grow the blue economy while accelerating high-growth industry clusters consistent with the DOC Strategic Plan. Historically, OMAO has also conducted an internal request for proposals to transition uncrewed systems into operations. These projects have often leveraged the expertise of extramural partners to advance these technologies.

FY 2024 is a pivotal year for NOAA’s UxS. NOAA’s UxS Operations Center has supported nine projects in partnership with NOAA line offices and NOAA Cooperative Institutes since FY 2021 to transition them from research into operations. A list of these projects

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(Dollars amounts in thousands)

is available on the next page. These projects are on track to be operational by FY 2024 provided they meet milestones outlined in their transition plans. Some of these UxS missions will largely be operated by OMAO, some would be largely operated by other line offices and some would be a hybrid, operated jointly by OMAO and other Lines. Once operationalized, these projects have the potential to:

- Supplement ship-board sonars for the Alaska pollock by using an uncrewed surface vehicle (USV)
- Increase the productivity of two hydrographic survey ships by operating USVs on two ships
- Reduce the number of days needed annually for CalCOFI work by conducting much of that survey with ocean gliders
- Provide new near-real time information about false killer whale populations in Hawaii to support agile management of marine mammal populations in Pacific Island Exclusive Economic Zone areas
- Reduce risk to NOAA pilots and scientists by surveying remote Aleutian Steller Sea Lion populations with Uncrewed Aircraft Systems instead of crewed aircraft
- Preserve the ability to survey Atlantic scallops in wind farm areas by using an Autonomous Underwater Vehicle
- Better understand hurricane dynamics and low-level winds
- Increase profiles of greenhouse gasses at high altitudes
- Improve ecosystem information available to fishery managers and others in the Arctic with ocean gliders
- Accelerate the use of data-as-a-service UxS platforms for NOAA missions. For example, the agency could potentially improve hurricane forecasts by increasing the number of USVs deployed in hurricane missions from five to 10

To better meet its objective of regularly deploying operational UxS, OMAO will no longer conduct its RFP process to solicit new UxS projects. Instead, OMAO will reprioritize resources to sustainably operate approximately three of these nine projects. Some applications also depend on support from within the Line Offices to be successful. This shift will deliver on the public's investment in UxS research by finally operationalizing some UxS applications in NOAA.

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LO	Project	Initial Readiness Level	Proposed Readiness Level
NMFS	Uncrewed Surveys of Pinnipeds in the Aleutian Islands (USPAI) Project	4/5	8
OAR	Transitioning the Tropical Cyclone Air-Deployed sUAS CONOP to Operations	6	9
NMFS/NOS	Use of USVs in tandem with NOAA vessels to increase survey efficiency	6/7	8
NMFS/NOS	Advancing Uncrewed Aircraft Systems-based topo-bathymetric mapping operations along river corridors to inform management of endangered Pacific salmon	6	9
NMFS	Advancing Remote Marine Mammal Stock Assessment with Passive Acoustic Gliders	6	8
OAR	Uncrewed Underwater Vehicle for Scallop Survey	3	8
OAR	Transition of the Oculus glider into operations for NOAA ecosystem research	6	9
NMFS	High Altitude AirCore Retrieval System for Atmospheric Greenhouse Gas Profiling	7	9
NOS	REFOCUS - Reimagining Ecosystem and Fisheries Observations by Combining two UxS fleets.	5	8

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- 1 • Basic Research
- 2 • Applied Research
- 3 • Proof of Concept
- 4 • Validation of system in the lab or equivalent
- 5 • Validation of the system in a relevant environment
- 6 • Demonstration in a test environment
- 7 • Demonstration in a relevant environment
- 8 • Demonstrated in the actual environment
- 9 • Deployment and regular use

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National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM DECREASE FOR 2024**
(Dollar amounts in thousands)

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		<u>Personnel</u> <u>Amount</u>		<u>Personnel</u> <u>Amount</u>		<u>Personnel</u>	<u>Amount</u>
Autonomous Uncrewed	Pos./BA	16	21,692	16	14,560	0	(7,132)
Technology Operations	FTE/OBL	13	21,692	13	14,560	0	(7,132)

Eliminate Funding for Uncrewed Maritime Systems Services (-\$7,132, 0 FTE/ 0 Positions) - NOAA requests to eliminate congressionally-directed funding for Uncrewed Maritime Systems services provided in FY 2023. With funding in FY 2023, the UxS Operations Center, in consultation with NOAA’s UxS Executive Oversight Board, will select NOAA’s highest priority projects for data through uncrewed marine systems operated by the private sector. Potential projects include hurricane intensity research and forecasting, living marine resource surveys, ocean exploration and characterization, and hydrographic surveys. NOAA would focus on operationalizing corporately owned UMS in FY 2024 within remaining AUTO funds.

	2024	2025	2026	2027	2028
Outyear Costs:					
Direct Obligations	(7,132)	(7,132)	(7,132)	(7,132)	(7,132)
Capitalized	(7,132)	(7,132)	(7,132)	(7,132)	(7,132)
Uncapitalized	0	0	0	0	0
Budget Authority	(7,132)	(7,132)	(7,132)	(7,132)	(7,132)
Outlays	(4,778)	(4,778)	(4,778)	(4,778)	(4,778)
FTE	0	0	0	0	0
Positions	0	0	0	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Operations, Research, and Facilities
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Autonomous Uncrewed Technology Operations
Subactivity: Autonomous Uncrewed Technology Operations

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1 Full-time permanent compensation	474	394	405	405	0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	28	0	0	0	0
11.7 Military Personnel Compensation	0	0	0	0	0
11.9 Total personnel compensation	502	394	405	405	0
12 Personnel benefits	181	131	134	134	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	234	72	73	73	0
22 Transportation of things	234	1	1	1	0
23 Rent, communications, and utilities				0	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental Payments to others	281	281	281	281	0
23.3 Communications, utilities and misc charges	481	481	481	481	0
24 Printing and reproduction	2	0	0	0	0
25.1 Advisory and assistance services	850	414	414	414	0
25.2 Other services from non-Federal sources	3,281	12,454	12,454	5,322	(7,132)
25.3 Other goods and services from Federal	1,143	1,143	1,143	1,143	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	92	92	92	92	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	718	726	726	726	0
31 Equipment	246	365	365	365	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	6,475	5,123	5,123	5,123	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total obligations	14,720	21,677	21,692	14,560	(7,132)

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Operations, Research, and Facilities
JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollars amounts in thousands)

Activity: NOAA Commissioned Officer Corps

Goal Statement

Provide a highly specialized workforce with the scientific and operational expertise and skills to plan, prepare, design, and execute the acquisition of environmental data on land, at sea, and in the air. Provide centralized human resources support for all active duty officers of the NOAA Commissioned Officer Corps. Provide the commensurate pay and benefits, accession, operational rotational tempo, relocation, training, and military Human Resources support and policy functions that are unique to operating and sustaining a uniformed service.

Base Program

The NOAA Corps is one of the Nation's eight uniformed services. NOAA Corps officers command and staff NOAA's fleet of ships and aircraft; deploy, test, and manage NOAA's uncrewed systems; and support all NOAA's Line and Staff Offices, NOAA Headquarters, and the Department of Commerce. They also support the needs of other governmental agencies (e.g., U.S. Coast Guard), and Congress. They manage and facilitate design of scientific research projects, conduct diving operations, and serve in NOAA staff positions to fulfill NOAA's mission requirements. This activity supports the actual cost of the NOAA Corps, including officers' salaries, as well as benefits, accession, relocation, operational rotation tempo, training, promotions, separations, Tricare payments, and HR support for NOAA Corps officers working across all NOAA Line Office programs, along with the civilian staff and infrastructure needed for sustaining a uniformed service.

Statement of Operating Objectives

Schedule and Milestones:

FY 2024 – FY 2028

- Recruit a minimum of 10 NOAA Corps officers for each of two Basic Officer Training Classes annually
- Coordinate assignment changes and permanent change of station moves for NOAA Corps officers
- Track and administer the medical requirements of active duty officers
- Conduct workforce planning to sustain peak operating levels

Deliverables:

FY 2024 – FY 2028

- Expert pilots and mariners to support ship and aircraft mission requirements, with scientific expertise to support weather forecasting, research and modeling, assessment and management of living marine species, and charting and surveying
- 340 average annual strength of the NOAA Corps, including admirals

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(Dollars amounts in thousands)

- Increase officer strength to safely operate NOAA’s ships and aircraft and better meet NOAA mission needs
- Officers in place across all NOAA Line Offices and in other key governmental positions to meet and facilitate NOAA’s mission requirements
- Medical readiness of active duty officers
- Additional support services within Commissioned Personnel Center to keep pace with growth and personnel needs

Explanation and Justification

Comparison by subactivity		2022 Actual		2023 Enacted		2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
NOAA Corps	Pos/BA	355	55,040	360	62,500	367	66,161
	FTE/OBL	345	54,617	356	62,500	363	66,161
Total NOAA Corps	Pos/BA	355	55,040	360	62,500	367	66,161
	FTE/OBL	345	54,617	356	62,500	363	66,161

The NOAA Corps serves NOAA’s critical climate, weather, economic, and environmental stewardship missions through the command of NOAA’s ship, aircraft, and uncrewed systems fleet and expert assistance to NOAA’s line and staff office programs. NOAA Corps officers offer an efficient and unique combination of scientific and operational expertise that allows them to serve as scientific collaborators while operating NOAA ships and aircraft in service to the Nation. The combined expertise of NOAA Corps officers enables operational expertise, upholds scientific data integrity, and protects natural resources. NOAA Corps officers not only understand and can execute proper experimental design, they also understand the need to conduct missions to ensure consistent calibration of data collection instruments to yield high quality data series. All NOAA Corps officers hold undergraduate degrees in science, technology, engineering or mathematics, while more than half hold higher degrees. NOAA Corps officers operate and manage NOAA’s fleet of ships and aircraft, serve in positions of leadership and command across the Federal government (e.g., in NOAA, the Department of Commerce, the U.S. Coast Guard), in essential positions in Congress, and in the military during times of war or national emergency.

Centrally managed within OMAO’s Commissioned Personnel Center in Silver Spring, MD, the NOAA Corps provides a unique and valuable capability to the Nation, and NOAA Corps officers provide a responsiveness and flexibility inherent in a commissioned

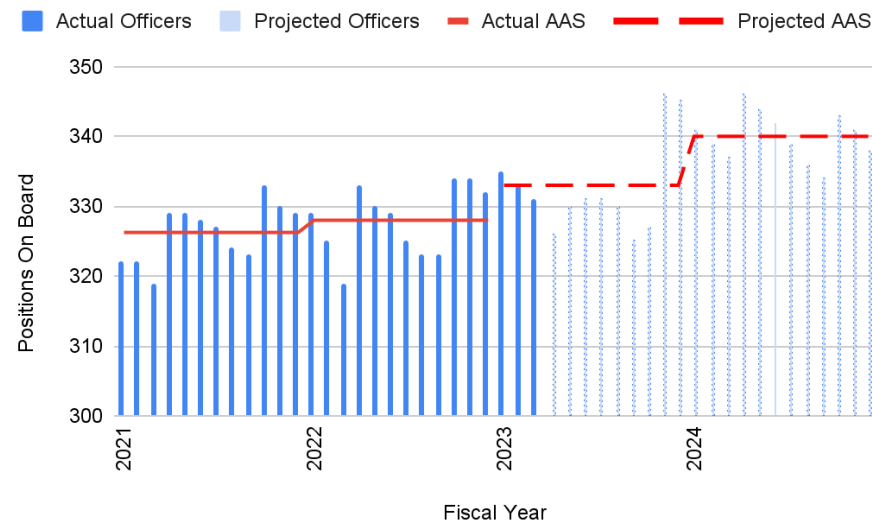
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personnel system. These benefits are evident among NOAA Corps aviators and mariners. Commanding Officers of NOAA's hydrography ships serve as the Chief Scientists for these missions, having received this rare and specialized training as part of becoming a NOAA Corps officer. These officers conduct the charting and mapping work that feeds into nautical charts, enabling cost-effective shipping paths for commerce, defense, fishing, and other activities. Among pilots, NOAA Corps officers' breadth of experience both within NOAA and as inter-service transfers allows NOAA Corps aviators to access extreme altitudes or restricted geopolitical areas - enabling NOAA to capture data that other agencies and commercial pilots cannot. This capability is only obtained after years of training, making the loss of any mid-career aviator that much more impactful to the support of critical severe weather research or other mission capabilities. Our pilots and ship captains also help test some of the most innovative weather and other sensing instruments (e.g., gamma machines), and equipment aboard NOAA planes and ships. The commercial sector does not have this same ability. More information on the NOAA Corps can be found at <https://www.oma.noaa.gov/learn/noaa-corps/about>.

The quality of NOAA data depends on having enough NOAA Corps officers to safely operate data collection platforms, critical to hurricane and atmospheric rivers forecasts, flood and drought prediction efforts, safe and efficient navigation, management of living marine resources, and global ocean monitoring. Each ship and aircraft has minimum staffing requirements to safely and effectively accomplish mission and performance objectives.

Based on current projections, the Corps will grow to an average annual strength of 340, with a peak of 346 officers. This builds on momentum from FY 2023, where additional funding will allow the Corps to commission 22 officer candidates at basic officer training in July. The size of the Corps is measured by average annual strength, consistent with its authorizing language. Average annual strength (AAS) reflects the average number of officers on board over the course of the year. With basic officer training twice a year and resignations and interservice transfers

The NOAA Corps is growing to meet requirements.



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throughout the year, the number of officers on board fluctuates. AAS measures how reliably the Corps can meet its operational requirements throughout the year. While the NOAA Corps serves all of NOAA, it is funded out of OMAO. Funds for retired NOAA Corps officers are appropriated in the mandatory NOAA Corps Commissioned Officers Retirement funds (see OMAO-64), and the Medicare Eligible Retiree Health Care Fund discretionary account (see OMAO-70).

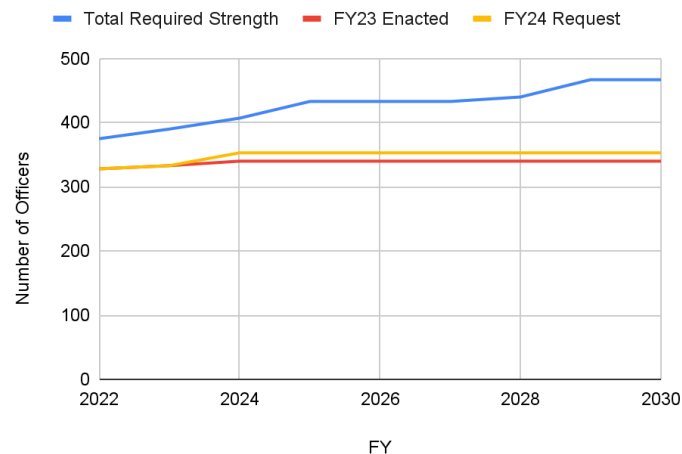
**Department of Commerce
National Oceanic and Atmospheric Administration
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PROGRAM INCREASE FOR 2024**
(Dollar amounts in thousands)

		2024 Base		2024 Estimate		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
NOAA Commissioned Officer Corps	Pos./BA	367	66,161	380	70,381	13	4,220
	FTE/OBL	370	66,161	380	70,381	10	4,220

Officers to Support Marine and Aviation Operations (+\$4,220, 10 FTE/ 13 Positions) – This request will provide safer and more reliable ship and aircraft operations in service to NOAA’s weather and climate forecasting, environmental stewardship, and other missions by shrinking the gap between the current and required number of NOAA Corps officers to operate NOAA ships, aircraft, and uncrewed systems, in support of NOAA, the Department of Commerce, Congress, and the nation.

In FY 2024, NOAA will provide healthy growth for the NOAA Corps, increasing existing capacity while ensuring an appropriate balance of experience levels within the Corps. By adding 13 officers in FY 2024, NOAA will shrink the NOAA Corps staffing gap by providing 353 total officers out of NOAA’s total required strength of 407. While NOAA cannot eliminate this gap in one fiscal year due to on-boarding and other constraints, the increase will allow NOAA to better prepare for new ships and aircraft currently in acquisition, meet scientific requirements, and retain its most qualified officers. In 2022, during Hurricane Ian, OMAO ran 24-hour operations for nine days straight, with only six pilots - all had to sign waivers to agree to exceed a recommended safety limit of 120 hours per 30 days. Growing the NOAA Corps reduces the likelihood that NOAA will exceed these limits in the future and will better meet growing demand for NOAA Corps services.

NOAA will shrink the NOAA Corps staffing gap.



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The demand for NOAA Corps services, and associated days at sea and flight hours, is growing. Increasing number and intensity of storms and extreme weather, impact of climate drivers on species patterns and distribution, nationwide demand for NOAA data, increased density of coastal communities and required resilience efforts, and new ship and aircraft acquisitions coming online over the next several years all require more staffing. At the same time, workforce burnout across the NOAA Corps is also increasing– from ship officers to pilots to shoreside professionals -.

NOAA is taking steps to recruit and retain additional pilots to fulfill mission needs via a variety of activities, to include increased recruitment at aviation events, funded social media contracts to increase visibility, increased Basic Officer Training Course class size with a specific carve-out for aviators, continuing retention bonuses, while working to follow the intent for an aviation accession program pursuant to the *National Oceanic and Atmospheric Administration Commissioned Officer Corps Amendments Act of 2020*, (33 U.S.C 3008).

Additional funding will help shrink the NOAA Corps staffing gap by allowing growth in FY 2024. Building on growth in FY 2023, the NOAA Corps will add 13 officers in FY 2024, providing sufficient staffing for positions on board the new NOAA ship *Oceanographer* coming online in FY 2024, and an initial delivery team for the *Discoverer*. Growth in staffing is required to better meet existing demands. With additional funds, NOAA will be better able to recruit and retain highly qualified officers, to ensure the nation has the experts it needs to help predict hurricanes, map our coasts, and maintain decades long data series that feed into our fishery stock assessments and protected species population assessments. This funding will also bolster the needed infrastructure within OMAO's Commissioned Personnel Center to ensure it has the expertise and tools to serve the changing demands of the NOAA Corps optimally.

Schedule and Milestones:

FY 2024

- Host Basic Officer Training Classes with up to 24 participants
- Maximize Inter-Service Transfers to on-board experienced pilots

Deliverables:

FY 2024

- 13 additional NOAA Corps Officers
- Increased cadre of expert pilots and mariners to support ship and aircraft mission requirements
- More cost-effective data collection

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- NOAA Corps staffing for the *Oceanographer* and initial staffing for the *Discoverer*, which will support oceanographic monitoring, research and modeling
- Improved reliability of marine and aviation operations
- Increased diversity of the Corps
- Improved NOAA Corps retention
- Additional highly skilled staffing within OMAO's Commissioned Personnel Center

Performance Measures	2024	2025	2026	2027	2028
Number of officers					
With Increase	353	353	353	353	353
Without Increase	340	340	340	340	340
Outyear Costs:					
Direct Obligations	4,220	4,220	4,220	4,220	4,220
Capitalized	1,181	1,181	1,181	1,181	1,181
Uncapitalized	3,039	3,039	3,039	3,039	3,039
Budget Authority	4,220	4,220	4,220	4,220	4,220
Outlays	2,827	2,827	2,827	2,827	2,827
FTE	10	10	10	10	10
Positions	13	13	13	13	13

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PROGRAM CHANGE PERSONNEL DETAIL**

Activity: NOAA Commissioned Officer Corps
 Subactivity: NOAA Commissioned Officer Corps
 Program Change: Officers to Support Marine and Aviation Operations

<u>Title</u>		<u>Grade</u>	<u>Number</u>	<u>Annual Salary</u>	<u>Total Salaries</u>
Commander		O-6	1	242,748	242,748
Captain		O-5	2	192,481	384,962
Lieutenant Commander		O-4	3	178,323	534,970
Lieutenant		O-3	3	143,791	431,373
Lieutenant Junior Grade		O-2	2	103,043	206,085
Ensign		O-1	2	100,179	200,359
Total			13		2,000,497
Less lapse	25.00%		(3)		(500,124)
Total full-time permanent (FTE)			10		1,500,373
2024 pay Adjustment (5.2%)					78,019
Total					1,578,392
 <u>Personnel Data Summary</u>					
Full-time Equivalent Employment (FTE)					
Full-time permanent			10		
Total FTE			10		
Authorized Positions					
Full-time permanent			13		
Total FTE			13		

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: NOAA Commissioned Officer Corps
Subactivity: NOAA Commissioned Officer Corps

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Increase from 2024 Base
11.1 Full-time permanent compensation	1,591	2,073	2,575	2,575	0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	38	38	38	38	0
11.7 Military Personnel Compensation	41,391	46,330	50,656	52,234	1,578
11.9 Total personnel compensation	43,020	48,441	53,269	54,847	1,578
12 Personnel benefits	6,431	6,910	7,637	8,781	1,144
13 Benefits for former personnel	0	168	168	168	0
21 Travel and transportation of persons	516	560	516	694	178
22 Transportation of things	1,264	1,331	1,266	1,389	123
23 Rent, communications, and utilities					
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental Payments to others	0	1	1	1	0
23.3 Communications, utilities and misc charges	0	0	0	0	0
24 Printing and reproduction	8	10	10	11	1
25.1 Advisory and assistance services	1	156	156	174	18
25.2 Other services from non-Federal sources	2,731	3,425	2,482	3,530	1,048
25.3 Other goods and services from Federal sources	585	1,427	585	700	115
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	35	46	46	61	15
31 Equipment	25	25	25	25	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	0	0	0	0	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	1	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total obligations	54,617	62,500	66,161	70,381	4,220

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Activity: Marine and Aviation Capital Investments

Goal Statement

Acquire effective and efficient aircraft and ship platforms to support NOAA's prioritized airborne and at-sea data requirements, maintain NOAA's current fleet at a higher state of readiness, and advance coastal and worldwide ocean survey and data collection through investment in new vessel construction.

Base Program

The Marine and Aviation Capital Investments activity includes three major Programs: Platform Capital Improvements and Technology Infusion, Vessel Recapitalization and Construction, and Aircraft Recapitalization and Construction. Each program plays a specific part in ensuring the continued health of NOAA's vessel and aircraft fleet to ensure the continued support of NOAA's mission requirements.

Statement of Operating Objectives

Platform Capital Improvements and Technology Infusion

Schedule and Milestones:

FY2024-FY 2028

- Perform phased overhauls, upgrades, and replacements of ship's systems through infrastructure improvement plans
- Restore and replace ship mission systems
- Address ship corrosion
- Develop and execute long-term maintenance plans to maximize the operational service life of all NOAA vessels
- Complete Service Depot Level Maintenance for NOAA's second P-3 aircraft
- Modify ships and aircraft to effectively deploy and recover uncrewed systems

Deliverables:

FY 2024-FY 2028

- Completion of *Ronald Brown* MRP, Q3 FY 2024
- Improved reliability of the fleet and reduced Days at Sea loss from unscheduled maintenance
- Continued capability of the NOAA Fleet-
- Secured operational status of NOAA's second P-3 through 2030

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- Uncrewed systems capacity for climate-related mapping, ecosystem assessment and fisheries missions

Vessel Recapitalization and Construction

Schedule and Milestones:

FY 2024

- Initial operating capability for N/V *Oceanographer*⁴

FY 2025

- Initial operating capability for N/V *Discoverer*

FY 2026

- Contract close out and full operating capability for the N/V *Oceanographer* and *Discoverer*
- Begin detailed design and construction of N/V Class C

FY 2028

- Initial operating capability for first N/V Class B

Aircraft Recapitalization and Construction

Schedule and Milestones:

FY 2024

- Continue management and oversight of aircraft acquisitions

FY 2025

- Delivery of the first G-550
- Install initial G-550 instruments and systems, test and calibrate
- Induct the G-550 into NOAA Fleet
- Decommission the G-IV

⁴ Initial operating capability for the *Oceanographer* indicates the beginning of the warranty/post-shakedown availability (PSA) period in which limited operations will be conducted.

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FY 2026

- Final operational testing and calibration of advanced instrumentation on first G-550
- Delivery of the second G-550, initial instrument and system installation and calibration

FY 2027

- Final operational testing and calibration of advanced instrumentation on second G-550

Deliverables:

FY 2025

- Initial operational capability (IOC) for first G-550⁵
- Begin disposal process for G-IV

FY 2026

- Full operational capability (FOC) for first G550⁶

FY 2027

- Delivery of modified 2nd G-550

FY 2028-2029

- Storage of modified 2nd G-550
- Install instrumentation

FY 2030

- Initial operating capacity for 2nd G-550

⁵ For IOC, aircraft will have basic in-situ meteorological measurement capabilities, dropsonde launch system and satellite communications to relay data to forecasters and models

⁶ FOC adds fully calibrated Tail Doppler Radar and operational HAMSr (down-looking continuous humidity swaths) to IOC

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FY 2031

- Complete instrumentation of 2nd G-550
- Full operational capability for 2nd G-550
- G-550 Acquisition Program complete

Explanation and Justification

<u>Comparison by subactivity</u>		<u>2022</u>		<u>2023</u>		<u>2024</u>	
		<u>Actual</u>		<u>Enacted</u>		<u>Base</u>	
		<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>	<u>Personnel</u>	<u>Amount</u>
Platform Capital Improvements & Tech Infusion	Pos/BA	19	24,043	17	28,000	17	33,000
	FTE/OBL	12	28,361	17	28,000	17	33,000
Vessel Recapitalization & Construction	Pos/BA	25	104,839	43	95,000	43	95,000
	FTE/OBL	24	73,733	40	95,000	40	95,000
Aircraft Recapitalization & Construction	Pos/BA	12	32,967	9	9,000	9	4,000
	FTE/OBL	6	20,778	9	9,000	9	4,000
Total Marine & Aviation Capital Investments	Pos/BA	56	161,849	69	132,000	69	132,000
	FTE/OBL	42	122,872	66	132,000	66	132,000

PLATFORM CAPITAL IMPROVEMENTS AND TECHNOLOGY INFUSION

The Platform Capital Improvements and Technology Infusion Program allows NOAA to plan and perform cyclic depot-level capital investments across the fleet, designed to maintain and extend the service life of NOAA’s vessels and aircraft. This program ensures that the required upgrades to aircraft and ship-board systems and mission equipment comply with safety requirements and the needs of the programs, and extend the reliability and functionality of NOAA ships and aircraft. Aircraft and ships receive regular upgrades and replacements of mission support equipment and technology infusions such as data processing and storage capacity, multi-beam sonars and sensors.

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OMAO monitors the material condition of aircraft through periodic Service Life Assessments and Service Life Extension Programs. The Service Life Assessments documents completed for all aircraft in FY 2016 by a third-party vendor provide key data on maintenance costs and trends; sustainability costs; reliability metrics and issues; all of which guide future capital investment decision making. In addition, OMAO uses manufacturer-provided Service Life Extension costs such as re-winging, major overhauls and upgrades to help determine economic feasibility, cost benefit and reliability data. These data are critical to maximizing future maintenance and capital investments.

For vessels, OMAO monitors their material condition through the Ship Structure and Machinery Evaluation process, which documents the results of inspections and identifies future work requirements to guide capital investment decision making. Additionally, OMAO uses manufacturer-provided information for new ships to develop maintenance profiles. To address regular capital improvements for NOAA ships, progressive lifecycle maintenance extends the service life of vessels by proactively overhauling, upgrading, or replacing shipboard systems before they deteriorate. Repairs completed through progressive lifecycle maintenance improve the material condition of the ships, provide sustained critical technology refresh, and ensure NOAA ships remain capable of collecting environmental data to provide accurate and reliable products and services critical for national security, public safety, and economic security.

The chart below lists the types of capital investments that vary from year-to-year based on the results of Ship Structure and Machinery Evaluation that assess the material condition of the ships and determine priority repairs:

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Crew Space Refurbishment	Science/ Mission Space Refurbishment	Shipboard Systems	Underwater Body	Mission Systems Refresh
Refrigeration systems	Renovation of laboratory spaces	Propulsion & generation systems overhaul	Blast hull	Multi-beam sonars and sensors
HVAC refurbishment	Modifications to allow for emerging technologies	Re-piping	Refurbish props/shafts	Ship-board electronic data processing and storage
Renovation of habitability spaces		Fire suppression upgrades	Refurbish valves/ piping	UxS Launch/ Recovery System
		Machinery monitoring upgrades		Small boats and launches
		Environmental equipment replace		Cranes, winches, davits

VESSEL RECAPITALIZATION AND CONSTRUCTION

Acquisition of new ships is the best way for NOAA to reliably and consistently sustain its at-sea data collection capability. NOAA’s Fleet Plan, released in 2016, assesses NOAA’s at-sea observational infrastructure needs through 2028 to protect lives, livelihoods, and valuable natural resources for the American public. The Fleet Plan identifies ways to extend and sustain at-sea data collection capabilities through the recapitalization of NOAA’s different Class vessels. The plan includes the critical long-term strategy of designing and constructing up to eight new ships specifically designed to meet NOAA’s core capability requirements based on mission and activities.

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Since releasing the Fleet Plan, NOAA has strengthened its knowledge of the condition and needs of the fleet. Material condition assessments paired with the American Bureau of Shipping Service Life Assessments have resulted in better confidence in the condition of NOAA ships; that and increased funding have improved the readiness of the fleet. As a result of these efforts and other best practices, the end of service lives for many of NOAA's ships have been extended from the dates published in the 2016 Fleet Plan. However, the trend of condition deterioration remains the same. To most efficiently meet its prioritized data requirements, NOAA needs new purpose-designed and constructed vessels.

NOAA's ships need to be multi-mission, adaptable, and capable of providing the infrastructure necessary to meet mission requirements now and into the future. In contrast to the wide variety of vessel types that currently comprise the NOAA Fleet, NOAA intends to reduce the number of ship classes in the future. Each class will focus on a core mission with secondary missions that make the best use of the vessel's capabilities. The table below identifies the primary and secondary missions of each ship. NOAA will standardize core equipment as much as possible and incorporate the latest technologies, including carbon-neutral features, across the Fleet to maximize efficient operations and move toward a net-zero fleet by 2050.

The Vessel Recapitalization and Construction program supports vessel acquisition, including instrumentation specific to NOAA missions. The program oversees these activities, which include a rigorous analysis of mission requirements, design, and alternative options to meet prioritized requirements. The new ship acquisition process consists of four phases: requirements analysis, concept design, preliminary design, and detailed design and construction. These phases are immediately followed by warranty and fleet introduction activities before the ship is ready for full operation. Efforts will be made throughout the process to leverage design aspects of previous ship classes and to create standardization across the Fleet to meet multiple core mission requirements.

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Ship	Primary Mission	Secondary Mission(s)
N/V Class A	Oceanographic Monitoring, Research and Modeling	Assessment and Management of Living Marine Resources (no trawl); Charting and Surveying
N/V Class B	Charting and Surveying	Assessment and Management of Living Marine Resources (no trawl);
		Oceanographic Monitoring, Research and Modeling
N/V Class C	Assessment and Management of Living Marine Resources (trawl-capable, shallow-draft)	Charting and Surveying
N/V Class D	Assessment and Management of Living Marine Resources (trawl capable, near-shore and deep ocean, longer endurance)	Charting and Surveying; Oceanographic Monitoring, Research and Modeling

Progress on NOAA’s Fleet Plan has helped put NOAA on a steady path toward a more reliable fleet that supports NOAA’s science needs. In FY 2022, construction began on the first two vessels in NOAA’s Fleet Plan—the NOAA Ships *Oceanographer* and *Discoverer*. These ships will be NOAA Class A vessels with primary missions of oceanographic monitoring, research and modeling. The *Oceanographer* will be homeported in Honolulu, Hawaii. The *Discoverer* will be homeported at Naval Station Newport, Rhode Island. The Class A vessels will incorporate the latest technologies, including emissions controls and high-efficiency diesel engines

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that support NOAA's goal of reducing its carbon footprint. Keel-laying ceremonies were conducted in Houma, Louisiana on June 16, 2022 for the *Oceanographer* and on October 28, 2022 for the *Discoverer*—a major step forward in the construction phase of the ships.

In FY 2023, NOAA began the detailed design and construction of N/V Class B. The Request for Proposal for two Class B vessels closed on October 12, 2022, with source selection still ongoing. Prior year funding will support the acquisition of two Class B vessels. The FY 2024 funding will continue to support program management of Class A as well as requirements analyses and the analysis of alternatives for the N/V Class C.

AIRCRAFT RECAPITALIZATION AND CONSTRUCTION

NOAA's aircraft are and will continue to be vital national assets for collecting observational data and providing critical products and services to communities and businesses around the country. Aircraft recapitalization is necessary for NOAA to keep its fleet of aircraft operational, and continue to provide essential services to the Nation, including accurate flood planning, hurricane forecasting, and data used by the Nation's emergency managers; fisheries data that supports the seafood and fishing industries; and hydrographic data to support safe navigation and maritime trade. These services affect individuals throughout the country and beyond, contributing to the Nation's \$4.6 trillion seaport-generated economic activity and \$200-billion fisheries industry.

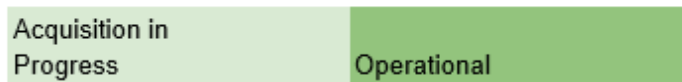
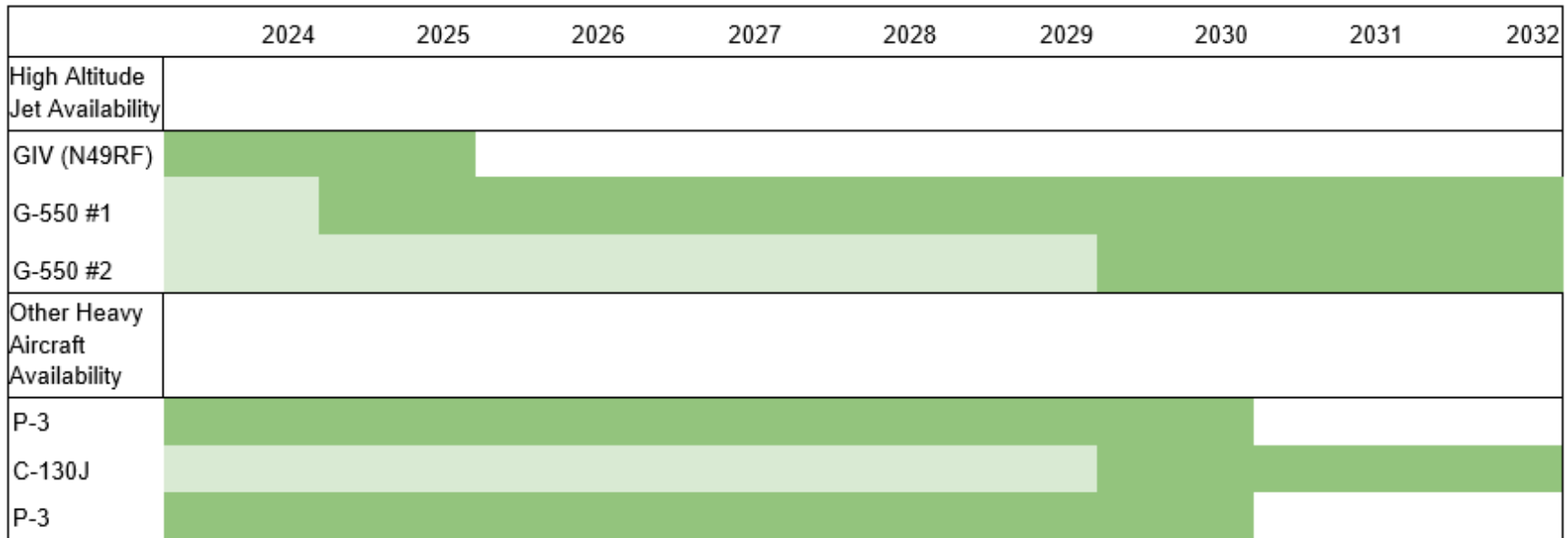
NOAA's aircraft are vital in providing observational data in support of hurricane, water supply and weather forecasting, nautical charting, and fisheries management. NOAA will finalize the acquisition of one G-550 to replace the current G-IV. This new aircraft will allow NOAA to continue to provide observations for critical missions, including hurricane and atmospheric rivers forecasts. NOAA requires delivery of this fully-modified aircraft no later than January 2025 in order to have a high altitude jet available for hurricane operations in the 2025 hurricane season. This timing also enables NOAA to calibrate the G-550 before the G-IV comes offline, ensuring G-550 data can be readily assimilated into forecasts. Once received, NOAA will install instrumentation, and calibrate and test the aircraft. With the FY 2024 funding provided in this request, in addition to the funding provided through the Inflation Reduction Act, NOAA will continue the acquisition of a second G-550 for its high-altitude jet program. Final operating capacity of a second G-550, which will increase NOAA's capacity for climate and extreme weather observations, is projected in 2031 at the current funding level.

NOAA's weather research missions will be increasingly at risk if the WP-3D replacement program does not follow an acquisition schedule to be operational by 2030. Through disaster supplemental funding, NOAA is in the process of replacing one of these

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aircraft. Aircraft reconnaissance data from NOAA's P-3s is essential to provide accurate weather guidance, improve models and forecasts, refine storm surge and hurricane watches and warnings, and provide better information to core partners. These aircraft conduct hurricane observations that improve hurricane intensity forecasts by 10-15 percent and track forecasts by 15-20 percent. It is not practical to extend the life of the P-3s as most of their parts and equipment are becoming obsolete due to increasingly restricted supply chains. Analysis shows that the costs of acquiring, modifying, and operating C-130J aircraft are more cost-effective, resulting in increased reliability compared to using P-3s.

The chart below outlines the availability of NOAA's heavy aircraft and acquisition timelines based on current plans and funding availability:



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PROGRAM DECREASE FOR 2024
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		2024 Base		2024 Estimate		Decrease from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Platform Capital	Pos./BA	17	33,000	17	30,000	0	(3,000)
Improvement and Tech Infusion	FTE/OBL	17	33,000	17	30,000	0	(3,000)

Decrease in Progressive Lifecycle Maintenance (-\$3,000, 0 FTE/ 0 Positions) – This request reduces the additional funds provided in FY 2023 appropriations for Progressive Lifecycle Maintenance.

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PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Platform Capital Improvement and Tech Infusion
Subactivity: Progressive Lifecycle Maintenance

Object Class		2022	2023	2024	2024	Decrease
		Actual	Enacted	Base	Estimate	from 2024 Base
11.1	Full-time permanent compensation	888	1,000	1,000	1,000	0
11.3	Other than full-time permanent	0	0	0	0	0
11.5	Other personnel compensation	96	100	100	100	0
11.7	Military Personnel Compensation	0	0	0	0	0
11.9	Total personnel compensation	984	1,100	1,100	1,100	0
12	Civilian personnel benefits	322	400	400	400	0
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	0	0	0	0	0
22	Transportation of things	30	30	30	30	0
23	Rent, communications, and utilities	0	0	0	0	0
23.1	Rental payments to GSA	0	0	0	0	0
23.2	Rental Payments to others	0	0	0	0	0
23.3	Communications, utilities and misc charges	0	0	0	0	0
24	Printing and reproduction	0	0	0	0	0
25.1	Advisory and assistance services	23,855	22,500	27,500	24,500	(3,000)
25.2	Other services from non-Federal sources	0	0	0	0	0
25.3	Other goods and services from Federal	0	0	0	0	0
25.4	Operation and maintenance of facilities	0	0	0	0	0
25.5	Research and development contracts	0	0	0	0	0
25.6	Medical care	0	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0	0
26	Supplies and materials	2,304	3,000	3,000	3,000	0
31	Equipment	866	970	970	970	0
32	Lands and structures	0	0	0	0	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	0	0	0	0	0
42	Insurance claims and indemnities	0	0	0	0	0
43	Interest and dividends	0	0	0	0	0
44	Refunds	0	0	0	0	0
99	Total obligations	28,361	28,000	33,000	30,000	(3,000)

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(Dollar amounts in thousands)**

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Platform Capital Improvement and Tech Infusion	Pos./BA	17	33,000	17	30,500	0	(2,500)
	FTE/OBL	17	33,000	17	30,500	0	(2,500)

Finish P-3 Service Depot Level Maintenance (-\$2,500, 0 FTE/ 0 Positions) -This request reflects the final phase of Service Depot Level Maintenance (SDLM) for NOAA’s two P-3 Hurricane Hunter aircraft in FY 2024. This maintenance is required to keep the aircraft operating by maintaining the aircraft’s airworthiness certification, a legal requirement to fly. The P-3s provide critical data that improve hurricane intensity and track forecasts by up to 15 percent and 20 percent, respectively. In addition, they collect data that help predict the location and severity of fire weather, tornadic activity, and atmospheric rivers. After hurricane season 2023, NOAA will initiate a SDLM on NOAA’s second P-3, including completing an inspection which determines what maintenance must be conducted in order to fly the plane again. Remaining available funding of \$2,500 in FY 2024 will complete that required maintenance. SDLM maintenance will extend the service life of the aircraft through 2030. Continued service of the aircraft is critical to observing changes in climate and aiding in forecasting major weather events. These forecasts and models provide emergency managers, policy-makers, industry, and scientific data users with the information they need to plan for, respond to and mitigate the impacts of climate events. Measuring and predicting climate change impacts are core to NOAA’s mission. Completing the SDLM is fundamental to NOAA’s and the Administration’s climate science goals, including EO 14008, through improved observations and forecasting for the American public.

Schedule and Milestones:

- Conduct SDLM inspection on second P-3

Deliverables:

- Successful maintenance on a critical hurricane surveillance aircraft
- Reduced downtime due to unscheduled maintenance and repairs
- Continued service life through 2030

**Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM DECREASE FOR 2024
(Dollar amounts in thousands)**

Platform Capital Improvements & Tech Infusion	2023 & Prior	2024	2025	2026	2027	2028	CTC	Total
Change from 2024 Base	N/A	(2,500)	(5,000)	(5,000)	(5,000)	(5,000)	TBD	TBD
Total Request	261,857	27,500	25,000	25,000	25,000	25,000	TBD	TBD

	2024	2025	2026	2027	2028
Outyear Costs:					
Direct Obligations	(2,500)	(2,500)	(2,500)	(2,500)	(2,500)
Capitalized	(2,500)	(2,500)	(2,500)	(2,500)	(2,500)
Uncapitalized	0	0	0	0	0
Budget Authority	(2,500)	(2,500)	(2,500)	(2,500)	(2,500)
Outlays	(1,675)	(1,675)	(1,675)	(1,675)	(1,675)
FTE	0	0	0	0	0
Positions	0	0	0	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Platform Capital Improvements and Tech Infusion
Subactivity: Platform Capital Improvements and Tech Infusion

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base
11.1 Full-time permanent compensation	888	1,000	1,277	1,277	0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	96	100	100	100	0
11.7 Military Personnel Compensation	0	0	0	0	0
11.9 Total personnel compensation	984	1,100	1,377	1,377	0
12 Personnel benefits	322	400	465	465	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	0	0	11	11	0
22 Transportation of things	30	30	36	36	0
23 Rent, communications, and utilities	0	0	0	0	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental Payments to others	0	0	41	41	0
23.3 Communications, utilities and misc charges	0	0	0	0	0
24 Printing and reproduction	0	0	0	0	0
25.1 Advisory and assistance services	0	0	0	0	0
25.2 Other services from non-Federal sources	23,855	22,500	26,703	26,703	0
25.3 Other goods and services from Federal	0	0	0	0	0
25.4 Operation and maintenance of facilities	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0
25.6 Medical care	0	0	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
25.8 Subsistence and support of persons	0	0	0	0	0
26 Supplies and materials	2,304	3,000	3,383	883	(2,500)
31 Equipment	866	970	984	984	0
32 Lands and structures	0	0	0	0	0
33 Investments and loans	0	0	0	0	0
41 Grants, subsidies and contributions	0	0	0	0	0
42 Insurance claims and indemnities	0	0	0	0	0
43 Interest and dividends	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 Total obligations	28,361	28,000	33,000	30,500	(2,500)

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM DECREASE FOR 2024
 (Dollar amounts in thousands)

		2024 Base		2024 Estimate		Decrease from 2024 Base	
		<u>Personnel Amount</u>		<u>Personnel Amount</u>		<u>Personnel</u>	<u>Amount</u>
Vessel Recapitalization and Construction	Pos./BA	43	95,000	43	75,000	0	(20,000)
	FTE/OBL	40	95,000	40	75,000	0	(20,000)

Decrease in New Vessel Construction (-\$20,000, 0 FTE/ 0 Positions) – This request reduces the additional funds provided in FY 2023 appropriations for Vessel Recapitalization and Construction, New Vessel Construction. Fund balances are sufficient to award two Class B vessels in FY 2023.

Department of Commerce
National Oceanic and Atmospheric Administration
Procurement, Acquisition, and Construction
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Vessel Recapitalization and Construction
Subactivity: Vessel Recapitalization and Construction

Object Class	2022 Actual	2023 Enacted	2024 Base	2024 Estimate	Decrease from 2024 Base	
11.1	Full-time permanent compensation	1,090	1,200	1,200	1,200	0
11.3	Other than full-time permanent	0	0	0	0	0
11.5	Other personnel compensation	17	20	20	20	0
11.7	Military Personnel Compensation	0	0	0	0	0
11.9	Total personnel compensation	1,107	1,220	1,220	1,220	0
12	Civilian personnel benefits	376	400	400	400	0
13	Benefits for former personnel	0	0	0	0	0
21	Travel and transportation of persons	80	80	80	80	0
22	Transportation of things	0	0	0	0	0
23	Rent, communications, and utilities	0	0	0	0	0
23.1	Rental payments to GSA	0	0	0	0	0
23.2	Rental Payments to others	0	0	0	0	0
23.3	Communications, utilities and misc charges	0	0	0	0	0
24	Printing and reproduction	26	26	26	26	0
25.1	Advisory and assistance services	0	0	0	0	0
25.2	Other services from non-Federal sources	71,112	93,274	93,274	73,274	(20,000)
25.3	Other goods and services from Federal	0	0	0	0	0
25.4	Operation and maintenance of facilities	0	0	0	0	0
25.5	Research and development contracts	0	0	0	0	0
25.6	Medical care	0	0	0	0	0
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons	0	0	0	0	0
26	Supplies and materials	1,029	0	0	0	0
31	Equipment	0	0	0	0	0
32	Lands and structures	0	0	0	0	0
33	Investments and loans	0	0	0	0	0
41	Grants, subsidies and contributions	0	0	0	0	0
42	Insurance claims and indemnities	0	0	0	0	0
43	Interest and dividends	3	0	0	0	0
44	Refunds	0	0	0	0	0
99	Total obligations	73,733	95,000	95,000	75,000	(20,000)

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**Department of Commerce
National Oceanic and Atmospheric Administration
NOAA Corps Retirement Pay (Mandatory)
SUMMARY OF RESOURCE REQUIREMENTS**
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
Enacted, 2023	0	0	34,760	34,760
plus: 2024 Adjustments to Base	0	0	238	238
2023 Base	0	0	34,998	34,998
Plus: 2024 Program Changes	0	0	0	0
2024 Estimate	0	0	34,998	34,998

		2022		2023		2024		2024		Increase/Decrease from 2024 Base	
		Actual		Enacted		Base		Estimate		Personnel	Amount
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount		
NOAA Corps Retirement Pay	POS/BA	0	34,409	0	34,760	0	34,998	0	34,998	0	0
	FTE/OBL	0	33,626	0	34,760	0	34,998	0	34,998	0	0
Total: NOAA Corps Retirement Pay	POS/BA	0	34,409	0	34,760	0	34,998	0	34,998	0	0
	FTE/OBL	0	33,626	0	34,760	0	34,998	0	34,998	0	0

**Department of Commerce
National Oceanic and Atmospheric Administration
NOAA Corps Retirement Pay (Mandatory)
SUMMARY OF RESOURCE REQUIREMENTS**
(Dollar amounts in thousands)

	2022		2023		2024		2024		Increase/ Decrease from 2024 Base	
	Actual		Enacted		Base		Estimate		FTE	Amount
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount		
Direct Discretionary Obligation	0	33,626	0	34,760	0	34,998	0	34,998	0	0
Total Obligations	0	33,626	0	34,760	0	34,998	0	34,998	0	0
Adjustments to Obligations:										
Unobligated balance	0	783	0	0	0	0	0	0	0	0
Total Budget Authority	0	34,409	0	0	0	34,998	0	34,998	0	0
Financing from Transfers and Other:										
	0	0	0	0	0	0	0	0	0	0
Net Appropriation	0	34,409	0	34,760	0	34,998	0	34,998	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
NOAA Corps Retirement Pay (Mandatory)
JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Activity: NOAA Corps Retirement Pay (Mandatory)

Goal Statement

Provide payment of benefits to retired NOAA Commissioned Officer Corps (NOAA Corps) Officers and their families.

Base Program

In FY 2020, there were 403 retired NOAA Corps officers receiving retired pay benefits, and 31 spouses or 34 dependents of deceased retired officers, who are still eligible to receive benefits.

Statement of Operating Objectives

Schedule and Milestones:

- Transfer funds to the U.S. Coast Guard (USCG)
- Administer Healthcare funds for non-Medicare-eligible retirees, dependents, and annuitants

Deliverables:

- Benefits for retired NOAA Corps Officers and their families

Explanation and Justification

The retirement system for the uniformed services provides a measure of financial security after release from active duty for service members and their survivors. It is an important factor in the choice of a career in the uniformed services, and the legal mandate for rates to be paid is the same for all uniformed services, see 10 USC. Retired pay is an entitlement to NOAA Commissioned Corps officers under 33 USCA 3044, 33 USCA 3045, and 33 USCA 3046. Retired pay funds are transferred to the USCG, which handles the payments each year as adjusted pursuant to the National Defense Authorization Act (NDAA). Healthcare funds for non-Medicare-eligible retirees, dependents, and annuitants are administered by OMAO.

This line includes funding for the modernized retirement system, which includes matching Thrift Savings Plan contributions, continuation pay, and retirement itself. Public Law 114-92, the NDAA for FY 2016—provides the Secretary the authority to provide Thrift Savings Plan contributions for members of the uniformed services effective January 1, 2018. Public Law 114-92, as amended

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Department of Commerce
National Oceanic and Atmospheric Administration
NOAA Corps Retirement Pay (Mandatory)
JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

by P.L. 114-328, the NDAA for FY 2017—modifies section 356 of title 37 and the use of continuation pay for full TSP members. Members must have “completed not less than [eight] and not more than [twelve] years of service” and “[enter] into an agreement of not less than [three] additional years of obligated service.” Continuation pay applies across the board to all military members who are in the modernized retirement system and is intended to help ensure retention after a member has the ability to acquire significant retirement benefits.

Legal authority for retirement of NOAA Corps officers is contained in 33 USCA 3044. Retired officers of the NOAA Corps receive retirement benefits that are administered by USCG, in accordance with a Memorandum of Agreement between the USCG and NOAA, with funds certified by the Commissioned Personnel Center within OMAO.

Department of Commerce
National Oceanic and Atmospheric Administration
NOAA Corps Retirement Pay (Mandatory)
SUMMARY OF RESOURCE REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	2022	2023	2024	2024	Increase/Decrease
	Actual	Enacted	Base	Estimate	from 2024 Base
Object Class					
13 Benefits for Former Personnel	33,626	34,760	34,998	34,998	0
25.3 Other goods and services from Federal sources	0	0	0	0	0
Total Obligations	33,626	34,760	34,998	34,998	0
Less prior year recoveries	0	0	0	0	0
Less unobligated balance, SOY	0	0	0	0	0
Plus unobligated balance, EOY	783	0	0	0	0
Offsetting collections, Mandatory	0	0	0	0	0
Less: Previously Unavail. Unoblig. Bal.	0	0	0	0	0
Total Budget Authority Mandatory	34,409	34,760	34,998	34,998	0
Personnel Data					
Full-Time Equivalent Employment					
Full-time permanent	0	0	0	0	0
Other than full-time permanent	0	0	0	0	0
Total	0	0	0	0	0
Authorized Positions:					
Full-time permanent	0	0	0	0	0
Other than full-time permanent	0	0	0	0	0
Total	0	0	0	0	0

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**Department of Commerce
National Oceanic and Atmospheric Administration
Medicare Eligible Retiree Health Fund Contribution – NOAA Corps
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)**

	Positions	FTE	Budget Authority	Direct Obligations
Enacted, 2023	0	0	1,970	1,970
Plus: 2024 Adjustments to Base	0	0	(353)	(353)
2024 Base	0	0	1,617	1,617
Plus: 2024 Program Changes	0	0	0	0
2024 Estimate	0	0	1,617	1,617

		2022		2023		2024		2024		Increase from 2024 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Medicare Eligible Retiree Health Fund Contribution	Pos/BA	0	1,883	0	1,970	0	1,617	0	1,617	0	0
	FTE/OBL	0	1,883	0	1,970	0	1,617	0	1,617	0	0
Total: Medicare Eligible Retiree Health Fund Contribution	Pos/BA	0	1,883	0	1,970	0	1,617	0	1,617	0	0
	FTE/OBL	0	1,883	0	1,970	0	1,617	0	1,617	0	0

**Department of Commerce
National Oceanic and Atmospheric Administration
Medicare Eligible Retiree Health Fund Contribution – NOAA Corps
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)**

	2022		2023		2024		2024		Increase/ Decrease from 2024 Base	
	Actual		Enacted		Base		Estimate		FTE	Amount
	FTE	Amount	FTE	Amount	FTE	Amount	FTE	Amount		
Direct Discretionary Obligation	0	1,883	0	1,970	0	1,617	0	1,617	0	0
Total Obligations	0	1,883	0	1,970	0	1,617	0	1,617	0	0
Adjustments to Obligations:										
Unobligated balance	0	0	0	0	0	0	0	0	0	0
Total Budget Authority	0	1,883	0	1,970	0	1,617	0	1,617	0	0
Financing from Transfers and Other:										
Net Appropriation	0	1,883	0	1,970	0	1,617	0	1,617	0	0

Department of Commerce
National Oceanic and Atmospheric Administration
Medicare Eligible Retiree Health Fund Contribution – NOAA Corps
JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollars amounts in thousands)

Activity: Medicare-Eligible Retiree Healthcare Fund Contribution - NOAA Corps

Goal Statement

This account is NOAA's contribution to a health care accrual fund for NOAA Commissioned Officer Corps officers. The accrual fund pays for the future health care benefits for current officers once they retire and become Medicare-eligible, as well as for their dependents and annuitants.

Base Program

For FY 2024, payments to the accrual fund are estimated at \$1,617.

Statement of Operating Objectives

Schedule and Milestones: (On-going)

- Contribute to healthcare accrual fund
- Provide healthcare benefits to eligible retired NOAA Corps Officers and their dependents and annuitants

Deliverables:

- Healthcare benefits of present, active-duty NOAA offices and their dependents and annuitants

Explanation and Justification

The FY 2003 NDAA requires all uniformed services, including NOAA, to participate in an accrual fund for Medicare-eligible retirees. Payments into this accrual fund will cover the future health care benefits of present, active-duty NOAA officers and their dependents and annuitants.

Department of Commerce
National Oceanic and Atmospheric Administration
Medicare Eligible Retiree Health Fund Contribution – NOAA Corps
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

	2022	2023	2024	2024	Increase/Decrease
	Actual	Enacted	Base	Estimate	from 2024 Base
Object Class					
13 Benefits for Former Personnel	1,883	1,970	1,617	1,617	0
25.3 Other goods and services from Federal sources	0	0	0	0	0
Total Obligations	1,883	1,970	1,617	1,617	0
Less prior year recoveries	0	0	0	0	0
Less unobligated balance, SOY	0	0	0	0	0
Plus unobligated balance, EOY	0	0	0	0	0
Offsetting collections, Mandatory	0	0	0	0	0
Less: Previously Unavail. Unoblig. Bal.	0	0	0	0	0
Total Budget Authority Mandatory	1,883	1,970	1,617	1,617	0
Personnel Data					
Full-Time Equivalent Employment					
Full-time permanent	0	0	0	0	0
Other than full-time permanent	0	0	0	0	0
Total	0	0	0	0	0
Authorized Positions:					
Full-time permanent	0	0	0	0	0
Other than full-time permanent	0	0	0	0	0
Total	0	0	0	0	0

**Department of Commerce
National Oceanic and Atmospheric Administration
APPROPRIATION LANGUAGE AND CODE CITATIONS**

For expenses necessary for activities authorized by law for the National Oceanic and Atmospheric Administration,

5 USC 5348	15 USC 1514	16 USC 3645	33 USC 1952	51 USC 6061
5 USC 4703	15 USC 1517	16 USC 4101 et seq.	33 USC 2706	
7 USC 1622	15 USC 1537-40	16 USC 4701 et seq.	33 USC 2712	
10 USC 1072	15 USC 8511-8521	16 USC 5001 et seq.	33 USC 2801 et seq.	
10 USC 1116	16 USC 6804 note	16 USC 8206	33 USC 3001 et seq.	
10 USC 1409	16 USC 46a	196 USC 4732	33 USC 3402	
10 USC 2311	16 USC 661 et seq.	31 USC 1105	33 USC 3501	
10 USC 8931	16 USC 757a et seq.	31 USC 6401	33 USC 3601	
12 USC 1715m	16 USC 1361	33 USC 706 et seq.	33 USC 3703	
15 USC 313	16 USC 1431 et seq.	33 USC 883 a-i et seq.	33 USC 4001	
15 USC 313a	16 USC 1447a et seq.	33 USC 891 et seq.	33 USC 4213	
15 USC 313b	16 USC 1451 et seq.	33 USC 893 et seq.	42 USC 8902-05	
15 USC 313 note	16 USC 1456a	33 USC 1121 et seq.	42 USC 9601 et seq.	
15 USC 325	16 USC 1456-1	33 USC 1141	43 USC 1347e	
15 USC 330b	16 USC 1467	33 USC 1251 note	43 USC 3102	
15 USC 330e	16 USC 1531 et seq.	33 USC 1321	44 USC 1307	
15 USC 1511 b-e	16 USC 1801 et seq.	33 USC 1441-44	49 USC 44720	

Government Organization and Employees

5 USC 5348 - Crews of Vessels

“...the pay of officers and members of crews of vessels excepted from chapter 51 of this title by section 5102(c)(8) of this title shall be fixed and adjusted from time to time as nearly as is consistent with the public interest in accordance with prevailing rates and practices in the maritime industry.”

5 USC 4703- Demonstration Projects

“...the Office of Personnel Management may, directly or through agreement or contract with one or more agencies and other public and private organizations, conduct and evaluate demonstration projects.”

**Department of Commerce
National Oceanic and Atmospheric Administration
APPROPRIATION LANGUAGE AND CODE CITATIONS**

Agriculture

7 USC 1622 - Distribution and Marketing of Agricultural Products

“The Secretary ... is directed and authorized: ...

- (a) to determine the needs and develop or assist in the development of plans for the proper assembly, processing, transportation, storage, distribution, and handling of agricultural (fish) products.
- (f) to conduct and cooperate in consumer education for the more effective utilization and greater consumption of agricultural products (fish)...
- (g) to collect and disseminate marketing information... for the purpose of ... bringing about a balance between production and utilization of agricultural (fish) products.
- (h) to inspect, certify, and identify the class, quality, quantity and condition of agricultural (fish) products ...
- (m) to conduct ... research ... to determine the most efficient ... processes for the handling, storing, preserving, protecting...of agricultural (fish) commodities ...”

(h) - Duties of Secretary relating to agricultural products; penalties

“Whoever knowingly shall falsely make, issue, alter, forge, or counterfeit any official certificate, memorandum, or other identification, with respect to inspection, class, grade, quality, size, quantity, or condition, issued or authorized under this section or knowingly cause or procure, or aid, assist in, or be a party to, such false making, issuing, altering, forging, or counterfeiting, or whoever knowingly shall possess, without promptly notifying the Secretary (of Commerce) or his representative, utter, published, or used as true, any such falsely made, altered forged, or counterfeited official certificate, memorandum, mark, identification, or device, or whoever knowingly represents that an agricultural product has been officially inspected or graded...when in fact such commodity has not been so graded or inspected shall be fined not more than \$1,000 or imprisoned not more than one year, or both.”

Armed Forces

10 USC 1072 Medical and Dental Care

“...The term “uniformed services” means the armed forces and the Commissioned Corps of the National Oceanic and Atmospheric Administration and of the Public Health Service.”

Department of Commerce
National Oceanic and Atmospheric Administration
APPROPRIATION LANGUAGE AND CODE CITATIONS

10 USC 1116 Determinations of Contributions to the Fund

“At the beginning of each fiscal year after September 30, 2005, the Secretary of the Treasury shall promptly pay into the Fund from the General Fund of the Treasury--(1) the amount certified to the Secretary by the Secretary of Defense under subsection (c), which shall be the contribution to the Fund for that fiscal year required by section 1115; and (2) the amount determined by each administering Secretary under section 1111(c) as the contribution to the Fund on behalf of the members of the uniformed services under the jurisdiction of that Secretary.”

10 USC 1409 - Retired pay multiplier

“(4) Modernized retirement system.--(A) Reduced multiplier for full tsp members .-Notwithstanding paragraphs (1), (2), and (3), in the case of a member who first becomes a member of the uniformed services on or after January 1, 2018, or a member who makes the election described in subparagraph (B) (referred to as a "full TSP member")- (i) paragraph (1)(A) shall be applied by substituting "2" for "2½"; (ii) clause (i) of paragraph (3)(B) shall be applied by substituting "60 percent" for "75 percent"; and (iii) clause (ii)(I) of such paragraph shall be applied by substituting "2" for "2½". (B) Election to participate in modernized retirement system .-Pursuant to subparagraph (C), a member of a uniformed service serving on December 31, 2017, who has served in the uniformed services for fewer than 12 years as of December 31, 2017, may elect, in exchange for the reduced multipliers described in subparagraph (A) for purposes of calculating the retired pay of the member, to receive Thrift Savings Plan contributions pursuant to section 8440e(e) of title 5. (C) Election period.- (i) In general .-Except as provided in clauses (ii) and (iii), a member of a uniformed service described in subparagraph (B) may make the election authorized by that subparagraph only during the period that begins on January 1, 2018, and ends on December 31, 2018. (ii) Hardship extension .-The Secretary concerned may extend the election period described in clause (i) for a member who experiences a hardship as determined by the Secretary concerned. (iii) Effect of break in service .-A member of a uniformed service who returns to service after a break in service that occurs during the election period specified in clause (i) shall make the election described in subparagraph (B) within 30 days after the date of the reentry into service of the member.”

10 USC 2311 Assignment and Delegation of Procurement Functions and Responsibilities

- (a) In General.--Except to the extent expressly prohibited by another provision of law, the head of an agency may delegate, subject to his direction, to any other officer or official of that agency, any power under this chapter.
- (b) Procurements For or With Other Agencies.--Subject to subsection (a), to facilitate the procurement of property and services covered by this chapter by each agency named in section 2303 of this title for any other agency, and to facilitate joint procurement by those agencies--
 - (1) the head of an agency may delegate functions and assign responsibilities relating to procurement to any officer or employee within such agency;

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National Oceanic and Atmospheric Administration
APPROPRIATION LANGUAGE AND CODE CITATIONS

- (2) the heads of two or more agencies may by agreement delegate procurement functions and assign procurement responsibilities from one agency to another of those agencies or to an officer or civilian employee of another of those agencies; and
- (3) the heads of two or more agencies may create joint or combined offices to exercise procurement functions and responsibilities.

10 USC 8931 – National Oceanographic Partnership Program

The Secretary of the Navy shall establish a program to be known as the “National Oceanographic Partnership Program.”

Banks and Banking

12 USC 1715m - Mortgage Insurance for Servicemen [NOAA Corps]

This section authorizes payment of Federal Housing Administration (FHA) home mortgage insurance premiums to NOAA Corps Officers.

Commerce and Trade

15 USC 313 - Duties of Secretary of Commerce [National Weather Service]

“The Secretary of Commerce...shall have charge of the forecasting of weather,...issue of storm warnings,...weather and flood signals,... gauging and reporting of rivers,...collection and transmission of marine intelligence...,...reporting of temperature and rainfall conditions..., the display of frost and cold-wave signals, the distribution of meteorological information..., and the taking of such meteorological observations as may be necessary to establish and record the climatic conditions of the United States, or as are essential for the proper execution of the foregoing duties.”

15 USC 313a - Establishment of Meteorological Observation Stations in the Arctic Region

“... The Secretary of Commerce shall ... take such actions as may be necessary in the development of an international basic meteorological reporting network in the Arctic region of the Western Hemisphere...”

15 USC 313b - Institute for Aviation Weather Prediction

“The Administrator of the National Oceanic and Atmospheric Administration shall establish an Institute for Aviation Weather Prediction. The Institute shall provide forecasts, weather warnings, and other weather services to the United States aviation community...”

**Department of Commerce
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15 USC 313d – National Integrated Drought Information System (NIDIS) Program

“The Under Secretary, through the National Weather Service and other appropriate weather and climate programs in the National Oceanic and Atmospheric Administration, shall establish a National Integrated Drought Information System to better inform and provide for more timely decisionmaking to reduce drought related impacts and costs.”

15 USC 313 note - Weather Service Modernization Act (a)

As part of the budget justification documents submitted to Congress in support of the annual budget request for the department of Commerce, the Secretary shall include a National Implementation Plan for modernization of the National Weather Service for each fiscal year following fiscal year 1993 until such modernization is complete. The Plan shall set forth the actions, during the 2-year period beginning with the fiscal year for which the budget request is made, that will be necessary to accomplish the objectives described in the Strategic Plan.

15 USC 325 - Spending Authority for the National Weather Service

“...Appropriations now or hereafter provided for the National Weather Service shall be available for: (a) furnishing food and shelter...to employees of the Government assigned to Arctic stations; (b) equipment and maintenance of meteorological offices and stations, and maintenance and operation of meteorological facilities outside the United States... (c) repairing, altering, and improving of buildings occupied by the National Weather Service, and care and preservation of grounds...(d) arranging for communication services... and
(e) purchasing tabulating cards and continuous form tabulating paper.

15 USC 330b - Duties of Secretary relating to Weather Modification Activities or Attempts - Reporting Requirement

“The Secretary shall maintain a record of weather modification activities, including attempts, which take place in the United States and shall publish summaries thereof from time to time as he determines.”

(a) “All reports, documents, and other information received by the Secretary under the provisions of this chapter shall be made available to the public to the fullest practicable extent.”

15 USC 330e - Authorization of Appropriations relating to Weather Modification Activities or Attempts - Reporting Requirement

This section provides funding authority to support the reporting requirements specified in this chapter.

15 USC 1511b - United States Fishery Trade Officers

“For purposes of carrying out export promotion and other fishery development responsibilities, the Secretary of Commerce...shall appoint not fewer than six officers who shall serve abroad to promote United States fishing interests. These officers shall be knowledgeable about the United States fishing industry, preferably with experience derived from the harvesting,

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processing, or marketing sectors of the industry or from the administration of fisheries programs. Such officers, who shall be employees of the Department of Commerce, shall have the designation of fishery trade officers.”

15 USC 1511c - NOAA Estuarine Programs Office

“... The Estuarine Programs Office shall develop, coordinate, and implement the estuarine activities of the administration with the activities of other Federal and State agencies. There are authorized to be appropriated to the Administration not to exceed \$560,000 for fiscal year 1989, and \$600,000 for fiscal year 1990.”

15 USC 1511d - Chesapeake Bay Office

The Secretary of Commerce shall establish, within the National Oceanic and Atmospheric Administration, an office to be known as the Chesapeake Bay Office...which shall provide technical assistance on processes impacting the Chesapeake Bay system, its restoration and habitat protection; develop a strategy to meet the commitments of the Chesapeake Bay Agreement; and coordinate programs and activities impacting the Chesapeake Bay, including research and grants.

15 USC 1511e - Office of Space Commercialization

“There is established with the Department of Commerce an Office of Space Commercialization” which shall “promote commercial provider investment in space activities...assist United States commercial providers in [their efforts to] conduct business with the United States Government, [act] as an industry advocate within the executive branch..., ensure that the United States Government does not compete with United States commercial providers..., [promote] the export of space-related goods and services, [represent] the Department of Commerce in the development of United States policies...and [seek] the removal of legal, policy, and institutional impediments to space commerce.”

15 USC 1514 - Basic Authority for Performance of Certain Functions and Activities of Department

“Appropriations are authorized for the following activities of the Department of Commerce:

- (a) furnishing to employees...and their dependents, in Alaska and other points outside the continental United States, free emergency medical services...and supplies;
- (b) purchasing, transporting, storing, and distributing food and other subsistence supplies for resale to employees...and their dependents, in Alaska and other points outside the continental United States at a reasonable value...; the proceeds from such resales to be credited to the appropriation from which the expenditure was made;
- (c) ...establishment, maintenance, and operation of messing facilities, by contract or otherwise, in Alaska and other points outside the continental United States..., such service to be furnished to employees...and their dependents,...
- (d) reimbursement...of officers or employees in or under the Department...for food, clothing, medicines, and other supplies furnished by them in emergencies for the temporary relief of dislocated persons in remote localities;

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- (e) providing motion-picture equipment and film for recreation of crews of vessels..., for recreation for employees in remote localities..., and for training purposes;
- (f) erecting, altering, repairing, equipping, furnishing, and maintaining...such living and working quarters and facilities as may be necessary to carry out its authorized work at remote localities not on foreign soil where such living and working accommodations are not otherwise available.”

15 USC 1517 - Transfer of Statistical or Scientific Work

“The President is authorized, by order in writing, to transfer at any time the whole or any part of any office, bureau, division, or other branch of the public service engaged in statistical or scientific work, from the Department of State, the Department of the Treasury, the Department of Defense, the Department of Justice, the United States Postal Service, or the Department of the Interior, to the Department of Commerce; and in every such case the duties and authority performed by and conferred by law upon such office, bureau, division, or other branch of the public service, or the part thereof so transferred, shall be thereby transferred with such office, bureau, division, or other branch of the public service, or the part thereof which is so transferred. All power and authority conferred by law, both supervisory and appellate, upon the department from which such transfer is made, or the Secretary thereof, in relation to the said office, bureau, division, or other branch of the public service, or the part thereof so transferred, shall immediately, when such transfer is so ordered by the President, be fully conferred upon and vested in the Department of Commerce, or the Secretary thereof, as the case may be, as to the whole or part of such office, bureau, division, or other branch of the public service so transferred.”

15 USC 1537 Needs Assessment for Data Management

“Not later than 12 months after October 29, 1992, and at least biennially thereafter, the Secretary of Commerce shall complete an assessment of the adequacy of the environmental data and information systems of NOAA.”

15 USC 1538 – Notice of reprogramming

(a) In general

The Secretary of Commerce shall provide notice to the Committee on Commerce, Science, and Transportation and Committee on Appropriations of the Senate and to the Committee on Merchant Marine and Fisheries, Committee on Science, Space, and Technology, and Committee on Appropriations of the House of Representatives, not less than 15 days before reprogramming funds available for a program, project, or activity of the National Oceanic and Atmospheric Administration in an amount greater than the lesser of \$250,000 or 5 percent of the total funding of such program, project, or activity if the reprogramming-

- (1) augments an existing program, project, or activity;
- (2) reduces by 5 percent or more (A) the funding for an existing program, project, or activity or (B) the numbers of personnel therefor as approved by Congress; or

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(3) results from any general savings from a reduction in personnel which would result in a change in an existing program, project, or activity.

(b) Notice of reorganization

The Secretary of Commerce shall provide notice to the Committees on Merchant Marine and Fisheries, Science, Space, and Technology, and Appropriations of the House of Representatives, and the Committees on Commerce, Science, and Transportation and Appropriations of the Senate not later than 15 days before any major reorganization of any program, project, or activity of the National Oceanic and Atmospheric Administration.

15 USC 1539 – Financial Assistance

(a) Processing of applications

Within 12 months after October 29, 1992, the Secretary of Commerce shall develop and, after notice and opportunity for public comment, promulgate regulations or guidelines to ensure that a completed application for a grant, contract, or other financial assistance under a nondiscretionary assistance program shall be processed and approved or disapproved within 75 days after submission of the application to the responsible program office of the National Oceanic and Atmospheric Administration.

(b) Notification of applicant

Not later than 14 days after the date on which the Secretary of Commerce receives an application for a contract, grant, or other financial assistance provided under a nondiscretionary assistance program administered by the National Oceanic and Atmospheric Administration, the Secretary shall indicate in writing to the applicant whether or not the application is complete and, if not complete, shall specify the additional material that the applicant must provide to complete the application.

(c) Exemption

In the case of a program for which the recipient of a grant, contract, or other financial assistance is specified by statute to be, or has customarily been, a State or an interstate fishery commission, such financial assistance may be provided by the Secretary to that recipient on a sole-source basis, notwithstanding any other provision of law.

(d) “Nondiscretionary assistance program” defined

In this section, the term “nondiscretionary assistance program” means any program for providing financial assistance—

- (1) under which the amount of funding for, and the intended recipient of, the financial assistance is specified by Congress; or
- (2) the recipients of which have customarily been a State or an interstate fishery commission.

15 USC 1540 – Cooperative Agreements

“The Secretary of Commerce, acting through the Under Secretary of Commerce for Oceans and Atmosphere, may enter into cooperative agreements and other financial agreements with any nonprofit organization to (1) aid and promote scientific and educational activities to foster public understanding of the National Oceanic and Atmospheric Administration or its programs; and (2) solicit private donations for the support of such activities.”

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15 USC 8511-8521 – United States Weather Research and Forecasting Improvement

In conducting research, the Under Secretary shall prioritize improving weather data, modeling, computing, forecasting, and warnings for the protection of life and property and for the enhancement of the national economy.

Conservation

16 USC 6804 note – John D. Dingell Jr. Conservation, Management, and Recreation Act

(b)EVERY KID OUTDOORS PROGRAM.—

“(1)ESTABLISHMENT.—The Secretaries shall jointly establish a program, to be known as the ‘Every Kid Outdoors program’, to provide free access to Federal land and waters for students and accompanying individuals in accordance with this subsection.

16 USC 46a - Marine Fisheries Program Authorization Act

This Act authorizes NMFS fisheries programs not otherwise authorized by law, including research to reduce entanglement of marine mammals in fishing gear, development of habitat restoration techniques, restoration of Chesapeake Bay, and conservation of Antarctic living marine resources.

16 USC 661 et seq.- Declaration of Purpose; Cooperation of Agencies; Surveys and Investigations; Donations

“...the Secretary of the Interior is authorized (1) to provide assistance to, and cooperate with, Federal, State, and public or private agencies and organizations in the development, protection, rearing, and stocking of all species of wildlife, resources thereof, and their habitat, in controlling losses of the same from disease or other causes, in minimizing damages from overabundant species, in providing public shooting and fishing areas, including easements across public lands for access thereto, and in carrying out other measures necessary to effectuate the purposes of said sections; (2) to make surveys and investigations of the wildlife of the public domain, including lands and waters or interests therein acquired or controlled by any agency of the United States; and (3) to accept donations of land and contributions of funds in furtherance of the purposes of said sections.”

16 USC 757a et seq.- Anadromous, Great Lakes, and Lake Champlain Fisheries

The Act authorizes cooperative agreements with States “that are concerned with the development, conservation, and enhancement of [anadromous] fish” (section 757a(a)).

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16 USC 1361 - Congressional Findings

“The Congress finds that - (1) certain species and population stocks of marine mammals are, or may be, in danger of extinction or depletion as a result of man's activities;”

“The Secretary is authorized to make grants, or to provide financial assistance in such other form as he deems appropriate, to any Federal or State agency, public or private institution, or other person for the purpose of assisting such agency, institution, or person to undertake research in subjects which are relevant to the protection and conservation of marine mammals, and shall provide financial assistance for, research into new methods of locating and catching yellow-fin tuna without the incidental taking of marine mammals.”

16 USC 1431 et seq. - Findings, Purposes, and Policies [The National Marine Sanctuaries Act, as amended]

(b) Purposes and Policies

“The purposes and policies of this title are -

- (1) to identify and designate as national marine sanctuaries areas of the marine environment which are of special national significance;
- (2) to provide authority for ... conservation and management of these marine areas ...
- (3) to support, promote, and coordinate scientific research on, and monitoring of, the resources of these marine areas...
- (4) to enhance public awareness, understanding, appreciation, and wise use of the marine environment;
- (5) to facilitate to the extent compatible with the primary objective of resource protection, all public and private uses of the resources of these marine areas not prohibited pursuant to other authorities;
- (6) to develop and implement coordinated plans for the protection and management of these areas...;
- (7) to create models of, and incentives for, ways to conserve and manage these areas...”
- (8) to cooperate with global programs ...; and
- (9) to maintain, restore, and enhance living resources ...”

16 USC 1447a et seq. - Regional Marine Research Programs

Authorizes NOAA/EPA and Governors of certain states to appoint members to a number of regional marine research boards. Each board is to develop a comprehensive four year marine research plan and “the Administrator of the National Oceanic and Atmospheric Administration shall administer a grant program to support the administrative functions of each Board.”

Authorization for the Boards expires on October 1, 1999. The authorization for appropriations expired at the end of fiscal year 1996.

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16 USC 1451 et seq. - Findings, Purposes, and Policies [Coastal Zone Management Act]

Establishes a voluntary partnership between the Federal Government and coastal States. It also establishes the National Estuarine Reserve Research program, in which the Secretary of Commerce may designate an estuarine area as a national estuarine research reserve in consultation with governor of affected state.

16 USC 1456a – Coastal Zone Management Fund

“(b) (1) The Secretary shall establish and maintain a fund, to be known as the ‘Coastal Zone Management Fund’, which shall consist of amounts retained and deposited into the Fund under subsection (a) of this section and fees deposited into the Fund under section 1456 (i) (3) of this title”

16 USC 1456-1 – Coastal and Estuarine Land Conservation Program

Amends the Coastal Zone Management Act of 1972 to authorize the Secretary of Commerce to conduct a Coastal and Estuarine Land Conservation Program to protect important coastal and estuarine areas. Requires related property acquisition grants to coastal states with approved coastal zone management plans or National Estuarine Research Reserve units. Authorizes appropriations.

16 USC 1467 – Establishment of the Digital Coast

(a) ESTABLISHMENT

(1) IN GENERAL

The Secretary shall establish a program for the provision of an enabling platform that integrates geospatial data, decision-support tools, training, and best practices to address coastal management issues and needs. Under the program, the Secretary shall strive to enhance resilient communities, ecosystem values, and coastal economic growth and development by helping communities address their issues, needs, and challenges through cost-effective and participatory solutions.

16 USC 1531 et seq. – Congressional Findings and Declaration of Purposes and Policy

The purposes of the Act are “to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of the treaties and conventions set forth in [the statute]” (section 1531(b)).

16 USC 1801 et seq. - Magnuson-Stevens Fishery Conservation and Management Act

The primary purpose of the Act is “to take immediate action to conserve and manage the fishery resources found off the coasts of the United States (section 1801(b)(1)).”

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16 USC 3645 - Pacific Coastal Salmon Recovery

“(A) For salmon habitat restoration, salmon stock enhancement, and salmon research, including the construction of salmon research and related facilities, there is authorized to be appropriated for each of fiscal years 2000, 2001, 2002, and 2003, \$90,000,000 to the States of Alaska, Washington, Oregon, and California. Amounts appropriated pursuant to this subparagraph shall be made available as direct payments. The State of Alaska may allocate a portion of any funds it receives under this subsection to eligible activities outside Alaska.”

Amended in PL109-479 Section 302(d) as follows: Section 16(d)(2)(A) of the Pacific Salmon Treaty, as transferred by paragraph (1), is amended—

- (1) by inserting “sustainable salmon fisheries,” after “enhancement,”;
- (2) by inserting “2005, 2006, 2007, 2008, and 2009,” after “2003”; and
- (3) by inserting “Idaho,” after “Oregon,”.

16 USC 4101 et seq. – Interjurisdictional Fisheries

“The purposes of this chapter are - (1) to promote and encourage State activities in support of the management of interjurisdictional fishery resources, and (2) to promote and encourage management of interjurisdictional fishery resources through their range” (3) to promote and encourage research in preparation for the implementation of the use of ecosystems and interspecies approaches to the conservation and management of interjurisdictional fishery resources throughout their range.”

16 USC 4701 et seq. - Aquatic Nuisance Prevention and Control

Establishes an interagency Aquatic Nuisance Species Task Force, of which the Administrator of NOAA is a co-chair. The task force’s responsibilities include developing and implementing “a program for waters of the United States to prevent introduction and dispersal of aquatic nuisance species; to monitor, control and study such species; and to disseminate related information.”

16 USC 5001 et seq. - Purpose of Convention

“It is the purpose ... to implement the Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean, signed in Moscow, February 11, 1992.”

16 USC 8206 – America’s Conservation Enhancement Act

(a) In general

The Director, the National Oceanic and Atmospheric Administration Assistant Administrator, the Environmental Protection Agency Assistant Administrator, and the Director of the United States Geological Survey, in coordination with the Forest Service

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and other appropriate Federal departments and agencies, may provide scientific and technical assistance to Partnerships, participants in fish habitat conservation projects, and the Board.

Customs Duties

19 USC 4732 – United States-Mexico-Canada Agreement Implementation

(a) IN GENERAL.—Upon the request of the Trade Representative, the Administrator of the Environmental Protection Agency, the Director of the U.S. Fish and Wildlife Service, and the Administrator of the National Oceanic Atmospheric Administration may detail, on a reimbursable basis, one employee of each such respective agency to the Office of the United States Trade Representative to be assigned to the United States Embassy in Mexico to carry out the duties described in subsection (b).

Money and Finance

31 USC 1105 - Budget Contents and Submission to Congress

(a) On or after the first Monday in January but not later than the first Monday in February of each year, the President shall submit a budget of the United States Government for the following fiscal year. Each budget shall include a budget message and summary and supporting information.

Amended in PL108-447 (FY 2005 Omnibus Appropriations Act) as follows: “*Provided further*, That beginning in fiscal year 2006 and for each fiscal year thereafter, the Secretary of Commerce shall include in the budget justification materials that the Secretary submits to Congress in support of the Department of Commerce budget (as submitted with the budget of the President under section 1105(a) of title 31, 10 United States Code) an estimate for each National Oceanic and Atmospheric Administration procurement, acquisition and construction program having a total multiyear program cost of more than \$5,000,000 and simultaneously the budget justification materials shall include an estimate of the budgetary requirements for each such program for each of the 5 subsequent fiscal years.”

31 USC 6401 - Grant Reporting - Efficiency and Agreements Transparency Act of 2019

To modernize Federal grant reporting and other purposes.

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Navigation and Navigable Waters

33 USC 706 et seq. - Department of Commerce; Current Precipitation Information; Appropriation

“There is authorized an expenditure as required,..., for the establishment, operation, and maintenance by the Secretary of Commerce of a network of recording and non-recording precipitation stations, known as the Hydroclimatic Network, whenever...such service is advisable...”

33 USC 883a et seq. - Surveys and Other Activities

“...the Secretary...is authorized to conduct the following activities:

- (1) Hydrographic and topographic surveys;
- (2) Tide and current observations;
- (3) Geodetic-control surveys;
- (4) Field surveys for aeronautical charts;
- (5) Geomagnetic, seismological, gravity, and related geophysical measurements and investigations, and observations ...”

33 USC 883b - Dissemination of Data; Further Activities

“...the Secretary is authorized to conduct the following activities:

- (1) Analysis and prediction of tide and current data;
- (2) Processing and publication of data...;
- (3) Compilation and printing of nautical charts...;
- (4) Distribution of nautical charts...”

33 USC 883c - Geomagnetic Data; Collection; Correlation, and Dissemination

“To provide for the orderly collection of geomagnetic data...the Secretary ... is authorized to collect, correlate, and disseminate such data.”

33 USC 883d - Improvement of Methods, Instruments, and Equipments; Investigations and Research

“...the Secretary ... is authorized to conduct developmental work for the improvement of surveying and cartographic methods, instruments, and equipments; and to conduct investigations and research in geophysical sciences...”

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33 USC 883e - Cooperative Agreements for Surveys and Investigations; Contribution of Costs Incurred by National Oceanic and Atmospheric Administration

“(1) The Secretary of Commerce is authorized to enter into cooperative agreements with, and to receive and expand funds made available by... for surveys or investigations... or for performing related surveying and mapping activities... and for the preparation and publication of the results thereof.”

“(2) The Secretary of Commerce is authorized to establish the terms of any cooperative agreement entered into ... including the amount of funds to be received ... which the Secretary determines represents the amount of benefits derived ... from the cooperative agreement.”

33 USC 883f - Contracts with Qualified Organizations

“The Secretary is authorized to contract with qualified organizations for the performance of any part of the authorized functions of the National Ocean Survey...”

33 USC 883h - Employment of Public Vessels

“The President is authorized to cause to be employed such of the public vessels as he deems it expedient to employ, and to give such instructions for regulating their conduct as he deems proper in order to carry out the provisions of this subchapter.”

33 USC 883i - Authorization of Appropriations

“There are hereby authorized to be appropriated such funds as may be necessary to acquire, construct, maintain, and operate ships, stations, equipment, and facilities and for such other expenditures, including personal services at the seat of government and elsewhere and including the erection of temporary observatory buildings and lease of sites therefore as may be necessary...”

33 USC 891 et seq. - Fleet Replacement and Modernization Program

“The Secretary is authorized to implement... a 15-year program to replace and modernize the NOAA fleet.”

33 USC 893 et seq. - Research, Development, and Education

“The Administrator...shall establish a coordinated program of ocean, coastal, Great Lakes, and atmospheric research and development...that shall focus on the development of advanced technologies and analytical methods that will promote United States leadership in ocean and atmospheric science and competitiveness in the applied uses of such knowledge.”

33 USC 1121 et seq - National Sea Grant College Program Amendments Act of 2020

(a)FINDINGS - The Congress finds and declares the following:

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(1)The national interest requires a strategy to—

- (A) provide for the understanding and wise use of ocean, coastal, and Great Lakes resources and the environment;
- (B) foster economic competitiveness;
- (C) promote public stewardship and wise economic development of the coastal ocean and its margins, the Great Lakes, and the exclusive economic zone;
- (D) encourage the development of preparation, forecast, analysis, mitigation, response, and recovery systems for coastal hazards;
- (E) understand global environmental processes and their impacts on ocean, coastal, and Great Lakes resources; and
- (F) promote domestic and international cooperative solutions to ocean, coastal, and Great Lakes issues.

33 USC 1141 Young Fisherman’s Development Act

To preserve United States fishing heritage through a national program dedicated to training and assisting the next generation of commercial fishermen.

33 USC 1251 note - Water Pollution Prevention and Control

Through the National Shellfish Indicator Program, authorizes the Secretary of Commerce, in cooperation with the Secretary of Health and Human Services and the Administrator of EPA, to establish and administer a 5-year national shellfish research program for the purpose of improving existing classification systems for shellfish growing waters using the latest technological advancements in microbiology and epidemiological methods.

33 USC 1321 - Oil and Hazardous Substances [Clean Water Act]

Authorizes the recovery of damages to natural resources in the event of an oil spill in waters of the United States. This authority has been delegated to several Federal agencies, including the Department, pursuant to an Executive Order.

33 USC 1441 - Monitoring and Research Program [Marine Protection, Research and Sanctuaries Act]

Authorizes the Secretary of Commerce, in coordination with other agencies, to initiate a comprehensive and continuing program of monitoring and research regarding the effects of the dumping of material into ocean waters or other coastal waters where the tide ebbs and flows or into the Great Lakes or their connecting waters.

33 USC 1442 - Research Program Respecting Possible Long-range Effects of Pollution, Overfishing, and Man-induced Changes of Ocean Ecosystems

Authorizes the Secretary of Commerce, in consultation with other agencies, to ... “initiate a comprehensive and continuing program of research with respect to the possible long-range effects of pollution, overfishing, and man-induced changes of ocean ecosystems.”

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33 USC 1443 - Regional Management Plans for Waste Disposal in Coastal Areas

Authorizes the Secretary of Commerce to assist the Environmental Protection Agency in assessing “the feasibility in coastal areas of regional management plans for the disposal of waste materials.”

33 USC 1444 - Annual Report

Requires the Secretary of Commerce to provide Congress with an annual report on the Department’s activities to monitor ocean dumping and research the long-range effects of pollution on ocean ecosystems.

33 USC 1952 – NOAA Marine Debris Program

a) Establishment of Program

There is established, within the National Oceanic and Atmospheric Administration, a Marine Debris Program to identify, determine sources of, assess, prevent, reduce, and remove marine debris and address the adverse impacts of marine debris on the economy of the United States, the marine environment, and navigation safety.

33 USC 2706 - Natural Resources [NOAA Oil and Hazardous Substance Spill Cost Reimbursement]

“...the National Oceanic and Atmospheric Administration acts as trustee of said marine environment and/or resources, shall be deposited in the Damage Assessment and Restoration Revolving Fund ... for purposes of obligation and expenditure in fiscal year 1991 and thereafter, sums available in the Damage Assessment and Restoration Revolving Fund may be transferred, upon the approval of the Secretary ..., to the Operations, Research, and Facilities appropriation of the National Oceanic and Atmospheric Administration.”

33 USC 2712 – Use of Oil Spill Liability Trust Fund

Amends Section 1012(a)(5) of the Oil Spill Liability Trust Fund Act by: “(2) by inserting after subparagraph (A) the following:“(B) not more than \$15,000,000 in each fiscal year shall be available to the Under Secretary of Commerce for Oceans and Atmosphere for expenses incurred by, and activities related to, response and damage assessment capabilities of the National Oceanic and Atmospheric Administration.”

33 USC 2801 et seq. - National Coastal Monitoring Act

“The purposes of this chapter are to -

- (1) establish a comprehensive national program for consistent monitoring of the Nation's coastal ecosystems;
- (2) establish long-term water quality assessment and monitoring programs for high priority coastal waters that will enhance the ability of Federal, State, and local authorities to develop and implement effective remedial programs for those waters;

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- (3) establish a system for reviewing and evaluating the scientific, analytical, and technological means that are available for monitoring the environmental quality of coastal ecosystems;
- (4) establish methods for identifying uniform indicators of coastal ecosystem quality;
- (5) provide for periodic, comprehensive reports to Congress concerning the quality of the Nation's coastal ecosystems;
- (6) establish a coastal environment information program to distribute coastal monitoring information;
- (7) provide state programs authorized under the Coastal Zone Management Act of 1972 (16 U.S.C. 1451 et seq.) with information necessary to design land use plans and coastal zone regulations that will contribute to the protection of coastal ecosystems; and
- (8) provide certain water pollution control programs authorized under the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.) with information necessary to design and implement effective coastal water pollution controls.”

33 USC 3001 et seq.- NOAA Corps Officers

There shall be in the National Oceanic and Atmospheric Administration a commissioned officer corps.

33 USC 3402 – Coordinated National Ocean Exploration Program

The Administrator of the National Oceanic and Atmospheric Administration shall, in consultation with the National Science Foundation and other appropriate Federal agencies, establish a coordinated national ocean exploration program within the National Oceanic and Atmospheric Administration that promotes collaboration with other Federal ocean and undersea research and exploration programs. To the extent appropriate, the Administrator shall seek to facilitate coordination of data and information management systems, outreach and education programs to improve public understanding of ocean and coastal resources, and development and transfer of technologies to facilitate ocean and undersea research and exploration.

33 USC 3501 – Ocean and Coastal Mapping Integration

Directs the President to establish a coordinated federal program to develop an ocean and coastal mapping plan for the Great Lakes and coastal state waters, the territorial sea, the exclusive economic zone, and the continental shelf of the United States that enhances ecosystem approaches in decision-making for conservation and management of marine resources and habitats, establishes research and mapping priorities, supports the siting of research and other platforms, and advances ocean and coastal science. Requires a plan for an integrated ocean and coastal mapping initiative within NOAA. Authorizes appropriations.

33 USC 3601 – Reauthorization of Integrated Coastal and Ocean Observation System Act

The purposes of this chapter are to—

- (1) establish a national integrated System of ocean, coastal, and Great Lakes observing systems, comprised of Federal and non-Federal components coordinated at the national level by the National Ocean Research Leadership Council and at the regional level by a network of regional information coordination entities, and that includes in situ, remote, and other coastal and

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ocean observation, technologies, and data management and communication systems, and is designed to address regional and national needs for ocean information, to gather specific data on key coastal, ocean, and Great Lakes variables, and to ensure timely and sustained dissemination and availability of these data to—

(A) support national defense, marine commerce, navigation safety, weather, climate, and marine forecasting, energy siting and production, economic development, ecosystem-based marine, coastal, and Great Lakes resource management, public safety, and public outreach training and education;

(B) promote greater public awareness and stewardship of the Nation's ocean, coastal, and Great Lakes resources and the general public welfare; and

(C) enable advances in scientific understanding to support the sustainable use, conservation, management, and understanding of healthy ocean, coastal, and Great Lakes resources;

(2) improve the Nation's capability to measure, track, explain, and predict events related directly and indirectly to weather and climate change, natural climate variability, and interactions between the oceanic and atmospheric environments, including the Great Lakes; and

(3) authorize activities to promote basic and applied research to develop, test, and deploy innovations and improvements in coastal and ocean observation technologies, modeling systems, and other scientific and technological capabilities to improve our conceptual understanding of weather and climate, ocean-atmosphere dynamics, global climate change, physical, chemical, and biological dynamics of the ocean, coastal and Great Lakes environments, and to conserve healthy and restore degraded coastal ecosystems.

33 USC 3703 – Federal Ocean Acidification Research and Monitoring

the Joint Subcommittee on Ocean Science and Technology of the National Science and Technology Council to: (1) coordinate federal activities on ocean acidification and establish an interagency working group; and (2) develop a strategic plan for federal research and monitoring on ocean acidification. Requires specified ocean acidification programs in NOAA, the National Science Foundation (NSF), and the National Aeronautics and Space Administration (NASA). Authorizes appropriations.

33 USC 4001 - Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2017

The President, through the Committee on Environment and Natural Resources of the National Science and Technology Council, shall establish an Inter-Agency Task Force on Harmful Algal Blooms and Hypoxia. The Task Force shall consist of a representative from—the Department of Commerce (who shall serve as Chairman of the Task Force) among others.

33 USC 4213 – Rights and Obligations of the Foundation

(f) Consultation with NOAA – The Foundation shall consult with the Under Secretary during the planning of any restoration or remediation action using funds resulting from judgments or settlements relating to the damage to trust resources of the National Oceanic and Atmospheric Administration.

**Department of Commerce
National Oceanic and Atmospheric Administration
APPROPRIATION LANGUAGE AND CODE CITATIONS**

The Public Health and Welfare

42 USC 8902-8905 - Acid Precipitation Program

Authorized the Administrator of NOAA to serve as co-chair of a task force to prepare a comprehensive research plan for a program to study the causes and effects of acid precipitation. Also authorizes the Administrator of NOAA to serve as the director of a related research program.

42 USC 9601 et seq. (CERCLA)

Through associated regulations and delegations, authorizes the Administrator to provide technical assistance to the Administrator, EPA, for hazardous waste response under CERCLA and the National Contingency Plan and authorizes the Administrator to act as a natural resource trustee with authority to bring a cause of action for damages resulting from an injury to, destruction of or loss of resources under NOAA's jurisdiction.

Public Lands

43 USC 1347e - Safety and Health Regulations

Authorizes the Secretary of Commerce in cooperation with other Federal entities, to conduct studies of underwater diving techniques and equipment "suitable for protection of human safety and improvement of diver performance...."

43 USC 3102 – National Landslide Preparedness Act

(a) ESTABLISHMENT.—The Secretary shall establish a program, to be known as the "National Landslide Hazards Reduction Program" (referred to in this section as the "program")— (1) to identify and understand landslide hazards and risks; (2) to reduce losses from landslides; (3) to protect communities at risk of landslide hazards; and (4) to help improve communication and emergency preparedness, including by coordinating with communities and entities responsible for infrastructure that are at risk of landslide hazards.

(3) there is authorized to be appropriated to the National Oceanic and Atmospheric Administration, \$1,000,000 to carry out this section.

**Department of Commerce
National Oceanic and Atmospheric Administration
APPROPRIATION LANGUAGE AND CODE CITATIONS**

Public Printing and Documents

44 USC 1307 - Sale and Distribution of NOAA Nautical and Aeronautical Products

“All nautical and aeronautical products created or published ... shall be sold at ... prices ... the Secretary of Commerce shall establish annually ... so as to recover all costs attributable to data base management, compilation, printing, and distribution of such products.”

Transportation

49 USC 44720 - Meteorological services

The Administrator of the Federal Aviation Administration shall make recommendations to the Secretary of Commerce on providing meteorological services necessary for the safe and efficient movement of aircraft in air commerce. In providing the services, the Secretary shall cooperate with the Administrator and give complete consideration to those recommendations.

“To promote safety and efficiency in air navigation to the highest possible degree, the Secretary shall -(1)observe, measure, investigate, and study atmospheric phenomena, and maintain meteorological stations and offices...(2) provide reports to the Administrator (3)cooperate with persons engaged in air commerce in meteorological services...(4)maintain and coordinate international exchanges of meteorological information... (5) participate in developing an international basic meteorological reporting network...(6)coordinate meteorological requirements in the United States to maintain standard observations...;(7)promote and develop meteorological science.

National and Commercial Space Programs

51 USC 60601 – Promoting Research and Observations of Space Weather to Improve the Forecasting of Tomorrow Act

(a)FINDINGS.—

(1) SPACE WEATHER.—Congress makes the following findings with respect to space weather:

(A) Space weather phenomena pose a significant threat to ground-based and space-based critical infrastructure, modern technological systems, and humans working in space.

(B) The effects of severe space weather on the electric power grid, satellites and satellite communications and information, aviation operations, astronauts living and working in space, and space-based position, navigation, and timing systems could have significant societal, economic, national security, and health impacts.

(C) Space-based and ground-based observations provide crucial data necessary to understand, forecast, and prepare for space weather phenomena.

**Department of Commerce
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APPROPRIATION LANGUAGE AND CODE CITATIONS**

(D) Clear roles and accountability of Federal departments and agencies are critical for efficient and effective response to threats posed by space weather.

(E) Space weather observation and forecasting are essential for the success of human and robotic space exploration.

(F) In October 2015, the National Science and Technology Council published a National Space Weather Strategy and a National Space Weather Action Plan seeking to integrate national space weather efforts and add new capabilities to meet increasing demand for space weather information.

(G) In March 2019, the National Science and Technology Council published an updated National Space Weather Strategy and Action Plan to enhance the preparedness and resilience of the United States to space weather.

(2)ROLE OF FEDERAL AGENCIES.—Congress makes the following findings with respect to the role of Federal agencies on space weather:

(A) The National Oceanic and Atmospheric Administration provides operational space weather monitoring, forecasting, and long-term data archiving and access for civil applications, maintains ground-based and space-based assets to provide observations needed for space weather forecasting, prediction, and warnings, provides research to support operational responsibilities, and develops requirements for space weather forecasting technologies and science.

Department of Commerce
National Oceanic and Atmospheric Administration
ADVISORY AND ASSISTANCE SERVICES
(Dollar Amounts in Thousands)

	<u>2022</u> <u>Actual</u>	<u>2023</u> <u>Estimate</u>	<u>2024</u> <u>Estimate</u>
Management and Professional Support Services	\$221,102	\$225,313	\$247,910
Studies, Analysis and Evaluations	\$54,185	\$55,217	\$60,755
Engineering and Technical Services	\$371,226	\$378,297	\$416,236
Total	\$646,513	\$658,828	\$724,901

Consulting Services are those services of a pure nature relating to the governmental functions of agency administration and management and agency problem management. These services are normally provided by persons or organizations generally considered to have knowledge and special abilities that are not usually available within the agency. Such services can be obtained through personnel appointments, procurement contracts, or advisory committees.

Management and professional services deal with management data collection, policy review or development, program development, review or evaluation, systems engineering and other management support services. Special studies and analyses deal with the highly specialized areas of agency activity, e.g., air quality, chemical, environmental, geophysical, oceanographic, technological, and etc. Management and support services for research and development are procurement actions that meet the description of management and professional services or special studies and analyses but are funded under research and development.

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Department of Commerce
National Oceanic and Atmospheric Administration
PERIODICAL, PAMPHLETS, AND AUDIOVISUAL PRODUCTS
 (Dollar Amounts in Thousands)

	2022 <u>Actual</u>	2023 <u>Estimate</u>	2024 <u>Estimate</u>
Periodicals	\$1,713	\$1,874	\$1,912
Pamphlets	\$1,234	\$1,350	\$1,377
Audiovisuals	\$585	\$640	\$653
Total	\$3,533	\$3,864	\$3,942

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**Department of Commerce
National Oceanic and Atmospheric Administration
AVERAGE GRADE AND SALARY**

	<u>2022 Actual</u>	<u>2023 Estimate</u>	<u>2024 Estimate</u>
Average executive and SES level pay plans	\$262,085	\$268,638	\$282,607
Average GS/GM grade	12	12	12
Average GS/GM salary	\$152,654	\$157,438	\$165,625
Average Pay Band salary	\$172,379	\$179,199	\$188,518
Average Commissioned Officers salary	\$133,664	\$145,812	\$162,871
Average salary for other positions (FWS/Wage Marine)	\$81,402	\$84,174	\$88,551

Average salaries provided here reflect Federal Civilian and Military pay raises for 2022, 2023 and 2024, respectively.

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**Department of Commerce
National Oceanic and Atmospheric Administration
IMPLEMENTATION STATUS OF GAO AND OIG RECOMMENDATIONS**

31 U.S.C. 720, as amended January 3, 2019, requires the head of a federal agency to submit a written statement of the actions taken or planned on Government Accountability Office (GAO) recommendations to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 180 calendar days after the date of the report.

The Good Accounting Obligation in Government Act (GAO-IG Act), passed on January 3, 2019, (P.L. 115-414) requires each agency to include, in its annual budget justification, a report that identifies each public recommendation issued by GAO and the agency's Office of the inspector general (OIG) which has remained unimplemented for one year or more from the annual budget justification submission date. In addition, the Act requires a reconciliation between the agency records and the IGs' Semiannual Report to Congress (SAR).

Section 1. Recommendations for which action plans were finalized since the last appropriations request.

Include information on recommendations for which an action plan has been completed since the last budget report. If you have nothing to report, state Nothing to Report."

Report Number	
Report Title	
Issue Date	
Recommendation Number	
Recommendation	
Action(s) Planned	
Action Status (Planned, In-Progress, or Complete)	
Target Completion Date	
Recommendation Status (Planned, In-Progress, or Complete)	

Alternative form if more than one report:

Report Number	Report Title	Issue Date	Rec. Number	Recommendation	Action(s) Planned	Action Status (Planned, In-Progress, or Complete)	Target Completion Date	Recommendation Status (Planned, In-Progress, or Complete)

**Department of Commerce
National Oceanic and Atmospheric Administration
IMPLEMENTATION STATUS OF GAO AND OIG RECOMMENDATIONS**

GAO-22-105132	Federal Fisheries Management: Opportunities Exist to Enhance Climate Resilience	8/18/22	1	The Assistant Administrator for NMFS should regularly collect and publicly disseminate information on actions taken by the Regional Fishery Management Councils and NMFS' Atlantic Highly Migratory Species Division to enhance the climate resilience of federal fisheries, such as fishery management plans that use climate information.	NOAA will create a website or other publicly available mechanism for compiling and sharing information on how the Fishery Management Councils and National Marine Fisheries Service (NMFS) are enhancing the climate resilience of fisheries.	In-Progress	9/30/23	In-Progress
GAO-22-105132	Federal Fisheries Management: Opportunities Exist to Enhance Climate Resilience	8/18/22	2	The Assistant Administrator for NMFS should direct the agency's regional offices and fisheries science centers to work with the Regional Fishery Management Councils and NMFS' Atlantic Highly Migratory Species Division in their respective regions to identify and prioritize opportunities to enhance the climate resilience of federal fisheries, including by reviewing the opportunities described in this report and NMFS' 2018 guidance document: <i>Accounting for Shifting Distributions and Changing Productivity in the Fishery Management Process</i> , and develop a plan to implement them.	NOAA will continue to work with the Regional Fishery Management Councils and NMFS' Atlantic Highly Migratory Species Division to identify and prioritize opportunities to advance climate resilience of federal fisheries, including opportunities identified in this report, the NMFS 2018 guidance document, and other information available to the agency and Councils.	In-Progress	2/28/23	In-progress

**Department of Commerce
National Oceanic and Atmospheric Administration
IMPLEMENTATION STATUS OF GAO AND OIG RECOMMENDATIONS**

GAO-22-104449	Water Quality: Agencies Should Take More Actions to Manage Risks from Harmful Algal Blooms and Hypoxia	6/15/22	1	The Administrator of NOAA and the Administrator of the EPA, in collaboration with the members of the working group, should document and define what a national HAB and hypoxia program would entail, including identifying the program's resource needs.	NOAA will work with Environmental Protection Agency (EPA), via the working group, to define its resource needs, and build on the information included in the working group's recent coordinated planning document.	In-Progress – Action Plan sent to GAO on 11/22/22	12/31/24	In-Progress
GAO-22-104449	Water Quality: Agencies Should Take More Actions to Manage Risks from Harmful Algal Blooms and Hypoxia	6/15/22	2	The Administrator of NOAA and the Administrator of the EPA, in collaboration with the members of the working group, should develop performance measures to assess the working group's efforts, including the extent to which the recommended goals from the Research Plan and Action Strategy have been achieved.	NOAA will work with EPA, in collaboration with working group members, to develop formal performance measures.	In-Progress – Action Plan sent to GAO on 11/22/22	12/31/24	In-Progress
GAO-22-104449	Water Quality: Agencies Should Take More Actions to Manage Risks from Harmful Algal Blooms and Hypoxia	6/15/22	5	The Administrator of NOAA and the Administrator of the EPA, in collaboration with the members of the working group, should develop a national goal for the group focused on efforts to prevent HABs and hypoxia.	NOAA will work with EPA and the working group to develop a national goal focused on prevention.	In-Progress – Action Plan sent to GAO on 11/22/22	12/31/23	In-Progress

**Department of Commerce
National Oceanic and Atmospheric Administration
IMPLEMENTATION STATUS OF GAO AND OIG RECOMMENDATIONS**

GAO-22-104449	Water Quality: Agencies Should Take More Actions to Manage Risks from Harmful Algal Blooms and Hypoxia	6/15/22	6	The Administrator of NOAA and the Administrator of the EPA, in collaboration with the members of the working group, should coordinate the development of a more comprehensive body of information on the costs and benefits of mitigation, control, and prevention actions for use by state, local, and tribal governments.	This action would build on current efforts undertaken by NOAA and other members of the working group to regularly engage with state, local, and tribal governments in workshops, webinars, available resources, trainings, and other venues and regularly offer expertise, support, and assistance.	In-Progress – Action Plan sent to GAO on 11/22/22	12/31/25	In-Progress
GAO-22-104241	Alaska Native Issues: Federal Agencies Could Enhance Support of Native Village Efforts to Address Environmental Threats	5/18/22	7	The Administrator of NOAA should review NOAA's programs identified in this report and, where the agency determines it feasible and appropriate, implement relevant changes to address program characteristics that are not established in statute that pose obstacles to Alaska Native villages' obtaining assistance, including characteristics we (GAO) identified and others NOAA may identify. NOAA should also document its review, any related consultation with tribes, and any changes made to its programs.	NOAA will conduct a policy and legal review of the National Oceans and Coastal Security Act, which authorized the establishment of the National Coastal Resilience Fund (NCRF), and NOAA's cooperative agreement with National Fish and Wildlife Foundation (NFWF) to implement the NCRF program.	In-Progress – Action plan sent to GAO on 12/22/22.	10/31/23	In-Progress

**Department of Commerce
National Oceanic and Atmospheric Administration
IMPLEMENTATION STATUS OF GAO AND OIG RECOMMENDATIONS**

OIG-22-022-A	The Success of NOAA's Next-Generation Satellite System Architecture Depends on Sound Requirements Management Practices	6/8/22	1	That the NOAA Deputy Under Secretary for Operations update policies and procedures to ensure user observation requirements are validated in advance of next generation satellite system acquisitions.	National Environmental Satellite, Data, and Information Service (NESDIS) will coordinate a NOAA-wide review of the process for validating user observation requirements and update current policies and procedures to ensure that, to the extent feasible, user observation requirements are validated in advance of next-generation satellite system acquisitions.	Complete. Action Plan submitted to OIG on 7/27/22. OIG approved Action Plan on 8/5/22.	9/30/23	In-Progress
OIG-22-022-A	The Success of NOAA's Next-Generation Satellite System Architecture Depends on Sound Requirements Management Practices	6/8/22	2	That the NOAA Deputy Under Secretary for Operations ensure that next-generation satellite programs do not define more stringent requirement thresholds than corresponding thresholds in the NOAA dataset.	NESDIS will work with the next-generation satellite programs to ensure that program threshold requirements are aligned with NOAA user observation requirements, which could include updating the user observational requirements themselves.	Complete. Action Plan submitted to OIG on 7/27/22. OIG approved Action Plan on 8/5/22.	9/30/23	In-Progress
OIG-22-022-A	The Success of NOAA's Next-Generation Satellite System Architecture Depends on Sound Requirements Management Practices	6/8/22	3	That the NOAA Deputy Under Secretary for Operations ensure that next-generation satellite programs include requirement objective values that are different from thresholds.	NESDIS will work with the next-generation satellite programs to ensure that they include requirement objective values that are different from thresholds in the program-level requirement documents.	Complete. Action Plan submitted to OIG on 7/27/22. OIG approved Action Plan on 8/5/22.	9/30/23	In-Progress
OIG-22-022-A	The Success of NOAA's Next-Generation Satellite System Architecture Depends on Sound Requirements Management Practices	6/8/22	4	That the NOAA Deputy Under Secretary for Operations assign responsibility and design a process for determining the relative priority of each NOAA user observation requirement.	NOAA will appoint a responsible and appropriate organization to take the lead on designing and implementing a process for determining the relative priority of NOAA user observation requirements.	Complete. Action Plan submitted to OIG on 7/27/22. OIG approved Action Plan on 8/5/22.	9/30/23	In-Progress

**Department of Commerce
National Oceanic and Atmospheric Administration
IMPLEMENTATION STATUS OF GAO AND OIG RECOMMENDATIONS**

OIG-22-022-A	The Success of NOAA's Next-Generation Satellite System Architecture Depends on Sound Requirements Management Practices	6/8/22	5	That the NOAA Deputy Under Secretary for Operations ensure that NESDIS standardizes requirement priority definitions for next-generation programs, to include information about the extent to which its programs contribute to meeting NOAA user observation requirements.	NESDIS will develop a standard set of requirement priority definitions for next-generation satellite programs, which will include the extent to which its programs contribute to meeting NOAA user observation requirements.	Complete. Action Plan submitted to OIG on 7/27/22. OIG approved Action Plan on 8/5/22.	12/31/22, 9/30/23 (Date extended)	In-Progress
OIG-22-022-A	The Success of NOAA's Next-Generation Satellite System Architecture Depends on Sound Requirements Management Practices	6/8/22	6	That the NOAA Deputy Under Secretary for Operations ensure that NESDIS revises policies and procedures for assigning requirements to next-generation satellite programs.	NESDIS will finalize and document the policies and procedures for assigning user observation requirements to next-generation satellite programs and how it will manage legacy program requirements.	Complete. Action Plan submitted to OIG on 7/27/22. OIG approved Action Plan on 8/5/22.	9/30/23	In-Progress
OIG-22-022-A	The Success of NOAA's Next-Generation Satellite System Architecture Depends on Sound Requirements Management Practices	6/8/22	7	That the NOAA Deputy Under Secretary for Operations ensure that portfolio management tools include accurate and complete data to produce useful information for investment decisions.	NESDIS will continue to survey existing observing systems portfolio management tools and develop recommendations to implement improvements and updates to the observing systems portfolio management tools it uses to produce useful information to support investment decisions related to its next-generation satellite programs.	Complete. Action Plan submitted to OIG on 7/27/22. OIG approved Action Plan on 8/5/22.	12/31/22 Target date extended to 9/30/23	In-Progress.

**Department of Commerce
National Oceanic and Atmospheric Administration
IMPLEMENTATION STATUS OF GAO AND OIG RECOMMENDATIONS**

GAO-21-103792	National Weather Service: Additional Actions Needed to Improve the Agency's Reform Efforts	9/29/21	1	The Director of NWS should ensure that as NWS continues its efforts to develop performance measures for the Evolve Program's reform efforts, it incorporates GAO's key attributes of successful performance measures to the extent appropriate for the program.	<ol style="list-style-type: none"> 1. A one year Quantitative Precipitation Forecast Collaborative Forecast Process demonstration will be monitored and performance metrics will be captured for objective and subjective measurements. 2. At the end of FY21, the Program Management Office (PMO) impact-based decision support services (IDSS) Measurements Initiative delivered a report with a recommendation on the format of an external Core Partner survey designed to evaluate IDSS performance. 	Complete. Action Plan submitted to GAO on 3/29/22.	9/30/22, 12/31/23 (extended)	In-Progress
GAO-21-103792	National Weather Service: Additional Actions Needed to Improve the Agency's Reform Efforts	9/29/21	2	The Director of NWS should ensure that the final communications strategy developed by the Evolve Program is a two-way communications strategy that outlines how NWS will listen and respond to employee concerns about the agency's reform efforts, including National Blend of Models.	<ol style="list-style-type: none"> 1. National Weather Service (NWS) will finalize the Evolve PMO Communications Plan by the end of Q4 FY22. We will invite NWS Employees Organization input to this plan. 2. Conduct annual employee feedback surveys for NWS Evolve efforts beginning Q3 FY22. 3. NWS Evolve Program continually seeks employee feedback via forum discussions, direct contact and surveys to improve the quality and capability of the National Blend of Models (NBM). NWS Evolve Program will validate the final NBM v4.1 development version through a formal evaluation including employee feedback by Q4 FY22. 	Complete. Action Plan submitted to GAO on 3/29/22.	Recommended for closure on 12/23/22.	Complete

**Department of Commerce
National Oceanic and Atmospheric Administration
IMPLEMENTATION STATUS OF GAO AND OIG RECOMMENDATIONS**

GAO-21-103792	National Weather Service: Additional Actions Needed to Improve the Agency's Reform Efforts	9/29/21	3	The Director of NWS should revise NWS's approach to staffing the Evolve PMO to improve leadership continuity, staff continuity, and the sufficiency of staff resources to effectively implement the Evolve Program's reform efforts.	NWS will complete an evaluation of the Evolve PMO staff model by the end of Q4 FY22 taking into account current activities and future options envisioned for NWS Evolve.	Complete. Action Plan submitted to GAO on 3/29/22.	Recommended for closure on 12/23/22.	Complete
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Section 2. Implementation of GAO public recommendations issued no less than one year ago that are designated by GAO as 'Open' or 'Closed-Unimplemented.'

Open Recommendation(s) the Department has decided not to implement

Include information on all open recommendations made one year or more ago that the Department / bureau do not plan to implement. GAO recommendations are open until officially closed by GAO.

Report Number	None
Report Title	
Issue Date	
Recommendation Number	
Recommendation	
Reason for the Decision not to Implement	

Alternative form if more than one report:

Report Number	Report Title	Issue Date	Recommendation Number	Recommendation	Reason for the Decision Not to Implement

Open Recommendation(s) the Department plans to implement.

Include information on all open recommendations made one year or more ago that the Department / bureau plans to implement. GAO recommendations are open until officially closed by GAO.

Report Number	
Report Title	

**Department of Commerce
National Oceanic and Atmospheric Administration
IMPLEMENTATION STATUS OF GAO AND OIG RECOMMENDATIONS**

Issue Date	
Recommendation Number	
Recommendation	
Target Implementation Date	
Closure Request Pending with GAO (Yes/No)	
Clear Budget Implications (Yes/No)	

Alternative form if more than one report:

Report Number	Report Title	Issue Date	Rec. Number	Recommendation	Target Implementation Date	Closure Request Pending with GAO (Yes/No)	Clear Budget Implications (Yes/No)
GAO-21-103792	National Weather Service: Additional Actions Needed to Improve the Agency's Reform Efforts	9/29/21	1	The Director of NWS should ensure that as NWS continues its efforts to develop performance measures for the Evolve Program's reform efforts, it incorporates GAO's key attributes of successful performance measures to the extent appropriate for the program.	9/30/22, 12/31/23 (extended)	No	No
GAO-21-103792	National Weather Service: Additional Actions Needed to Improve the Agency's Reform Efforts	9/29/21	2	The Director of NWS should ensure that the final communications strategy developed by the Evolve Program is a two-way communications strategy that outlines how NWS will listen and respond to employee concerns about the agency's reform efforts, including National Blend of Models.	Recommended for closure on 12/23/22.	Yes	No
GAO-21-103792	National Weather Service: Additional Actions Needed to Improve the Agency's Reform Efforts	9/29/21	3	The Director of NWS should revise NWS's approach to staffing the Evolve PMO to improve leadership continuity, staff continuity, and the sufficiency of staff resources to effectively implement the Evolve Program's reform efforts.	Recommended for closure on 12/23/22.	Yes	No

**Department of Commerce
National Oceanic and Atmospheric Administration
IMPLEMENTATION STATUS OF GAO AND OIG RECOMMENDATIONS**

GAO-21-560	Sexual Assault and Harassment: NOAA Has Made Substantial Progress in Prevention and Response but Could Further Improve Its Processes	9/27/21	1	The Administrator of NOAA should ensure that future updates to the agency's sexual harassment and sexual assault prevention and response policy are consistent with all relevant legal requirements.	4/29/22 (original) 6/30/22 (extended) 8/30/22 (extended), 2/28/23 (extended)	No	No
GAO-21-560	Sexual Assault and Harassment: NOAA Has Made Substantial Progress in Prevention and Response but Could Further Improve Its Processes	9/27/21	2	The Administrator of NOAA should implement a mechanism requiring oversight by senior agency leaders of all disciplinary actions involving misconduct related to sexual assault and sexual harassment before such actions are finalized.	12/30/22 (original)	No	No
GAO-21-560	Sexual Assault and Harassment: NOAA Has Made Substantial Progress in Prevention and Response but Could Further Improve Its Processes	9/27/21	3	The Administrator of NOAA should ensure that the agency provides specific and readily accessible information on its website, through frequently asked questions (FAQs) and in staff training. The information should describe and explain the differences among complaint systems and what to expect from each when reporting allegations of sexual harassment or assault.	3/31/22 (original)	Yes – Closure requested to GAO on 3/31/22.	No
GAO-21-560	Sexual Assault and Harassment: NOAA Has Made Substantial Progress in Prevention and Response but Could Further Improve Its Processes	9/27/21	4	The Administrator of NOAA should require that training for supervisors and managers include critical NOAA-specific information, such as how to report allegations up the chain of command, how to identify and minimize potential risk factors, explanations of NOAA's confidentiality rules, and the consequences for failing to fulfill their staff's responsibilities.	6/30/22 (original) 8/30/22 (extended), 12/30/22 (extended)	No	No

**Department of Commerce
National Oceanic and Atmospheric Administration
IMPLEMENTATION STATUS OF GAO AND OIG RECOMMENDATIONS**

GAO-21-560	Sexual Assault and Harassment: NOAA Has Made Substantial Progress in Prevention and Response but Could Further Improve Its Processes	9/27/21	5	The Administrator of NOAA should ensure the agency provides more information to specific individuals and the larger NOAA workforce about how the agency is responding to allegations of sexual assault and sexual harassment, as appropriate, such as regularly updating individuals on the status of their cases and by annually developing summary-level information for the workforce about the number, type, and resolution of cases.	3/31/22 (original)	Yes – Closure was requested to GAO on 4/1/22.	No
GAO-21-560	Sexual Assault and Harassment: NOAA Has Made Substantial Progress in Prevention and Response but Could Further Improve Its Processes	9/27/21	6	The Administrator of NOAA should ensure that the central tracking system being developed will collect consistent data and appropriately document the number and type of incidents of sexual assault and sexual harassment across complaint systems.	6/30/22 (original) 8/30/22 (extended), 2/28/23 (extended)	No	No
GAO-21-474	Spectrum Management: Agencies Should Strengthen Collaborative Mechanisms and Processes to Address Potential Interference	7/19/21	11	The NOAA Administrator should clarify and document NOAA's internal processes for identifying and raising concerns about potential interference to NOAA satellite instruments.	9/30/23 (original)	No	No
GAO-20-216	Mixed-Use Fisheries: South Atlantic and Gulf of Mexico Councils Would Benefit From Documented Processes for Allocation Reviews	3/31/20	1	NMFS Assistant Administrator for Fisheries should work with the South Atlantic and Gulf of Mexico Councils, and other councils as appropriate, to develop documented processes for conducting allocation reviews.	6/30/22 (original) 11/30/22 (extended)	Yes-Closure request sent to GAO on 12/13/22.	No
GAO-20-216	Mixed-Use Fisheries: South Atlantic and Gulf of Mexico Councils Would Benefit From Documented Processes for Allocation Reviews	3/31/20	2	NMFS Assistant Administrator for Fisheries should work with the South Atlantic and Gulf of Mexico Councils, and other councils as appropriate, to specify how the	6/30/22 (original) 11/30/22 (extended)	Yes-Closure request sent to GAO on 12/13/22.	No

**Department of Commerce
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				councils will document their allocation reviews, including the basis for their allocation decisions, whether fishery management plan objectives are being met, and what factors were considered in the reviews.			
GAO-20-81	Federal Research: Additional Actions Needed to Improve Public Access to Research Results	11/21/19	27	The National Oceanic and Atmospheric Administration Administrator should fully develop and implement a mechanism to ensure researcher compliance with the public access plan and associated requirements.	12/31/20 (original)	Yes – Closure requested on 8/2/20. However, during 2020, 2021, and 2022, GAO had followed up questions or needed more information. NOAA plans to provide remaining information by September 2023.	No
GAO-20-81	Federal Research: Additional Actions Needed to Improve Public Access to Research Results	11/21/19	36	As the Subcommittee on Open Science moves forward, the National Oceanic and Atmospheric Administration co-chair, in coordination with other co-chairs and participating agencies, should take steps to fully implement leading practices that enhance and sustain collaboration.	10/30/20 (original)	Yes – Closure requested on 8/2/20. However, during 2020, 2021, and 2022, GAO had followed up questions or needed more information. NOAA plans to provide remaining information by September 2023.	No

**Department of Commerce
National Oceanic and Atmospheric Administration
IMPLEMENTATION STATUS OF GAO AND OIG RECOMMENDATIONS**

GAO-19-653	Marine Debris: Interagency Committee Members Are Taking Action, but Additional Steps Could Enhance the Federal Response	9/25/19	3	The chair of the interagency committee, in coordination with member agencies, should develop and implement a process to analyze the effectiveness of the interagency committee's recommendations and strategies, and include the results in its biennial reports.	12/30/20 (original) 6/30/21 (extended)	Yes – Closure requested on 6/30/21. GAO disagreed with closure on 9/30/21 and wanted NOAA to provide more information, but it will not be available until FY 2023. (Updated information) In FY 2023, NOAA will resume work to engage with member agencies on updating the recommendations and identifying specific common or easily translatable metrics to better monitor, evaluate, and report the results of collective efforts to address the complex facets of marine debris. NOAA is reporting on this as the Chair of the Committee. This was brought to the committee's attention.	Yes
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**Department of Commerce
National Oceanic and Atmospheric Administration
IMPLEMENTATION STATUS OF GAO AND OIG RECOMMENDATIONS**

GAO-16-827	Federal Fisheries Management: Additional Actions Could Advance Efforts to Incorporate Climate Information into Management Decisions	9/28/16	2	In finalizing the regional action plans for implementing the NOAA Fisheries Climate Science Strategy, (1) incorporate the key attributes associated with successful performance measures in the final performance measures developed for the plans and (2) assess whether agency-wide performance measures may be needed to determine the extent to which the objectives of the Strategy overall are being achieved, and develop such measures, as appropriate, that incorporate the key attributes of successful performance measures.	12/31/17 (original) 10/31/18 (extended), 3/32/23 (extended)	Yes. Although NOAA requested closure on 9/21/18, GAO will continue to monitor the status of NMFS efforts. NOAA provided status updates in 2019, 2020, 2021, and 2022. Closure is pending until late January 2023 because GAO wants to see if NMFS will update 7 regional action plans having performance metrics to include measurable targets. Public release is expected by late March 2023.	Yes
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Recommendations designated by GAO as "Closed-Unimplemented for the past 5 years (2015-2019). Future reports will cover a one-year period.

Report Number	
Report Title	
Issue Date	
Recommendation Number	
Recommendation	
Reason Not Implemented	

Alternative form if more than one report:

Report Number	Report Title	Issue Date	Recommendation Number	Recommendation	Reason Not Implemented
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Section 3. Implementation of OIG public recommendations issued no less than one year for which Final Action has not been Taken or Action Not Recommended has been Taken

**Department of Commerce
National Oceanic and Atmospheric Administration
IMPLEMENTATION STATUS OF GAO AND OIG RECOMMENDATIONS**

Include information on all OIG recommendations that are still officially open. Commerce OIG recommendations are open until closed by the Department OIG Liaison.

Report Number	
Report Title	
Issue Date	
Recommendation Number	
Recommendation	
Target Implementation Date	
Reason No Final Action Taken or Action Not Recommended Taken	
Closure Request Pending (Yes/No)	

Alternative form if more than one report:

Report Number	Report Title	Issue Date	Rec. Number	Recommendation	Target Implementation Date	Reason No Final Action Taken or Action Not recommended taken	Closure Request Pending (Yes/No)
OIG-22-015-A	Redesigned GOES-T is Ready for Launch, but NOAA Should Reassess Its Assumptions for Satellite Launch Planning and Storage	1/20/22	2	That the NOAA Deputy Under Secretary for Operations ensure that the Assistant Administrator for Satellite and Information conduct a cost-benefit analysis of selected geostationary coverage availability thresholds, and update its geostationary launch policy as appropriate.	11/30/22 (original), 3/31/23 (extended)	NESDIS performed an analysis of a range of geostationary imager availability thresholds to identify cost, benefit, and risk at different threshold levels. However, the launch policy was not updated to reflect the conclusion of the analysis. OIG wanted this policy updated to close recommendation. NESDIS anticipates completion by end of March 2023.	Yes – Closure requested on 7/29/22, but OIG disagreed.
OIG-21-027-I	OMAO Must Define and Implement a Disciplined Requirements Management Process to Ensure Future Acquisitions Meet User Needs	5/21/21	1	That the NOAA Deputy Under Secretary for Operations ensure that OMAO develop and regularly update a long-range vessel acquisition plan that lays out the dependencies between fleet objectives, funding, inventory, technology, and sustainment costs, among others and supports program milestone requirements.	9/30/22 (original) 12/31/24 (extended)	OMAO is working to implement this recommendation.	No

**Department of Commerce
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OIG-21-027-I	OMAO Must Define and Implement a Disciplined Requirements Management Process to Ensure Future Acquisitions Meet User Needs	5/21/21	2	That the NOAA Deputy Under Secretary for Operations ensure that OMAO establish a requirements management and change control process to ensure guidance is consistent, repeatable, regularly updated, and baselined. Ideally, this would be developed at the NOAA level and disseminated to NOAA program managers and appropriate Line Office representatives.	3/31/22 (original) 9/30/22 (extended) 6/30/23 (extended)	OMAO completed TPIO requirements, but needed more time until 9/30/22 to prepare NOSC-level requirements management policy. OIG approved another extension on 1/5/23.	No
OIG-21-001-A	The Department Has Made Progress Meeting Its Responsibilities Under the Geospatial Data Act But Must Improve Controls to Ensure Full Compliance	10/1/20	3	That the Deputy Secretary of Commerce and the Senior Agency Official for Geospatial Information develop Department-wide procedures to ensure operating units consistently implement the Department's Policy on Planned Geospatial Acquisitions.	9/30/21 (original) 9/30/22 (extended) 9/30/23 (extended)	NOAA requested another extension from 9/30/22 to 9/30/23 because OMB has not issued a revision to Circular A-16, which will provide specific guidance to agencies on geospatial budget and financial reporting. This revised circular directly impacts the proposed Department's policy and process.	No
OIG-20-006	NOAA's Office Of Marine And Aviation Operations Needs to Improve the Planning and Governing of Its Ship Fleet Recapitalization Effort	11/12/19	1	That the Director of NOAA Corps and OMAO develop a detailed contingency plan to reduce the risks associated with delays. The plan should address (a) capability and capacity gaps and (b) the cost of maintaining aging ships and utilizing alternatives.	03/31/20 (original) 9/30/21 (extended) 6/30/22 (extended) A new extended target date has not been set. The request is still pending.	NOAA requested closure on 8/31/20. OIG wanted the final contingency plan on 9/25/20, but NOAA is still making revisions and undergoing clearances. As of august 2022, OMAO has a tentative timeline of finalizing the plan in December 2022, but this does not include processes and reviews outside of NOAA's control (DOC, OMB, etc) and is subject to change. OMAO will provide updates on the timeline as they become aware of the them.	No

**Department of Commerce
National Oceanic and Atmospheric Administration
IMPLEMENTATION STATUS OF GAO AND OIG RECOMMENDATIONS**

OIG-19-022-A	Geostationary Operational Environmental Satellite–R Series: Program Success Requires Added Attention to Oversight, Risk Management, Requirements, and the Life-Cycle Cost Estimate.	8/12/19	7	That the Deputy Under Secretary for Operations ensure NOAA assesses whether GOES are the optimal satellites to achieve geomagnetic field observation requirements, using an analysis of alternatives or similar cost-benefit approach.	03/31/22 (original) 3/31/23 (extended)	As of April 2022, NESDIS began formulation and analysis of alternatives, including for deploying magnetometers in geostationary orbit that will include a magnetic cleanliness analysis. NESDIS anticipates completion by 3/31/23. OIG approved the extension on 5/20/22.	No
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Section 4. Discrepancies between this report and the semiannual reports submitted by the Commerce Office of Inspector General or reports submitted by the GAO

Nothing to report.

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Department of Commerce
National Oceanic and Atmospheric Administration
Description of Tribal Consultations
(Dollar amounts in thousands)

NOAA does not have programs requested in the FY 2024 budget that require Tribal consultation.

Summary Description of Tribal Consultations:

- NOAA's Tribal consultation efforts support:
 - EO 13175: Consultation and Coordination With Indian Tribal Governments
 - Presidential Memorandum on Tribal Consultation and Strengthening the Nation-to-Nation Relationships
- While NOAA's Tribal consultation efforts do not relate to the FY 2024 budget submission, NOAA's recent engagement in tribal consultation has focused around funding provided in the Infrastructure Investment and Jobs Act (IIJA)¹
- NOAA is revising and updating its existing NOAA policies and guidance documents, which facilitate implementation of the EO
 - The Federal Register notice² for the draft NOAA Tribal Consultation Handbook and a guidance document for Engaging and Incorporating Traditional Ecological Knowledge in Decision-Making were published on November 24, 2021

Summary Description of Tribal Input: NOAA has garnered input from tribal leaders on the important opportunities and decisions that the IIJA funding provides and will engage interested tribal nations in a sustained dialogue about this funding. NOAA received comments regarding how the agency currently administers funding or proposes to administer funding through the three provisions, including:

- Tribal nations provided comments concerning constraints on the amount of time, energy, and expertise they have available for locating funding, applying for funding, coordinating opportunities, leveraging resources, administration, planning, design, conservation and restoration, implementation, and reporting.
- Tribal nations provided comments on how NOAA identifies spending requirements, as well as the method and execution of funding.
- Tribal nations provided comments on the priorities and project types that should be considered for funding.
- Tribal nations recommended that NOAA consider priorities to better meet the needs of tribal nations, including but not limited to applicant eligibility, broader applications outside of existing mandates (e.g., ESA and MSA), and use of tribal priorities and traditional ecological knowledge.

¹ <https://www.noaa.gov/sites/default/files/2022-05/IIJATribalProvisionsNOAAExecutiveSummaryandResponse.pdf>

² <https://www.federalregister.gov/documents/2021/11/24/2021-25629/review-and-comment-of-national-oceanic-and-atmospheric-administration-tribal-consultation-policy-and>

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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
FY 2024 Annual Performance Plan
FY 2022 Annual Performance Report

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION FY2022/2024 ANNUAL PERFORMANCE PLAN AND REPORT

Overview of Bureau Accomplishments:

NOAA National Environmental Satellite, Data, and Information Service (NESDIS)

- **SO 1.7 - Pilot use of Commercial Data for Space Weather Forecasting** - On July 14, 2022, NOAA awarded three Commercial Weather Data Pilot (CWDP) space weather data contracts to three companies in California and Colorado. NOAA's Commercial Data Program (CDP) supports CWDP studies to demonstrate the quality and impact of commercial data on NOAA's forecasts, products, and services. The collection and assessment period for these space weather data is approximately 12 months. Upon completion and evaluation for cost benefit, quality, and suitability, successful CWDP studies may lead to sustained commercial data purchases by CDP to support NOAA's critical space weather forecasting mission for the Nation. **(NESDIS)**
- **SO 1.7 - Radio Occultation Data Buy (RODB) IDIQ-2** - NOAA's Commercial Data Program (CDP) supported the Request for Proposals for the second purchase of space-based commercial radio occultation (RO) data for use in NOAA's operational weather forecasts. NOAA will process commercial near-real-time satellite-based Global Navigation Satellite System (GNSS) RO and ionospheric measurements into neutral atmosphere and space weather products. These derived products will be fed into NOAA's operational data systems, including weather and space weather analysis and prediction systems, and used for weather, climate, and atmospheric research purposes. **(NESDIS)**
- **SO 3.1 - NOAA Launches GOES-T Satellite** - NOAA successfully launched the [GOES-T satellite on March 1, 2022](#), which was renamed GOES-18 once in orbit over the Western United States. GOES-18 is part of the Geostationary Operational Environmental Satellites – R (GOES-R) Series Program and is the third in NOAA's series of four advanced geostationary weather satellites that provide more detailed views of weather events than ever before. GOES-18 is ideally located to monitor weather systems and hazards over the western contiguous United States, Alaska, Hawaii, Mexico, Central America, and the Pacific Ocean. **(NESDIS)**
- **SO 3.1 - NOAA Launches JPSS-2 Satellite** - NOAA successfully launched the [JPSS-2 satellite on November 10, 2022](#) from the Vandenberg Space Force Base, California. JPSS-2, which was renamed NOAA-21 once in orbit, is part of the Joint Polar Satellite System and is the third of five satellites in NOAA's latest generation of polar-orbiting satellites that allow for continuous global observations for short- and long-term weather forecasts, extreme weather events, and monitoring of climate change. **(NESDIS)**
- **SO 3.1 - Advancing GeoXO Satellite System Development** - In 2022, the Geostationary Extended Observations (GeoXO) program, NOAA's groundbreaking mission that will advance Earth observations from geostationary orbit, was officially initiated with approval at Milestone 1. GeoXO also completed the System Requirements Review where the top-level program requirements were baselined. NOAA funded and NASA

awarded several contracts to advance the GeoXO satellite system. The awards include Phase A Study contracts for the lightning mapper, atmospheric composition instrument, ocean color instrument, and the GeoXO spacecraft concept. **(NESDIS)**

- **SO 3.1 - NESDIS Announces First-of-its-Kind Enterprise Cloud Award** - NOAA's National and Environmental Satellite, Data, and Information Service (NESDIS) awarded an Enterprise Cloud task order, which provides a flat-rate contract for up to 200 petabytes of egress capabilities and discounted storage services to meet operational requirements. The fixed-price nature of this egress award will accelerate cloud migration, creating opportunities for increased value delivery to the users, with a faster research-to-operations transition and future cost avoidance for refreshing on-premises systems. The flat-rate egress will spur innovation, as NESDIS will pivot to the use of artificial intelligence and machine learning tools in the cloud. Finally, this new cost structure allows for free and open data without the financial risk of pay-as-you-go egress. **(NESDIS)**
- **SO 3.1 - New Community Level Risk Mapping Information** - The [National Centers for Environmental Information \(NCEI\) Billion-Dollar Disaster Risk Mapping Tool](#) now includes U.S. Census tract data, enabling community-level awareness of hazard risk, exposure, and vulnerability and covering more than 100 combinations of weather and climate hazards. The enhanced interactive maps from NCEI build upon last year's county-level data and now provide metrics for over 72,000 U.S. census tracts. Decision-makers can use this local information that integrates risk exposure and socioeconomic vulnerability to better allocate resources for hazard mitigation and preparation. **(NESDIS)**
- **SO 3.1 - Measuring Greenhouse Gasses from Space** - In 2022, the NOAA Unique Combined Atmospheric Processing System (NUCAPS) made vertical profile and trace gas products that will improve global measurements of greenhouse gasses from space operational in the NESDIS Common Cloud Framework (NCCF). NUCAPS is the operational NOAA system used to derive radiance products, vertical profiles of temperature, water vapor, ozone, and trace gas products (carbon monoxide, methane, carbon dioxide). Transition to NCCF will significantly enhance access to and usability of NOAA's data and enable users to quickly develop new applications. **(NESDIS)**
- **SO 3.1 - Mapping Floods from Space** - In 2022 NOAA's Center for Satellite Applications (STAR) developed a new technique to combine 30 meter digital elevation maps with 375 meter Visible Infrared Imaging Radiometer Suite (VIIRS) flood maps to produce a downscaled 30 meter flood depth product, in addition to all-weather synthetic aperture radar (SAR) flood products that ensure flood mapping even during cloudy conditions. The information is used by the NWS, FEMA and other agencies to provide information to the public and decision-makers for mitigating immediate and longer-term flood impact (e.g. agriculture, infrastructure). **(NESDIS)**
- **SO 3.1 - 34th Anniversary of COSPAS-SARSAT** - NOAA's Search and Rescue Satellite Aided-Tracking (SARSAT) system was developed as a collaborative effort by the United States, Canada, France, and the former Soviet Union to improve search and rescue. The international agreement of the Cosmicheskaya Sistyema Poiska Avaryynich Sudov (COSPAS)-SARSAT program was signed on July 1, 1988, uniting a global network of satellites and centers to help save lives. Today, the agreement includes 45 nations and agencies with over 750,000 United States

emergency beacons registered in NOAA's database. To date, over 50,000 people worldwide in distress situations have been rescued because of SARSAT beacons, and in 2022 SARSAT helped save 397 lives in the United States. **(NESDIS)**

NOAA National Marine Fisheries Service (NMFS)

- **SO 2.1 - 98.05 Percent of CARES Act Funds Disbursed** - As of September 30, 2022, disbursements for the CARES Act fisheries assistance have reached \$292.1 million or 98.05 percent of the total \$297.9 million provided for eligible fisheries participants. Of the states and territories, only one has disbursed less than 96 percent of their funds. Of the 31 tribes, only seven have disbursed less than half their funds. **(NMFS)**
- **SO 2.1 - All CAA Funds Obligated and Nearly Half Disbursed** - All fishery assistance funding under the Consolidated Appropriations Act of 2021 have been obligated. Funds were allocated in three portions, \$255.0 million for coastal states and territories, \$15 million for Great Lakes states, and \$30 million for Tribes. Spend plans from all 36 coastal and Great Lakes states and territories have been approved. As of September 30, 2022, \$110.5 million (43 percent) of coastal state funds and \$7.7 million (51 percent) in Great Lakes state funds have been disbursed. All \$30 million (100 percent) for Tribes have been transferred to the Bureau of Indian Affairs through an interagency agreement, and disbursed using P.L. 93-638 (Indian Self Determination and Education Assistance Act) contracts. **(NMFS)**
- **SO 2.1 - U.S. Fish Stocks Maintain Sustainability** - The Status of the U.S. Fisheries report for 2021 shows 92 percent of the stocks managed are not subject to overfishing and 80 percent are not overfished. Ninety percent did not exceed their annual catch limits. Forty-seven U.S. marine fish stocks have been rebuilt since 2000. Ending overfishing and rebuilding stocks supported \$255 billion of commercial and recreational sales and 1.8 million jobs in 2019. This shows that the U.S. fishery management system is achieving its long-term sustainability goals. **(NMFS)**
- **SO 2.1 - Bipartisan Infrastructure Law Funds Distributed Through PCSRF** - NOAA distributed \$34.4 million in funding from the Bipartisan Infrastructure Law through the Pacific Coastal Salmon Recovery Fund (PCSRF). The notice of funding opportunity was announced in January, and by August the award offers were provided and accepted. **(NMFS)**
- **SO 2.1 - Pacific Bluefin Tuna Rebound Accelerating** - Following international action to end overfishing of Pacific bluefin tuna, a new stock assessment shows that the species is now increasing and includes many younger fish that will help accelerate its rebound. The assessment confirmed that the stock surpassed the first rebuilding target in 2019. It is projected to likely increase beyond the second rebuilding target later this year, well ahead of the internationally-agreed schedule. The new findings demonstrate the success of coordinated management actions taken by the United States, Japan, Korea, Taiwan, and Mexico through regional fisheries management organizations. They also reflect the strength of the current stock assessment and projections, which incorporate decades of information on Pacific bluefin biology and fisheries. **(NMFS)**
- **SO 2.1 - Aquaculture Atlases Released** - Following the selection of Southern California and the Gulf of Mexico as the first two regions for focus to identify Aquaculture Opportunity Areas (AOA), NOAA released two Atlases compiling the best available science to inform the identification of AOAs in those two regions. Each Atlas was developed using more than 200 data layers accounting for key environmental, economic, social, and

cultural considerations, including fishing interests and marine protected areas. The studies identified nine areas in the Gulf of Mexico and 10 areas in the Southern California Bight that may be suitable for aquaculture, while also reducing conflicts with other ocean uses. **(NMFS/NOS)**

- **SO 2.1 - User-friendly Aquaculture Permitting in Alaska** - NOAA formed an interagency working group with state and federal aquaculture regulators to improve aquaculture permitting efficiency in Alaska through user-friendly tools. To guide applicants through the aquaculture leasing and permitting process in Alaska, the working group developed the Alaska Aquaculture Permitting Portal and the Alaska Aquaculture Permitting Guide, which bring together leasing and permitting information from state and federal regulators all into one place. These first-of-their-kind tools support new and existing farmers in navigating the initial application steps as well as the authorization renewal, transfer, and amendment processes. **(NMFS/OAR)**
- **SO 3.3 - NOAA-BOEM Interagency Agreement Signed** - In January 2022, NOAA and the Bureau of Ocean Energy Management (BOEM) signed an interagency memorandum to advance wind energy while protecting biodiversity and promoting cooperative ocean use. The new agreement underscores the agencies' commitment to responsibly deploy 30 gigawatts of wind energy production capacity in federal waters by 2030. It leverages the responsibilities, expertise, and relationships of both agencies to support this goal. The agreement identifies a number of areas for potential collaboration among NOAA and BOEM including improving the efficiency of environmental review and authorization processes for offshore wind permitting, and reducing inconsistencies across different authorities. **(NMFS)**
- **SO 5.2 - Draft Equity and Environmental Justice Strategy** - NMFS completed a new draft Equity and Environmental Justice Strategy that provides a framework for serving all communities more equitably and effectively. The strategy identifies three overarching, long-term goals and six short-term objectives that will advance equity and environmental justice for underserved and underrepresented communities. **(NMFS)**

NOAA National Ocean Service (NOS)

- **SO 2.1 - NOAA Develops New Products and Services for Marine Navigation** - NOAA continued to improve its suite of products and services to support safe marine navigation. NOAA established its 37th Physical Oceanographic Real Time System (PORTS®) around Naval Base Kitsap in Washington, in partnership with the U.S. Navy. The PORTS® will provide real-time water level, current, and weather meteorological information for local mariners. NOAA also released prototype high resolution data for the Ports of New York/New Jersey and Los Angeles/Long Beach, and collected data at over 350 locations to support an update to the International Great Lakes Datum, the common reference for measuring water levels throughout the Great Lakes that was last updated in 1985. **(NOS)**
- **SO 3.2 - NOAA Helps Communities Understand Sea Level Risk Impacts and Future Flood Risk** - NOAA produced an array of new and improved tools to help coastal decision-makers understand near- and long-term inundation risks. These tools include the 2022 Interagency Sea Level Rise Technical Report, interactive versions of the Sea Level Trends map and State of High Tide Flooding and Annual Outlook, a data update to the Sea Level Rise Viewer, and improved Great Lakes information for both the Coastal Flood Exposure Mapper and Coastal Inundation Dashboard. The

visualizations, long-term predictions and projections, and real-time information available via this suite of products will help coastal communities plan for and mitigate risk to changing ocean conditions. **(NOS)**

- **SO 3.2 - NOAA Advances Designation and Expansion Processes for Marine Sanctuaries and Estuarine Reserves** - In January 2022, NOAA and the state of Connecticut designated the new Connecticut National Estuarine Research Reserve to enhance coastal management and local community and ecosystem resilience. NOAA also initiated the process to designate three new National Marine Sanctuaries: Papahānaumokuākea, Chumash Heritage, and Hudson Canyon. **(NOS)**
- **SO 3.3 - NOAA Analyses Support Decisions for Siting Offshore Wind Energy** - NOAA provided analyses to support Bureau of Ocean Energy Management’s offshore wind energy siting decisions. NOAA built spatial models for the Gulf of Mexico that identified more than 730,000 acres that would not disrupt existing ocean industries and could potentially power more than three million homes. On the West Coast, NOAA published the distributions of 33 species of marine birds to inform siting of offshore wind farms. **(NOS)**
- **SO 3.2 - NOAA Addresses Marine Debris and Pollution** - In FY 2022, NOAA recovered \$114 million in settlements to support restoration of areas impacted by oil spills and hazardous waste. NOAA also announced a \$58 million competitive funding opportunity using Bipartisan Infrastructure Law funding to remove large marine debris and use proven interception technologies to capture debris. To increase preparedness for future freshwater spills in the Great Lakes, NOAA launched a full refresh of its Environmental Sensitivity Index data, and completed the update for Lake Erie with support by the U.S. Coast Guard. **(NOS)**

NOAA National Weather Service (NWS)

- **SO 3.1 - New Weather and Climate Operational Supercomputing System (WCROSS) Inaugurated** - Two new Weather and Operational Supercomputing System (WCROSS) supercomputers, called Dogwood and Cactus, went live in early June 2022. The WCROSS supports (a) weather and climate forecasting capabilities 24/7 (b) numerical environmental prediction model development and testing, and (c) dissemination of operational products using a wide area network. These products include national and global weather, water, climate, and space weather guidance, forecasts, warnings, and analyses to a broad range of users and partners. This includes other NOAA programs, government agencies, military, and the general public. **(NWS)**
- **SO 3.1 - Cloud-based Tool Selected for NWSChat** - NWSChat is a key tool used for collaboration and coordination with our core stakeholders and partners. Last year, a demonstration began to see if a commercial off-the-shelf solution could fulfill the requirements of NWSChat so that we could better meet our needs and the demands of our external partners. After a successful demonstration of Slack, a contract was awarded in July 2022 to migrate NWSChat to Slack in order to improve our ability to reliably coordinate the vital and timely forecast information that we provide. **(NWS)**
- **SO 3.1 - Launch of Heat.gov as the Hub for Federal Heat-Health Information** - As a co-founding member of the National Integrated Heat Health Information System with the Center for Disease Control and Prevention, NOAA developed a new web portal to provide the public and

community decision makers with clear, timely, and science-based information to understand and reduce the health risks of extreme heat. Heat.gov provides information, tools, and resources on heat and health for the nation, and is a deliverable for the White House Interagency Working Group for Extreme Heat. Heat.gov was launched on July 26, 2022. **(NWS)**

- **SO 3.1 - Water Resources Cooperative Institute** - The NWS Office of Water Prediction, in collaboration with the Office of Oceanic and Atmospheric Research, established the Cooperative Institute for Research to Operations in Hydrology (CIROH) on April 6, 2022. CIROH is led by the University of Alabama and includes 13 other graduate degree-granting institutions from Hawaii to Vermont to Canada. The new cooperative institute will work with NOAA to research and develop state-of-the-science water analysis, forecasts and guidance and the equitable delivery of decision-support services. In addition, the program will train the next generation of scientists focused on addressing water issues and emergencies, helping NOAA to build a Climate-Ready Nation. **(NWS)**
- **SO 3.1 - Service Equity Framework and Action Plan Delivered** - As a follow-on to the 2021 NWS Service Equity Assessment, the NWS developed a NWS Service Equity Framework and Action Plan to act on the recommendations identified in the assessment. The Framework serves as a comprehensive plan to address all aspects of Service Equity within the NWS, including, but not limited to, the establishment of a NWS Community Engagement Program, establishing and/or adapting appropriate policy on Service Equity, and advancing diverse staffing in NWS operational units conducting community engagement. Further, the NWS is utilizing funding from the Bipartisan Infrastructure Law to begin developing requirements and use cases for the NOAA Social and Behavior Observation Database. **(NWS)**
- **SO 3.1 - Concept of Operations for Flood Inundation Mapping (FIM)** - Recent successful demonstrations have proven that FIM techniques may be driven by official streamflow forecasts from the River Forecast Centers (RFC) or by National Water Model guidance to provide the spatial extent of flood waters. A Concept of Operations (CONOPS) has been developed on how the local Weather Forecast Offices, RFCs, regional operations centers, national centers, and the National Water Center will collaborate and coordinate on the FIM products and services both internally and externally. The FIM CONOPS is being directly used to establish the long-desired goal of operational FIM beginning in FY 2023, by guiding deployments focused on four central themes: a) Collaboration and Coordination, b) FIM impact-based decision support services, c) Training and Outreach, and d) Evaluation and Verification. **(NWS)**
- **SO 3.1 - Excessive Rainfall Outlook Experimentally Extended** - The Excessive Rainfall Outlook was experimentally extended by an additional two days, out to Day 4 and Day 5. The Excessive Rainfall Outlook is a synthesis product that provides a “heads-up” to the emergency management community by depicting the likelihood of extreme rainfall. This improves lead time for the most severe rainfall events from the current 3-day outlook. **(NWS)**
- **SO 3.1 - Implementation of the Severe Weather and Society Dashboard** - The Severe Weather and Society Dashboard interface was successfully implemented on the NOAA Virtual Lab Cloud production platform. Additionally, functionality was added to display differences between objective risk occurrences and perceived risk by county warning area for multiple hazards. The dashboard, created in collaboration with the University of

Oklahoma, is an interactive tool that will allow NWS forecasters, partners, and policymakers to access and explore data from the Weather Survey for purposes of training and performance evaluation. An additional benefit of the Dashboard is that, through the display and the information it provides, NWS forecasters can better understand the communities that they are serving. **(NWS)**

NOAA Oceanic and Atmospheric Research (OAR)

- **SO 3.1 - Improved Ocean Observations** - NOAA captured the world's first footage from inside of a category 4 hurricane using Sairdron Explorer. The data collected from drone deployments are critical for improving storm forecasting and are expected to reduce loss of human life by allowing better preparedness in coastal communities. **(OAR)**
- **SO 3.1 - Fire Weather Improvements** - On December 2, 2021, one of NOAA's High Resolution Rapid Refresh Smoke models was transferred from NOAA's Global Systems Laboratory to the National Weather Service. This model takes satellite observations of fire location and intensity and predicts the movement of smoke across the country over 48 hours, simulating how the weather will impact smoke movement, and how smoke will impact visibility, temperature, and wind. **(OAR)**
- **SO 3.1 - Wildfire Website Launched** - NOAA launched a [wildfire website](#), a new hub for fire weather science and products. **(OAR)**
- **SO 3.1 - [Climate.gov](#) and the CMRA Assessment Tool Redesign** - This recently redesigned website integrates artificial intelligence to improve the accessibility of accurate and timely climate information. The upgrades to this flagship website include search tools enhanced by artificial intelligence and a suite of user experience and accessibility improvements, which will better connect Americans to climate explainers, data dashboards, and classroom-ready teaching resources. NOAA also launched the [Climate Mapping for Resilience and Adaptation \(CMRA\) Assessment Tool](#) to help planners and other users understand and act on future climate challenges. **(OAR)**
- **SO 3.1 - Sustained Atmospheric Observations** - For the first time, the U.S. Environmental Protection Agency is using NOAA atmospheric measurements to help support the national inventory of hydrofluorocarbons (HFCs) emissions. The American Innovation and Manufacturing Act of 2020 calls for an 85 percent reduction in HFC production and consumption by 2036. Based on these data, the U.S. Congress is poised to ratify its policy to phase-down its consumption and production of HFCs. **(OAR)**
- **SO 3.1 - Advance Notice of Marine Heatwaves** - NOAA's Physical Sciences Laboratory, in collaboration with NOAA's Southwest Fisheries Science Center, have developed new global forecasts that can provide up to a year's advance notice of marine heatwaves. Marine heatwaves can dramatically affect ocean ecosystems, and subsequently coastal communities and the fishery industry. **(OAR)**
- **SO 3.2 - Guam Sea Grant Status Growth** - Guam Sea Grant has achieved Sea Grant Institutional Program status, a designation of growth from the program's previous Coherent Area Program status. The designation comes on the unanimous recommendation of the National Sea Grant Advisory Board and NOAA senior leadership. As an Institutional Program, Guam Sea Grant will be able to increase its contributions to the national Sea Grant network and enhance the practical use and conservation of Guam's marine and coastal resources. **(OAR)**

NOAA Office of Marine and Aviation Operations (OMAO)

- **SO 3.1 - Fleet Recapitalization** - NOAA continued acquisition of two general purpose Oceanographic Ships (Class A) through a Navy assisted acquisition. The Navy and NOAA teams conducted 10 design reviews and a Production Readiness Review with the contractor. Construction has begun for this ship Class. NOAA held a keel-laying ceremony in June 2022 for its newest oceanographic research ship, *Oceanographer*. Another new ship class acquisition (Class B) with a primary mission of charting and surveying, released a Request for Proposal to industry, with multiple responses received. **(OMAO)**
- **SO 3.1 - Aircraft Recapitalization** - NOAA continued its acquisition of a new Gulfstream G550 aircraft. A partial Critical Design review was successfully conducted in July and the aircraft started physical modifications. The G550 is a replacement for NOAA's current Gulfstream G-IV but offers enhanced data collection technologies including those for advanced climate data. The acquisition of a third King Air aircraft was initiated after receiving FY 2022 appropriations. An existing contract option was exercised for the third King Air base aircraft with mission modifications for photogrammetry and snow survey. **(OMAO)**
- **SO 3.1 - Uncrewed Systems (UxS)** - OMAO continued to fund and advance the transition of NOAA missions to uncrewed marine and aircraft systems (together: UxS). High-priority funded transition projects received \$6.3 million in FY 2022, representing their second of three years of funding, and all projects operated in the field making advancements towards routine operations. These projects focus on the testing and evaluation of mature UxS technologies that have high potential to transition to routine operations and will eventually provide a NOAA product or service. OMAO also continued to fund \$3.9 million of existing UxS research and development projects and UxS operations across NOAA. Notable accomplishments in FY 2022 included working with OAR and NOS on a coordinated effort to use three different UxS platforms to evaluate the ability of air-sea interaction data to improve hurricane intensity forecasts, and acquiring a Drix Uncrewed Surface Vehicle and integrating it onto the NOAA ship *Thomas Jefferson* to evaluate its ability to improve the productivity and efficiency of NOAA's hydrographic survey missions. **(OMAO)**
- **SO 5.2 - Diversity, Equity and Inclusion** - OMAO established its Diversity, Equity, and Inclusion Advisory Council, chaired by the OMAO Deputy Assistant Administrator for Programs and Administration, comprising twelve individuals across OMAO's centers and divisions. All members are currently enrolled in the e-Cornell Diversity, Equity, and Inclusion certification program and are on track to complete their certifications in December 2022. OMAO also initiated a monthly dialog with each of NOAA's Employee Resource Groups (ERGs) between the OMAO Director and NOAA's senior leaders. The first monthly meeting occurred in August 2022 with the Asian American and Pacific Islanders ERG. **(OMAO)**

NOAA Office of Chief Information Officer (OCIO)

- **SO 3.1 - High Performance Computing (HPC)** - The Research HPC program added more than 10 petaflops of computing capacity across Oak Ridge (Gaea) and Mississippi State University (Orion, Hercules). The program increased network capability and redundancy for all sites and doubled the archive capacity for research computing. Incubator awards for novel and cutting-edge artificial intelligence / machine learning research projects

increased by 50 percent in FY 2022. NOAA Cloud adoption continues to increase as the program heightens focus on the user experience and providing technical solutions to allow both long-time and non-traditional HPC users access to the Cloud compute environment. **(OCIO)**

- **SO 3.1 – NOAA Open Data Dissemination (NODD)** - The FY 2022 Omnibus included language that supported the change from Big Data Program (BDP) to NODD and supported NODD’s initiative to improve public access to climate change data and NOAA’s transition to the Cloud. The team awarded renewals of Cloud Service Providers (3) contracts (1st Option year), and developed and implemented dashboards for real-time statistics and metrics that provide the ability to know in real-time the amount of data stored, accessed, and uploaded to NODD. At the time of this report, NODD currently has 23 petabytes of data stored across the cloud service providers and over 2 petabytes of data accessed over the month of July 2022. NODD had a chapter published in the book Big Data Analytics in Earth, Atmospheric and Ocean Sciences, outlining NODD’s activities and benefits to NOAA and Big Data Analytics. **(OCIO)**

NOAA Office of Space Commerce (OSC)

- **SO 1.7 – Supporting Basic Space Situational Awareness (SSA) Data and Basic Space Traffic Management (STM) Services** - In partnership with industry, government, and academia, DOC implemented an operational public SSA and STM services system proving ground, through experimentation with a Traffic Coordination Space System (TraCSS), formerly the Open Architecture Data Repository. This public-private collaboration continues to evolve through ongoing research, integration, and testing to advance space science and technology products/capabilities for SSA and STM. These efforts will improve SSA data interoperability and increase SSA data sharing. DOC/NOAA entered into a Memorandum of Agreement with the Department of Defense to assume the commercial SSA functions from the United States Space Force on September 9, 2022. **(OSC)**
- **SO 1.7 - Participation in the National Space Council** - The Office of Space Commerce supported the Department of Commerce Secretary and Deputy Secretary at the first two meetings of the Council under the Biden-Harris Administration, held on December 1, 2021 and September 9, 2022. The office participated in National Space Council decision processes that led to the release of the U.S. Space Priorities Framework, a document that underscores the national benefits of space and identifies focus areas for the National Space Council and its member agencies, including advancing and synchronizing our civil, commercial and national security space activities. **(OSC)**
- **SO 1.7 - Promoting Space Cybersecurity** - The Office of Space Commerce collaborated with NIST and DHS to organize two government-industry events to improve space safety and sustainability by increasing cyber protections in commercial space systems. The first event, on October 13, 2022, focused on cyber standards, the standards process, standards bodies, regulations, and federal acquisition requirements as they apply to commercial space. The second event, on June 16, 2022, focused on cybersecurity threat updates and geopolitical awareness, and the development of actionable ideas for securing space businesses and open data systems. Both events had 1000+ registered attendees. **(OSC)**
- **SO 1.7 - Mitigating Orbital Debris** - The Office of Space Commerce participated in the development of the National Orbital Debris Mitigation Plan, released by the White House in July 2022. The plan outlines a national effort to meet the United States space sustainability priorities to

mitigate, track, and remediate debris. In addition, the Office partnered with NASA to initiate R&D for addressing scientific questions on how the space environment impacts SSA and orbital debris. **(OSC)**

- **SO 1.7 - Developing STM Standards and Practices** - The Office of Space Commerce and NIST coordinated input from the U.S. Government to develop internationally accepted common standards, best practices, and guidelines for space traffic management. This was achieved through engagement with standards developing organizations to help the space community to deliver the best technical solutions that will be globally accepted through internationally agreed-upon voluntary consensus-building processes. In addition, the office and NIST supported reviews of current capabilities and the development of new approaches for the integration of open-access data messaging practices for space data operations, interoperability, and communications. **(OSC)**
- **SO 1.7 - Evaluation of Commercial SSA Data** - The Office of Space Commerce issued a Request for Proposals related to its effort to establish a Traffic Coordination Space System (TraCSS), formerly the Open Architecture Data Repository, and conduct pilots, prototypes, and experiments to fulfill its obligations under Space Policy Directive-3. The Office requires commercial data for the purpose of assessing the quality of the data and its potential impact in SSA forecast models. **(OSC)**

Cross-cutting NOAA Offices (NOAA)

- **SO 3.1 - Climate Equity Pilots** - NOAA has launched seven [Climate Equity Pilots](#) around the country to support equitable climate resilience for underserved communities facing impacts from climate change, including coastal and river flooding, extreme heat, and erosion. These place-based pilots focus on communities affected by climate change, including urban, rural, and indigenous communities. **(NOAA Office of Education)**
- **SO 3.1 - Climate-Ready Nation** - NOAA is developing the Climate-Ready Nation initiative, which scales up efforts to develop and deliver climate products and services to commercial, federal, and community partners, including underserved populations. **(NOAA)**
- **SO 3.1 - Supporting Federal Partners** - NOAA began providing data and climate expertise to the U.S. Department of Transportation to help them ensure \$8.7 billion in PROTECT Resilience Grant Program funding optimally increases the resilience of the Nation's transportation infrastructure. NOAA is also providing data and tools to NTIA to help them make \$48.2 billion in broadband investments more climate resilient. **(NOAA)**
- **SO 5.3 - NOAA Customer Experience** - NOAA launched an enterprise-wide Customer Experience (CX) initiative and completed a baseline assessment of its CX maturity, partnering with Forrester, an industry leader in CX research. As part of this initiative, NOAA also developed a CX Vision and CX Playbook that NOAA Communities of Practice involved in service delivery will be able to use to implement the Vision across high-impact priority areas. **(NOAA OCFO)**

Planned Actions through FY 2024:

NOAA National Environmental Satellite, Data, and Information Service (NESDIS)

- **SO 1.7 - Continue Commercial Data Program** – NOAA will assess the expansion of commercial satellite data buys which could deliver new or augment existing types of Earth observation and space weather data. Support the continued development and sustainment of NOAA’s infrastructure and capabilities to securely ingest, process, assimilate, distribute, and archive data from commercial space providers for operational use. **(NESDIS)**
- **SO 3.1 - Continue to Deploy and Operate the Joint Polar Satellite System (JPSS)** - Following the successful launch of NOAA-21 on November 10, 2022, NOAA will complete on-orbit check out of NOAA-21 and transition it to operations in 2023. The JPSS-3 instruments will move to the final phase of integration testing before they are integrated onto the JPSS-3 spacecraft. **(NESDIS)**
- **SO 3.1 - Begin Building the Geostationary Extended Observations (GeoXO) Satellites** - NOAA will begin building the GeoXO satellites in FY 2024 by awarding instrument contracts. NOAA is working to ensure GeoXO observations are in place by the early 2030s as the GOES-R Series nears the end of its operational lifetime. **(NESDIS)**
- **SO 3.1 - Design Next-Generation Low Earth Orbiting (LEO) Satellite Missions** - FY 2024 funds will support the instrument development studies, exploration of leveraging commercial capabilities, and exploration of innovative smallsat development approaches, including partnering with commercial entities. This work will build off of complementary efforts funded within the Joint Venture program. **(NESDIS)**
- **SO 3.1 - Space Weather Next Program Plan** - In FY 2024, NOAA will work towards executing a comprehensive space weather program plan. Initial projects include an L1 continuity project and an L5 coronagraph project in partnership with the European Space Agency (ESA), with ESA providing the launch, spacecraft, additional observations of value to NOAA’s mission, and the satellite operations. NOAA will also conduct pre-formulation and formulation activities for instruments. **(NESDIS)**
- **SO 3.1 - Complete Sandbox Service of the NESDIS Common Cloud Framework** - NOAA will reach full functionality of the NESDIS Common Cloud Framework (NCCF) development environment, with the deployment of an artificial intelligence-enabled science sandbox which will provide a cloud-based environment for science, stewardship and development teams, resulting in decommissioning of on-premises development systems and promoting streamlined software integration processes, improved data visualization capabilities and minimized cloud egress. **(NESDIS)**
- **SO 3.1 - Improving Local, State, and Regional Climate Services** - NOAA will expand climate services at the local, state, and regional level, including pointed support for underserved regional populations. Additional support for Regional Climate Services will enable NOAA to identify user needs and NOAA’s role in supporting the top economic sectors, which vary from region to region, and improve development and delivery of operational information. Efficient and cost-effective delivery of climate science information, products, and services that address region-specific economic activity, hazards, and vulnerabilities help communities make informed decisions. **(NESDIS)**
- **SO 3.1 - Improving Community Infrastructure with Advanced Water and Fire weather Products and Services** - With support from the Bipartisan Infrastructure Law, NOAA will advance precipitation frequency products to aid water resource managers (e.g., water providers, storm water entities, etc.), transportation planners, and engineering organizations in planning important infrastructure upgrades as well as continue to work

toward delivering game-changing fire detection products and services that address some of the most urgent needs of firefighters and first responders, such as the potential for, and early behavior of, fires within a few hours of when they start. **(NESDIS)**

NOAA National Marine Fisheries Service (NMFS)

- **SO 2.1** - Use Bipartisan Infrastructure Law (BIL) funds for grant activities to improve fish passage for coastal marine fishes, such as salmon; these include species associated with commercial and recreational fisheries, and those listed as threatened or endangered under the Endangered Species Act.
- **SO 2.1** - Use BIL funds to increase Pacific Coastal Salmon Recovery actions through a competitive grant program for states and tribes to protect, conserve, and restore salmon and steelhead populations and their habitat.
- **SO 2.1** - Publish the National Strategy for Seafood Sector Resilience and Competitiveness
- **SO 2.1** - Improve assessment of climate vulnerability of fish stocks, ecosystems and habitats in the Gulf of Mexico and South Atlantic
- **SO 2.1** - Conduct social and economic studies of the economic and/or social effects of ecosystem services (e.g. fishing) on coastal fishing communities
- **SO 2.1** - Conduct Arctic Bottom Trawl Surveys to better understand the changing spatial distribution of commercially important species
- **SO 2.1** - Develop and integrate an uncrewed, autonomous platform (UxS) to survey fish stock abundance, distribution, and ecosystem function working in tandem with NOAA Fishery Survey Vessels
- **SO 2.1** - Develop Global Seafood Data System analytical and reporting module and AI/ML/data science capabilities to identify shipments at risk of IUU fishing and inform trade monitoring audits
- **SO 2.1** - Strengthen the implementation of the Seafood Import Monitoring Program (SIMP) including targeted enforcement of international laws, treaties, and agreements
- **SO 2.1** - Issue comparability findings to ensure nations exporting fish and fish products to the United States are held to the same standards as U.S. commercial fishing operations in terms of measures to reduce marine mammal bycatch
- **SO 2.1** - Determine areas for future Aquaculture Opportunity Area (AOA) Atlas development
- **SO 2.1** - Propose regulations for an aquaculture fishery management program for the Pacific Islands region
- **SO 3.3** - Use BIL funds to expedite federal projects aimed at tackling the nation's climate crisis, such as offshore wind energy, by completing Endangered Species Act and Essential Fish Habitat consultations, and incidental harassment authorizations, for federal infrastructure projects or those permitted or authorized by federal agencies.
- **SO 3.3** - Support NEPA reviews on Offshore Wind Projects
- **SO 3.3** - Develop a socioeconomic fisheries information platform to inform wind energy area planning and assessments

- **SO 5.2** - Conduct stakeholder analysis of underrepresented communities and collaborate on a national data set for identifying populations and communities subject to Equity and Environmental Justice concerns
- **SO 5.2** - Release the new Community Environmental Justice Explorer social analysis web tool designed to support identification of underserved communities as outlined in the NMFS EEJ Strategy

NOAA National Ocean Service (NOS)

- **SO 2.1 - Expand and Maintain Coastal, Ocean and Great Lakes observing** - NOAA will expand and maintain its coastal, ocean and Great Lakes observing systems and data collection. This will include establishing one new PORTS® in Honolulu, HI, expanding the Continuously Operating Reference Stations Network by building and upgrading stations, and working toward establishing a hurricane glider fleet. Annually, NOAA will also conduct 145 hydrographic surveys annually and update shoreline for 75 percent of ports. Using Bipartisan Infrastructure Law funding, NOS will also work to recapitalize its High Frequency Radar Network and National Water Level Observation Network (NWLON), as well as increase support for the U.S. Integrated Ocean Observing System (IOOS) Regional Associations to enhance regional data sharing and integration. **(NOS)**
- **SO 2.1 - Navigation & Positioning Observations in Alaska and the Arctic** - NOAA will work to address observation needs in Alaska and the arctic. This will include collecting gravity data in the Aleutian Islands, updating 500 miles of Alaska shoreline with aerial imagery, and filling critical water level observation gaps.
- **SO 2.1 - Improved Ocean Economic Data for U.S. Territories** - NOAA will update its Economics National Ocean Watch data product, including new data for each of the U.S. Territories, to characterize the economic and job impacts of ocean and coastal activity. **(NOS)**
- **SO 3.2 - Advance Conservation and Restoration** - NOAA will continue to advance processes for proposed designations of three National Marine Sanctuaries: Lake Ontario, Chumash, and Papahānaumokuākea, as well as two National Estuarine Research Reserves in Wisconsin and Louisiana. NOAA will also continue the process to assess the proposed expansion of Florida Keys National Marine Sanctuary. NOAA will work to respond to 100 coastal pollution incidents annually, and develop strategies to prevent vessel accidents in National Marine Sanctuaries and National Marine Monuments. Bipartisan Infrastructure Law funding will enable NOAA to support grant and contract activities for conservation through state Coastal Zone Management programs and National Estuarine Research Reserves. **(NOS)**
- **SO 3.2 - Deliver Coastal Resilience Product and Services** - Annually, NOAA will train 2000 coastal professionals on ecosystem issues including coastal resilience, and will deliver 225 technical assistance opportunities. NOAA will continue to deliver key resilience products including Quarterly High Tide Flooding Bulletins and the 2023 State of High Tide Flooding and Annual Outlook, and will maintain and update resources available to state and local communities via the Digital Coast platform. Using funding from the Bipartisan Infrastructure Law, NOAA will support grant and contract activities for coastal resilience through the National Coastal Resilience Fund, Regional Ocean Partnerships, and state Coastal Zone Management Programs. NOAA will also collect critical positioning, gravity, and survey observations and data, as well as advance inundation modeling efforts to help establish a national Flood Inundation Mapping Service. **(NOS)**

- **SO 3.2 - Engaging Tribal and Indigenous Communities** - NOAA will work to ensure that Tribal and Indigenous communities are able to gain the full benefit of its resilience and conservation efforts. NOAA will establish a tribally led and composed Tribal Climate Initiatives Program, and will assess on-going constraints to Alaska Native community resilience to identify impacts from climate change. **(NOS)**
- **SO 3.3 Inform Offshore Wind Siting** - NOAA will inform planning and siting of offshore activities, including wind energy projects, aquaculture, and marine protected areas. This will include developing up to three spatial ecosystem models designed to inform siting of offshore wind energy projects. **(NOS)**
- **SO 3.2 - Ecological Forecasting - NOAA will sustain a variety of operational forecasts of ecological factors** - This includes forecasts for harmful algal bloom (HAB) in Lake Erie, Gulf of Maine, and Gulf of Mexico; for pathogens in the Chesapeake Bay in the Pacific Northwest; and for hypoxia in the Gulf of Mexico. NOAA will also establish a mass spectrometry method to screen hundreds of HAB toxins both in water and in seafood. **(NOS)**
- **SO 3.2 - Sustain Response and Preparedness Capabilities** - NOAA will annually respond to 100 coastal pollution incidents and remove 600 metric tons of debris. NOAA will also develop strategies to prevent vessel accidents in national marine sanctuaries and marine national monuments. **(NOS)**

NOAA National Weather Service (NWS)

- **SO 3.1** - Ensure equitable access for products and services, including Impact-Based Decision Support Services (IDSS) regardless of socio-economic status, race, language, or other factors **(NWS)**
- **SO 3.1** - Complete NEXRAD Service Life Extension Program (SLEP) **(NWS)**
- **SO 3.1** - Continue modernization of telecommunications infrastructure capable of meeting the agency's mission **(NWS)**
- **SO 3.1** - Continue multi-year actions towards relocation of Weather Forecast Office/River Forecast Center (WFO/RFC) **(NWS)**
- **SO 3.1** - Continue Tsunami Warning Center IT unification **(NWS)**
- **SO 3.1** - Develop and implement a sustainable and scalable Spanish language translation approach and lay the groundwork to scale automated translations to additional foreign languages of NWS products **(NWS)**

NOAA Oceanic and Atmospheric Research (OAR)

- **SO 3.1 - Phased Array Radar Research and Development Follow-On Plan** - Advance industry engagement to prototype a dual polarization Phased Array Radar (PAR) for a weather surveillance PAR testbed. This critical step would allow NOAA to evaluate industry's potential to deliver dual polarization PAR technology to meet NOAA's weather radar requirements. PAR is a promising technology that could advance NOAA's current radars from 1988-based technology to radars that would be viable until the end of the 21st century. **(OAR)**

- **SO 3.1 - Uncrewed Systems (UxS)** - Conduct directed research and proposal solicitations for R&D related to UxS concepts and technologies to support missions across NOAA's Line Offices in order to move notional ideas to testable technologies and finalize mature, transition ready projects into operational use within NOAA. **(OAR)**
- **SO 3.2 - Enhancing Regional and Community Resilience** - Develop regional networks of scientists and decision makers working together to co-generate tailored research and products, including regional climate and risk assessments, focused on key climate risks for the region (e.g., coastal inundation, extreme heat, and water resource stress), and the decision needs of vulnerable and underserved communities. **(OAR)**
- **SO 3.2 - Tackling Marine Debris** - The National Sea Grant College Program issued two funding opportunity notices using Bipartisan Infrastructure Law funds. These notices indicate NOAA's plans to invest a total of \$19 million in multi-year funding to develop transformational technology and social, behavioral, and economic approaches to preventing and removing marine debris in coastal and Great Lakes communities as part of its *Climate Ready Coasts* initiative. The projects funded through these marine debris opportunities will improve the resilience of the coastal and marine environment and local economies, enabling them to more readily bounce back in the face of future storms and other natural disasters that often result in large amounts of marine debris. **(OAR)**

NOAA Office of Marine and Aviation Operations (OMAO)

- **SO 3.1- Fleet Recapitalization (FY 2023-FY 2024)** - Class A vessels (*Oceanographer and Discoverer*) will continue with construction, trials, and an expected delivery in FY 2024 for the lead ship, while the second ship will be in construction during FY 2024, and anticipates trials and delivery in FY 2025. Contract award for the Class B vessel(s) with the primary mission of Survey and Charting will occur in FY 2023 followed by Detail Design and Construction in FY 2023 into FY 2024. **(OMAO)**
- **SO 3.1 - Aircraft Recapitalization (FY 2023-FY2024)** - The G550 aircraft acquisition will proceed with FY 2023 Critical Design Review, airframe modifications in FY 2023 and FY 2024, and a delivery expected in early FY 2025. The third King Air Aircraft has a target baseline aircraft completion in early FY 2023 and delivery of the modified aircraft estimated in late FY 2023. **(OMAO)**
- **SO 3.1 - Uncrewed Systems (UxS) (FY2023-FY 2024)** - OMAO will continue to fund the high-priority UxS transition projects with their final year of funding in FY23, including integrating the Drix Uncrewed Surface Vehicle (USV) onto the NOAA Ship *Oscar Dyson* to evaluate its ability to improve the efficiency of fishery survey missions. OMAO will stand-up a system to allocate funding as well as develop acquisition vehicles (IDIQ contracts) to execute UMS data-as-a-service missions. In FY24 OMAO will place the Drix USV into operations to support hydrographic survey missions and the high-priority UxS transition projects will be ready for sustained operations and OMAO and NOAA Line Office partners will operate them if funds are available. **(OMAO)**
- **SO 5.2 - Diversity, Equity and Inclusion (FY 2023-FY 2024)** - OMAO will be developing a Diversity and Inclusion benchmark assessment and strategy with the objective of embedding diversity, equity and inclusion (DEI) into the ethos of the organization. A series of facilitated dialogs with the workforce are planned to better understand the perspective of how DEI core principles are viewed across the organization. OMAO will

also explore an initiative to launch a diversity fair as an opportunity to share knowledge and discuss how individuals can make lasting impacts beyond. By the end of FY 2023, OMAO will have developed a DEI Implementation Plan with the goal of executing the Plan in FY 2024 and beyond. **(OMAO)**

NOAA Office of Chief Information Officer (OCIO)

- **SO 3.1 - High Performance Computing (HPC)** - Continue to increase compute available to NOAA scientists across all high performance computing solutions while maintaining a balanced infrastructure to maximize compute utility and accessibility. Software engineering efforts will focus on needed enhancements with the ultimate goal of being able to harness exascale compute. Continue to support AI/ML/Cloud initiatives through R&D HPC Integrator contract and Incubator program. **(OCIO)**
- **SO 3.1 - NOAA Open Data Dissemination (NODD)** - During FY 2023-2024, NODD plans to expand its data holdings and increase the amount of data that is being stored under the NOAA allocations, by increasing NOAA Line Office engagement. NODD plans to increase the number of NOAA datasets and continue the development and improvement of real-time statistics and metrics to better understand dataset and program utilization. **(OCIO)**

NOAA Office of Space Commerce (OSC)

- **SO 1.7 - Support Commercial Space Situational Awareness (SSA)** - NOAA will implement a proving ground to provide an environment to support further government-public-private collaboration for applications and algorithm development to advance space science and technology for SSA and Space Traffic Management (STM) services. This will include continued development of the cloud-based open Traffic Coordination Space System (TraCSS), formerly the Open Architecture Data Repository, providing SSA basic services making use of government and commercial data and software for civil and commercial stakeholders. OSC will complete transition with DoD for SSA services and data and strategy for achieving operational readiness. **(OSC)**
- **SO 1.7 - Improve Space Regulations** - OSC will continue to advocate for U.S. industry interests in ongoing rulemaking processes affecting commercial space activities, including exports, and support and participate in efforts to define a new mission authorization framework for in-space activities. OSC will work with NOAA General Counsel on the required legal research and analysis on existing and needed legal authorities to accomplish the SSA mission and a range of possible STM services. **(OSC)**
- **SO 1.7 - Participate in National Space Council** - OSC will support Department of Commerce leadership's participation in the activities and tasks of the National Space Council. **(OSC)**
- **SO 1.7 - Participate in Space Standards Development Processes** - OSC will continue to support the development of international space standards with standards developing organizations and assist with convening an interagency working group on SSA STM Standards. OSC will support user engagement with international partners to assure sharing of data, sources and responsibilities and work with international partners to establish consensus on terms and conditions for future space operations. **(OSC)**

NOAA Office of the Chief Financial Officer

- **SO 5.3 - NOAA Customer Experience (CX)** - Stage III of the NOAA CX initiative will develop additional CX training, launch the CX Portal and Playbook and support CX “early adopters” or pilot projects to use tools from the Playbook to improve customer satisfaction with NOAA’s products and services. (OCFO)

Analysis of Performance Indicators:

Explanation of Trends:

- **NOAA National Environmental Satellite, Data, and Information Service (NESDIS)**
 - NESDIS is on track to meet or exceed the performance targets in the APPR. Most notably with continued support for the flagship satellite programs, NOAA successfully launched the GOES-T satellite in FY 2022 and JPSS-2, in early FY 2023.
- **NOAA National Marine Fisheries Service (NMFS)**
 - While the overall trend of NMFS performance measures has been mixed, the trend among the three key measures has been downward. While the FSSI, the Percentage of FSSI stocks with Adequate Assessments, and the Percentage of Protected Species with Stable or Increasing Populations all met their targets, all three of those targets were below the actuals for FY 2021. Climate change has resulted in significant challenges not only to ensuring the sustainability of populations but also of assessing those populations to determine sustainability. On a brighter note, the percentage of stocks not exceeding their catch limits rose above 90 percent for the first time since 2018, and the permit review measures continue to show impressive efficiency gains.
- **NOAA National Ocean Service (NOS)**
 - The Digital Coast performance measure recorded its highest value ever. The release of the 2022 Sea Level Rise Technical Report was a major driver of this increase; NOAA saw a substantial rise in the number of users accessing Digital Coast following the report’s publication.
- **NOAA National Weather Service (NWS)**
 - Most of the severe weather verification scores including Tornado Warning and Flash Flood Warning decreased in FY 2022 due to lower activity with fewer large-scale weather systems than average across the central and eastern United States. However, warnings verification scores for the most significant and impactful storms e.g. large/strong tornadoes continued to be well above their target goals with much longer lead times and better detection.
 - The official verification U.S. Season Temperature Forecast Skill score from Climate Prediction Center (CPC) suffered from challenging forecasts and poor model performance in FY 2022, so the score fell well below target. However, beginning in FY 2023 CPC will refine

their observational verification dataset to remove a “cold bias” in the western U.S. that has been negatively impacting the score, so the official score will be higher in FY 2023.

- o The Probability of Detection score for Geomagnetic Storms remained below target in FY 2022 due to complex and challenging solar storms in the spring. In FY 2023 Space Weather Prediction Center will have improved models, better analysis tools, and more training which should help the score.

- **NOAA Oceanic and Atmospheric Research (OAR)**

- o OAR intends on increasing its number of activities to accomplish DOC Strategic Objective 3.1: “ Increase *the impact of climate data and services for decision makers through enhanced service delivery and improved weather, water, and climate forecasts.*”
- o There is a lag in indexing publications, so some articles published data are not captured until a refreshed actual is produced during the subsequent quarter.
- o OAR was unable to complete its high-resolution prototype hindcasts, predictions and projection using its Modular Ocean Model 6 produced for Living Marine Resource applications in each of four regions covered by NOAA’s Living Marine Resource mandates (East Coast, West Coast, Arctic, and Pacific Islands).
- o The cumulative number of World Meteorological Organization calibration tanks provided to the global GHG community through the Central Calibration Laboratory for CO₂, CH₄, CO, N₂O, SF₆ were low due to decrease in service demand.
- o Effects of COVID still plague OAR’s Ocean Acidification observations, reducing the number of observations and observation transmission to NOAA.

- **NOAA Office of Marine and Aviation Operations (OMAO)**

- o **SO 3.1 - Ship Recapitalization** - OMAO continues the multiple vessel class recapitalization program with the new NOAA ships *Oceanographer* and *Discoverer* (Class A) and the new Class B ship acquisitions. Milestones tailored to these acquisitions provided evidence of successful contractor and government progress. During FY 2021, the Detail Design and Construction contract for both *Oceanographer* and *Discoverer* was awarded on time. Delays on Class A occurred from Hurricane Ida with the contractor and government applying mitigation actions. In FY 2022, the Request for Proposal was issued and proposals received for the Class B ship continuing its acquisition cycle as planned for a NOAA critical system acquisition program.
- o **SO 3.1 - Aircraft Recapitalization** - Recapitalization programs are planned and monitored according to DOC/NOAA authorities for major/critical programs. NOAA’s updated and approved Aircraft Recapitalization Plan was transmitted to Congress and identifies operational requirements for new and decommissioning old aircraft. OMAO continues the acquisition and outfitting of a new Gulfstream G550 to deliver an advanced capability scientific data collection platform with work progressing toward an anticipated contractor

delivery in FY 2024. The second King Air 350 aircraft was delivered in FY 2021 and is operationally in service to support NOAA's missions, including snow survey and coastal mapping. A third King Air aircraft is under contract after receipt of FY 2022 appropriations.

- o **SO 3.1 - OMAO Facilities (NE Marine Operations Hub Consolidation, Newport, RI)** - OMAO continues its ship and support facility hub consolidation work according to project milestones for this unique work to improve climate resilience and reduce environmental impact while also improving NOAA ship operations and maintenance.
- o **SO 3.1 - OMAO Ship Days at Sea (DAS)** - OMAO will continue to provide ships for data collection capabilities required by the NOAA scientific community while working with the NOAA Fleet Council to prioritize and schedule these scientific missions to further NOAA goals. DAS missions will depend upon appropriations received and variable operations budget DAS rates (fuel cost impacts).
- o **SO 5.2 - Diversity, Equity and Inclusion (FY 2023-FY 2024)** - New effort in FY 2023 and therefore no trends/history available.
- **NOAA Office of Space Commerce (OSC)**
 - o With its recent reorganization and significant funding increase, the Office is ramping up its ability to serve the commercial space industry through policy advocacy, streamlined regulation of the U.S. remote sensing industry, and dissemination of space situational awareness (SSA) data and space traffic management (STM) services.

Explanation of Targets for FY 2023 and FY 2024:

- **NOAA National Environmental Satellite, Data, and Information Service (NESDIS)**
 - o The scope of milestones contributing as part of key milestones completed on time for satellite deployments target in FY 2023 and FY 2024 will depend on the level of funding provided to NESDIS for next-generation ground and satellite programs. Dependent on timing and amount of appropriations, milestones included in the target may be delayed or deferred to another fiscal year.
 - o NOAA's ability to regionally engage economic sectors through our NESDIS Regional Climate Services program and develop and deliver tailored place-based climate science and information products and services is dependent on the amount of appropriations received in FY 2023 and FY 2024.
 - o Additional FY 2024 investment in NOAA's Data-source Agnostic Common Services (DACs) initiative will be required to expand use of the cloud infrastructure built over the past three years to accommodate significant increases in volume and diversity of environmental observations from partner missions, which impact NOAA's ability to: maintain and evolve global modeling with the Unified Forecast System; support healthy, productive, and resilient ocean and coastal ecosystems; and forecast severe weather events. This infrastructure will also enable NOAA science teams to take advantage of new cloud-based tools that will provide data insights which leverage artificial intelligence (AI) and machine learning (ML) techniques.

- **NOAA National Marine Fisheries Service (NMFS)**
 - FY 2023 targets for our two highest profile fishery-related measures have been set below the actuals for FY 2022 largely because of challenges posed by the effects of climate change. Because of shifts in distribution and migration timing related to warming water temperatures, species are shifting their migration patterns, which makes them difficult to model and difficult to assess. As a result, we are being forced to change the status of several managed fish stocks to unknown.
 - The FY 2023 target for Recovery Actions Ongoing or Completed has been reduced below the level of the FY 2022 actual because when Johnson's Seagrass was delisted, its completed actions were removed from the measure. So this lower target represents success at a higher level rather than a decrease in performance.
- **NOAA National Weather Service (NWS)**
 - The target for the number of new StormReady communities was increased to 60 new communities for FY 2023 and FY 2024, lower than the 100 per year historical average. This is due to the large number of existing StormReady communities. Targets for the number of new and renewed TsunamiReady communities will be increased to 35 for FY 2023 as NWS recovers from COVID impacts, from 20 in FY 2022, and to 50 for FY 2024, aligning with historic program performance. Both StormReady and TsunamiReady communities are required to renew their designation every four years. Communities are dynamic, and mitigation, preparation, and response strategies change over time. This renewal process ensures that requirements continue to be met and that accurate contact information exists between the NWS and the designated Community.
- **NOAA Oceanic and Atmospheric Research (OAR)**
 - Additional resources are needed to enable OAR to hire more federal staff, replace/repair aging equipment and facilities, support crucial initiatives (such as Modular Ocean Model Six high-resolution prototype), and address emergent risks to support the transitioning of OAR R&D products to a new stage(s) (research, development, demonstration, or application) to meet its FY 2023 and FY 2024 targets.
 - The NOAA Science Council set the publications annual and quarterly targets as an average of the previous three years of actual data. The FY 2023-2024 targets will be adjusted to be an average of the FY 2020-2023 actuals.
- **NOAA Office of Marine and Aviation Operations (OMAO)**
 - **SO 3.1 - Ship Days-at-Sea (DAS)** - Regular maintenance, including proper preventive maintenance, is scheduled to ensure readiness prior to and during the field season. NOAA vessels will be more mission ready, and therefore, able to execute DAS at a higher level. The FY 2023 and FY 2024 DAS targets also assume that the number of DAS lost due to reduction in unscheduled maintenance and aggressive strategies to increase mariner hiring and reduce workforce retention (e.g. retention bonuses, hiring bonuses, rotational staffing) increasing the utilization rate of the entire NOAA ship fleet. This allows OMAO to provide ships capable of meeting prioritized, geographical and temporal, at-sea NOAA requirements. The ship Fleet Allocation Plan (FAP) for each fiscal year is approved by the

NOAA Fleet Council based on numerous considerations such as customer scientific requirements, priorities, funding, COVID-19 procedures, and available ships to perform specific missions. The FAP scope for FY23 and FY24 will not be finalized with targets for tracking progress until fiscal year appropriations are known.

- o **SO 3.1 - Milestones (Aircraft and Ship Acquisitions)** - The aircraft and ship acquisitions are mission critical programs designated by DOC and NOAA for special in-depth management reviews where evidence of progress is provided against planned targets/milestones. Each aircraft and ship acquisition has a customized milestone schedule for assessing readiness to enter the next program/project phase.
- o **SO 3.1 - North East Marine Operations Hub, Naval Station (NAVSTA) Newport, Rhode Island** - NOAA will continue the FY 2021 start of consolidation activities for the NAVSTA Newport, RI location. Currently NOAA has two ships homeported at NAVSTA, the *Henry B. Bigelow* and *Okeanos Explorer*. This consolidation aligns with NOAA's regional facilities plans. A Request for Proposal will be released in FY23 followed by a contract award.
- o **SO 5.2 - Diversity, Equity and Inclusion (FY 2023 - FY 2024)** - In FY 2023, OMAO will focus DEI related principles, practices and goals on developing an OMAO DEI Implementation Plan, followed by execution of the Plan's activities for FY 2024. As part of the new initiative, OMAO may develop new indicators to assist OMAO leaders in tracking improvements.
- **NOAA Office of Space Commerce (OSC)**
 - o **SO 1.7** - The performance metrics and milestones for FY 2023 and FY 2024 are based on the assumption that the OSC will receive full funding at the President's requested levels. Dependent on timing and amount of appropriations, milestones included in the target may be delayed or deferred to another fiscal year.

Progression of the Performance Indicators:

The performance indicators are reviewed throughout the fiscal year by NOAA leadership and include quarterly NOAA Level Annual Operating Plan (AOP) updates, as well as the Mid-Year and End-of-Year Performance Reviews.

- **NOAA National Environmental Satellite, Data, and Information Service (NESDIS)**
 - o The annual target for major satellite milestones completed will include applicable Commerce Major Acquisition Milestones or Key Decision Points.
 - o Additional performance indicators are under development and being internally baselined to help NOAA track the impact of our new cloud infrastructure on the delivery of products and services, especially as we see increases in the volume and diversity of environmental observations available from partner missions.

- **NOAA National Marine Fisheries Service (NMFS)**
 - NMFS has developed a new performance measure to gauge progress on our fish stock assessments. The existing measure has a single standard of adequacy for all stocks, but all stocks do not have the same assessment needs. The new measure establishes a target assessment level for each individual stock and gauges the success in meeting that standard. It also for the first time includes assessments of lower-priority stocks, which are still necessary for management. It is a much more accurate representation of the degree to which we are meeting NOAA’s assessment needs.
 - NMFS has developed a new measure to gauge the success of the Seafood Import Monitoring Program (SIMP). While the old measure looked at compliance generally, the new measure focuses on permit holders who are unresponsive to audit notifications or who had incomplete chain of custody records. Permit holders can be out of compliance for many reasons, but these are the most important violations the program seeks to ameliorate. This measure will be a more accurate gauge of the program’s success.
- **NOAA National Weather Service (NWS)**
 - NWS has officially begun reporting the Climate Prediction Center (CPC) improved U.S. Season Temperature Forecast Skill score in FY 2023. The observational dataset used to verify the CPC forecast was refined to be more consistent which removed a “cold bias” that had negatively impacted the skill score over the past decade. In FY 2022 CPC calculated both the old and new skill scores in parallel, but in FY 2023 CPC permanently switched to the improved verification dataset.
- **NOAA Oceanic and Atmospheric Research (OAR)**
 - There is a lag in indexing publications, so some articles published will not appear until a refreshed actual is produced during the subsequent quarter. The NOAA Science Council set the publications annual and quarterly targets as an average of the previous three years of actual data. The FY 2023-2026 targets will be updated based on the FY 2020 and subsequent FYs actuals.
 - OAR annually reviews its performance measures definition; for instance, Ocean Exploration Research redefined its “sites characterized” measure to “dives” to more accurately measure its exploration activity.
- **NOAA Office of Marine and Aviation Operations (OMAO)**
 - **SO 3.1 - Acquisitions (Ships and Aircraft)** - In accordance with the OMAO Fleet Acquisition Handbook and DOC Scalable Acquisition framework, major milestones are performance indicators for these high-profile ship and aircraft acquisition programs that must be reviewed and approved by the DOC Deputy Secretary as the Department’s Milestone Decision Authority, as well as the DOC Office of Acquisition Management and Senior Procurement Executive, before moving to next project milestone phase activities. Each acquisition is customized to meet the uniqueness of the platform and requires the level of evidence necessary for well-informed program/project decision-making. If future improvements in program management techniques/methodology become accepted in the program management community, DOC/NOAA could consider inclusion into its management framework.

- o **SO 3.1 - Ship Days-At-Sea** - Starting in FY 2020, NOAA ships used Total Funded DAS for both planned and actual DAS, instead of the previous OMAO Base Funded only. Total DAS include OMAO base-funded DAS, program-funded DAS, and reimbursable funded DAS. This approach enables NOAA to expand its performance planning and tracking to encompass the full scope of asset management. In addition, an internal NOAA ship DAS planning and reporting database (Ship Daily Activity Log System) assists leadership in asset management and performance analysis. The system's historical records are maintained and analyzed for performance evidence showing improvement opportunities.
- o **SO 5.2 - Diversity, Equity and Inclusion** - This is a new effort. Progression of indicators can occur for future reporting.
- **NOAA Office of Space Commerce (OSC)**
 - o The performance indicators are reviewed throughout the fiscal year by NOAA leadership and include quarterly NOAA Level Annual Operating Plan (AOP) updates, as well as the Mid-Year and End-of-Year Performance Reviews.

Performance Data Validation and Verification:

NOAA has robust institutional performance management processes to track progress on each strategic objective. All NOAA Line Offices (LO) and Staff Offices (SO) develop Annual Operating Plans (AOPs) with performance measures and milestones that demonstrate progress on the DOC Strategic Plan Objectives. These NOAA AOPs set ambitious goals (i.e., measures and milestones with associated targets) to demonstrate clear progress in achieving programmatic and organizational priorities, including implementation of the DOC Strategic Plan.

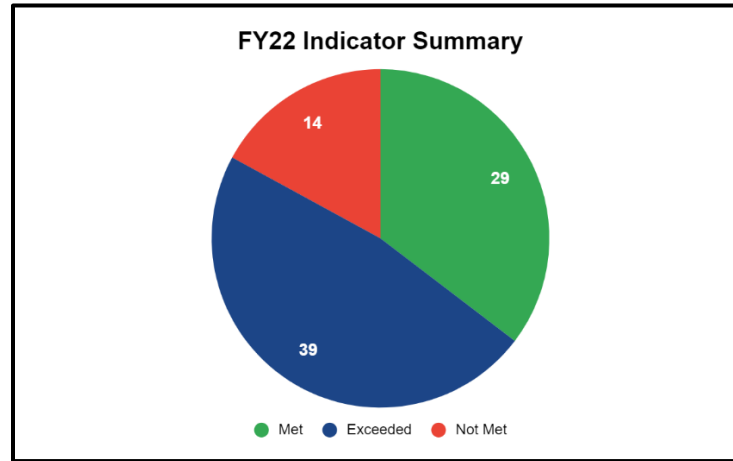
- **NOAA National Environmental Satellite, Data, and Information Service (NESDIS)**
 - o NESDIS reviews the progress and achievement of its performance indicators and major milestones on a quarterly basis through a Quarterly Program Review process, which includes updates to the NOAA Annual Operating Plan.
 - o NESDIS shares performance data with NESDIS personnel and specific users via a Financial Management Database System (FMDS) and utilizes the functionality of SmartSheets to develop and then track, visualize, and analyze performance measures and major milestones.
- **NOAA National Marine Fisheries Service (NMFS)**
 - o The NMFS scientific enterprise ensures a sound scientific basis for NMFS's resource conservation and management decisions. NMFS collects data and coordinates information and research to ensure science-based management and stewardship. NMFS carries out at-sea resource surveys, stock assessments, fisheries observer programs, cooperative research, and socioeconomic research and data collection. All NMFS science products and programs are subject to independent peer review. There are many challenges involved in

collecting and analyzing data on fish stocks and other marine species and their habitats that can result in both uncertainty and knowledge gaps, but management decisions and performance reporting are based on the best scientific information available.

- **NOAA National Weather Service (NWS)**
 - The NWS shares the performance data with NWS personnel and specific users via a Performance Management Web Portal, and the public.
 - NWS Performance indicators are used to accelerate service improvement and set ambitious, yet achievable, goals to challenge the workforce and find new and creative ways to raise their level of performance to meet the more difficult targets. Tracking performance reveals areas of service deficiency and potential areas of new technology or training investment. They are tracked and briefed to senior management of the NWS each quarter.
- **NOAA Oceanic and Atmospheric Research (OAR)**
 - OAR reviews the progress and achievement of its performance indicators and major milestones on a quarterly basis through a Quarterly Program Review process, which includes updates to the NOAA Annual Operating Plan.
 - Data are verified for accuracy using standard calibration protocols. Results are reported in peer-reviewed publications.
- **NOAA Office of Marine and Aviation Operations (OMAO)**
 - **SO 3.1 - OMAO Ship Days at Sea** - The ship DAS performance indicator is reviewed throughout the fiscal year by the Maine Operations Center and NOAA leadership, the latter including the quarterly NOAA Level AOP updates, as well as End-of-Year Performance Reviews. The underlying performance drivers are discussed for increased understanding, research or opportunities for improved reporting/utilization.
 - **SO 3.1 - OMAO Enhanced Fleet Operations** - NOAA is aggressively taking steps to improve maintenance packages and professional marine retention rates, including plans to increase rotational assignments across the fleet.
 - **SO 3.1 - OMAO Acquisition Milestones (Aircraft and Ships)** - Once mission critical ship and aircraft acquisitions are identified by DOC/NOAA, each is structured to implement the Office of Acquisition Management scalable framework, containing key milestones. These acquisitions are required to report progress during special in-depth management reviews where evidence is provided against planned targets. Incomplete evidence may hold the program from moving to the next phase, and gaps in data require correction to the satisfaction of the oversight bodies.
 - **SO 3.1 - OMAO Facilities: North East Marine Operations Hub, Naval Station (NAVSTA) Newport, Rhode Island** - The facility related effort started in FY21. Reliability of data for tracking progress requires supporting documentation with recorded processes and procedures to set targets and measure actuals for all reported metrics. Indicators will be briefed to senior managers throughout the year and reviewed by NOAA analysts.

- o **SO 5.2 - OMAO Diversity Equity and Inclusion (DEI)** - The OMAO DEI Council will monitor, discuss and develop improvements in their on-going activities as part of the new Implementation Plan.
- **NOAA Office of Space Commerce (OSC)**
 - o OSC reviews the progress and achievement of its performance indicators and major milestones internally on a monthly basis and on a quarterly basis through a Quarterly Program Executive Review process, which includes updates to the NOAA Annual Operating Plan.

Key Performance Indicators



Line Office	Strategic Objective	Class	Performance Indicator	FY 2018 Actual	FY 2019 Actual	FY 2020 Actual	FY 2021 Actual	FY 2022 Actual	FY 2022 Target	FY 2022 Status	FY 2023 Target	FY 2024 Target
NESDIS	3.1	Current/Recurring	Key milestones completed on time for satellites deployments	2	2	2	2	2	2	Met	3	3
NESDIS	3.1	Current/Recurring	Number of economic sectors regionally engaged by the Regional Climate Services (RCS) program with sectoral needs documented and prioritized	—	—	—	—	—	—	N/A	9	12
NESDIS	3.1	Current/Recurring	Percentage of data processed and delivered to operational users from NOAA-managed satellites	99.4%	99.4%	99.4%	99.3%	99.6%	98.5%	Exceeded	98.5%	98.5%
NESDIS	3.1	Current/Recurring	Percentage of ingested environmental data safely archived to ensure consistent long-term stewardship and usability of the data	98.00%	98.00%	98.00%	99.96%	99.96%	98.00%	Exceeded	98.00%	98.00%
NMFS	2.1	Closing Out	Annual number of aquaculture research projects completed that address key production challenges	—	57	53	62	91	91	Met	105	DISC

NMFS	2.1	Closing Out	Number of aquaculture projects advanced that improve the efficiency and predictability of the federal aquaculture permitting process	—	16	26	29	28	27	Exceeded	28	DISC
NMFS	2.1	Closing Out	Percent of Seafood Import Monitoring Program import records that are compliant	—	64.0%	54.0%	55.0%	43.5%	57.0%	Not Met	55.50%	DISC
NMFS	2.1	Closing Out	Percentage of FSSI 3.0 stocks with adequate population assessments and forecasts	58.0%	57.0%	69.1%	69.0%	67.4%	66.9%	Exceeded	69.1%	DISC
NMFS	2.1	Current/Recurring	Average number of days to complete informal ESA Section 7 consultations	45	40	43	41	37	45	Exceeded	45	45
NMFS	2.1	Current/Recurring	Fish Stock Sustainability Index (FSSI) 3.0	757.5	758.5	788.5	791.0	788.5	787.0	Met	778.5	798.5
NMFS	2.1	Current/Recurring	Number of actions ongoing or completed to recover endangered and threatened species	2,234	2,358	2,416	2,511	2,476	2,464	Met	2,472	2,529
NMFS	2.1	Current/Recurring	Number of environmental reviews that exceed regulatory or statutory deadlines	—	74	36	28	33	40	Met	40	40
NMFS	2.1	Current/Recurring	Number of protected species designated as threatened, endangered or depleted with stable or increasing population levels	30	30	28	26	24	24	Met	24	24
NMFS	2.1	Current/Recurring	Number of protected species stocks with adequate population assessments and forecasts	87	96	99	101	105	128	Not Met	131	137
NMFS	2.1	Current/Recurring	Percent of stocks for which catch is below the specified Annual Catch Limit	90.2%	88.3%	89.3%	90.0%	90.4%	89.6%	Met	90.4%	91.0%
NMFS	2.1	Proposed New	Fish Stock Assessment Target Index (FSATI)	—	—	—	—	48.30%	—	N/A	49.40%	49.10%
NMFS	2.1	Proposed New	Percentage of International Fisheries Trade Permit (IFTP) holders who were responsive to audit notification and had complete chain of custody records	—	—	—	—	N/A	—	N/A	N/A	65%
NOS	2.1	Current/Recurring	Cumulative percent of U.S. and territories surveyed to improve vertical reference system for modernized height/elevation data	72.0%	79.0%	81.9%	90.0%	96.0%	93.0%	Exceeded	97.0%	100.0%
NOS	2.1	Current/Recurring	Percent of top 175 U.S. seaports with access to Physical Oceanographic Real-Time Systems (PORTS®) data (cumulative)	38.0%	43.0%	45.0%	46.0%	47.0%	47.0%	Met	48.0%	49.0%

NOS	2.1	Current/ Recurring	Percent of U.S. EEZ surveyed to an appropriate level of certainty to support safe navigation per the Adequate Hydrographic Health Index (AHHI)	—	—	36.6%	36.6%	40.4%	34.7%	Exceeded	35.6%	37.0%
NOS	3.2	Closing Out	Number of square miles of new area advanced through one or more steps of the National Marine Sanctuaries or National Estuarine Research Reserves (NERRs) designation or expansion processes	—	—	—	—	591,982	591,981	Exceeded	593,681	DISC
NOS	3.2	Current/ Recurring	Number of communities that utilize Digital Coast	6,903	6,678	6,608	6,766	7,634	5,750	Exceeded	6,500	6,500
NOS	3.2	Current/ Recurring	Number of volunteer hours supporting science, education, and public engagement programs to raise awareness and meet science needs of national marine sanctuaries	—	117,746	61,518	41,685	57,224	10,000	Exceeded	40,000	60,000
NOS	3.2	Current/ Recurring	Number of youth learning about national marine sanctuaries in hands-on or distance learning	42,259	68,900	71,891	82,000	58,339	50,000	Exceeded	50,000	50,000
NOS	3.2	Current/ Recurring	Percentage of U.S. coastal states and territories demonstrating annual improvement in resilience capacity to weather and climate hazards	74%	77%	83%	94%	97%	55%	Exceeded	94%	94%
NOS	3.2	Current/ Recurring	Sanctuary and Monument reporting areas that can adequately assess resource condition	82%	82%	80%	83%	83%	80%	Exceeded	80%	80%
NWS	3.1	Closing Out	U.S. Temperature Forecasts Skill 1.0 (old observational dataset)	43%	35%	28%	22%	19%	27%	Not Met	DISC	DISC
NWS	3.1	Current/ Recurring	48 hour Hurricane Forecast intensity error (knots)	10	10	11.6	9	7.9	10	Exceeded	10	10
NWS	3.1	Current/ Recurring	48 hour Hurricane Forecast track error (nautical miles)	60	75	64.5	53.3	51	55	Exceeded	52	52
NWS	3.1	Current/ Recurring	Accuracy of Day 1 precipitation forecasts (%)	36%	37%	36%	36%	33%	34%	Met	34%	35%
NWS	3.1	Current/ Recurring	Aviation ceiling/visibility forecast accuracy Instrument Flight Rules (%)	63%	64%	65%	64%	62%	65%	Met	65%	65%
NWS	3.1	Current/ Recurring	Aviation ceiling/visibility forecast false alarm ratio Instrument Flight Rules (%)	35%	33%	33%	36%	37%	38%	Exceeded	38%	38%

NWS	3.1	Current/ Recurring	Customer satisfaction with NWS services, as measured by the American Customer Satisfaction Index	85	86	86	81	82	81	Exceeded	81	81
NWS	3.1	Current/ Recurring	Geomagnetic storm forecast accuracy (%)	60%	62%	55%	50%	48%	60%	Not Met	60%	60%
NWS	3.1	Current/ Recurring	Global Ensemble Forecast System length of forecast considered accurate (days)	10.0	9.8	9.95	10.46	9.92	10.05	Met	10.1	10.1
NWS	3.1	Current/ Recurring	Global Forecast System (GFS) 500 hPA Anomaly Correlation: Length of Forecast Considered Accurate (days)	8.35	8.4	8.37	8.31	8.44	8.6	Met	8.6	8.6
NWS	3.1	Current/ Recurring	Improved Precipitation Services: Threat Score for Heavy Precipitation Events (2 inches) made 3 days in advance	—	—	—	—	0.13	0.14	Met	0.13	0.13
NWS	3.1	Current/ Recurring	Marine wave heights: Percentage of accurate forecasts	85%	85%	84%	85%	87%	83%	Exceeded	83%	83%
NWS	3.1	Current/ Recurring	Marine wind: percentage of accurate forecasts	82%	82%	81%	81%	81%	90%	Met	80%	80%
NWS	3.1	Current/ Recurring	Number of national-level NWS partner meetings held with businesses and emergency managers to bolster weather enterprise relationships, advance weather and climate readiness	—	—	—	—	2	3	Not Met	3	3
NWS	3.1	Current/ Recurring	Number of StormReady Communities (cumulative)	3,060	3,191	3,297	3,346	3,439	3,406	Exceeded	3,466	3,526
NWS	3.1	Current/ Recurring	Number of StormReady communities serving socially vulnerable populations and U.S. businesses	—	—	—	—	390	390	Met	395	400
NWS	3.1	Current/ Recurring	Number of TsunamiReady Communities (cumulative)	210	216	216	221	228	221	Exceeded	221	221
NWS	3.1	Current/ Recurring	Number of Weather-Ready Nation Ambassador serving socially vulnerable populations and U.S. businesses	—	—	—	—	7,157	7,157	Met	7,207	7,257
NWS	3.1	Current/ Recurring	Percent Extended and Long Range Climate Prediction Center Outlooks Exceeding Threshold: All Temperature Outlooks	—	80%	76%	74%	78%	80%	Met	80%	80%

NWS	3.1	Current/ Recurring	Percent Extended and Long Range Climate Prediction Center Outlooks Exceeding Threshold: All Temperature/Precipitation Outlooks	—	76%	77%	72%	76%	75%	Exceeded	75%	75%
NWS	3.1	Current/ Recurring	Percent Extended and Long Range Climate Prediction Center Outlooks Exceeding Threshold: All Precipitation Outlooks	—	73%	78%	70%	74%	70%	Exceeded	70%	70%
NWS	3.1	Current/ Recurring	Percent Extended Range Climate Prediction Center Outlooks Exceeding Threshold: All Precipitation Outlooks	—	75%	75%	72%	76%	75%	Exceeded	75%	75%
NWS	3.1	Current/ Recurring	Percent Extended Range Climate Prediction Center Outlooks Exceeding Threshold: All Temperature Outlooks	—	81%	76%	75%	81%	80%	Exceeded	80%	80%
NWS	3.1	Current/ Recurring	Percent Extended Range Climate Prediction Center Outlooks Exceeding Threshold: All Temperature/Precipitation Outlooks	—	78%	78%	74%	79%	78%	Exceeded	78%	78%
NWS	3.1	Current/ Recurring	Percent Long Range Climate Prediction Center Outlooks Exceeding Threshold: All Precipitation Outlooks	—	36%	36%	44%	42%	36%	Exceeded	36%	36%
NWS	3.1	Current/ Recurring	Percent Long Range Climate Prediction Center Outlooks Exceeding Threshold: All Temperature Outlooks	—	64%	67%	64%	64%	60%	Exceeded	60%	60%
NWS	3.1	Current/ Recurring	Percent Long Range Climate Prediction Center Outlooks Exceeding Threshold: All Temperature/Precipitation Outlooks	—	50%	52%	54%	53%	48%	Exceeded	48%	48%
NWS	3.1	Current/ Recurring	Severe weather warnings for flash floods - accuracy (%)	78%	77%	80%	77%	74%	76%	Met	76%	76%
NWS	3.1	Current/ Recurring	Severe weather warnings for flash floods: Lead time (minutes)	62	65	66	62	51	65	Not Met	65	65
NWS	3.1	Current/ Recurring	Severe weather warnings for tornadoes: Storm based false alarm ratio (%)	69%	70%	69%	71%	66%	71%	Exceeded	71%	71%
NWS	3.1	Current/ Recurring	Severe weather warnings tornadoes - Storm based accuracy (%)	57%	64%	63%	61%	63%	72%	Not Met	72%	72%
NWS	3.1	Current/ Recurring	Severe weather warnings tornadoes - Storm based lead time (minutes)	8	10	9	9	10	13	Not Met	13	13

NWS	3.1	Current/ Recurring	Subseasonal temperature skill score	36	40	30	36	32	36	Not Met	36	36
NWS	3.1	Current/ Recurring	U.S. Temperature Forecasts Skill 2.0 (Updated Observational Dataset)	—	—	—	—	27	27	Met	27	27
NWS	3.1	Current/ Recurring	Winter storm warnings: Accuracy (%)	80%	82%	82%	84%	83%	90%	Met	90%	90%
NWS	3.1	Current/ Recurring	Winter storm warnings: Lead time (hours)	18	21	23	22	24	20	Exceeded	20	20
NWS	3.1	Proposed New	Percentage of the continental U.S. population served by flood inundation mapping services	—	—	—	—	—	—	N/A	10%	30%
OAR	2.1	Closing Out	Number of fishermen, seafood processors and aquaculture industry personnel who modify their practices using knowledge gained in fisheries sustainability and seafood safety	17,796	23,000	12,950	11,359	12,471	12,500	Met	12,500	DISC
OAR	2.1	Current/ Recurring	Annual economic and societal benefits from Sea Grant activities as measured by economic benefits of businesses (\$M dollars)	\$536	\$523	\$316	\$369	\$572	\$300	Exceeded	\$300	\$300
OAR	2.1	Current/ Recurring	Annual economic and societal benefits from Sea Grant activities as measured by jobs created/retained	11,764	7,600	10,000	11,044	8,369	7,500	Exceeded	7,500	7,500
OAR	2.1	Current/ Recurring	Annual number of ocean acidification observations collected by the National Ocean Acidification Observing Network	6,930	7,211	11,037	7,525	7,538	8,278	Met	11,037	11,037
OAR	2.1	Current/ Recurring	Annual number of Uncrewed System (UxS) dives to explore and characterize the U.S. Exclusive Economic Zone (EEZ) sites.	101	135	30	89	103	100	Exceeded	100	110
OAR	2.1	Current/ Recurring	Annual percentage of ocean acidification observations transmitted to NOAA	—	71%	66%	66%	70%	70%	Met	70%	70%
OAR	2.1	Current/ Recurring	Percent of deepwater ocean U.S. Exclusive Economic Zone mapped	51.0%	51.0%	52.0%	52.5%	55.0%	54.0%	Exceeded	57.0%	58.0%
OAR	3.1	Current/ Recurring	Annual number of NOAA partnerships with the private sector: number of Cooperative Research & Development Agreements executed	16	14	8	17	17	16	Exceeded	16	16

OAR	3.1	Current/ Recurring	Annual number of OAR R&D products transitioned to a new stage(s) (development, demonstration, or application)	66	65	104	85	125	85	Exceeded	74	74
OAR	3.1	Current/ Recurring	Annual number of peer-reviewed publications related to environmental understanding and prediction	1,794	3,171	3,366	3,356	3,057	3,408	Not Met	3259	3259
OAR	3.1	Current/ Recurring	Number of Climate-smart communities enabled for resilience planning, including but not limited to extreme heat in urban communities, enhanced fire weather prediction for emergency management partners, expanded drought monitoring in Tribal areas, and climate impacts to coastal communities	—	—	—	—	0	20	Not Met	0	20
OAR	3.1	Current/ Recurring	Number of forecast and mission improvements, based on The Weather Research and Forecasting Innovation Act of 2017, to weather applications at operational U.S. weather services and in the U.S. weather commercial sector	15	12	8	15	18	10	Exceeded	15	15
OAR	3.1	Proposed New	Cumulative number of Argo floats deployed to increase global coverage (Biogeochemical (BGC) Argo pilot arrays)	—	—	—	—	19	—	N/A	25	34
OAR	3.1	Proposed New	Cumulative number of Argo floats deployed to increase global coverage (Core Argo floats)	—	—	—	—	268	—	N/A	270	360
OAR	3.1	Proposed New	Cumulative number of Argo floats deployed to increase global coverage (Deep Argo Floats)	—	—	—	—	26	—	N/A	20	30
OAR	3.1	Proposed New	Cumulative number of cases in which National Weather Service (NWS) forecasters confirm that the Warn-On-Forecast System (WoFS) provided actionable guidance for issuing tornado warnings at least one hour in advance of event, with an average increase of one event per year.	—	—	—	—	4	—	N/A	6	9
OAR	3.1	Proposed New	Cumulative number of deployments of Arctic buoys (Sea ice buoys).	—	—	—	—	12	—	N/A	30	45
OAR	3.1	Proposed New	Cumulative number of deployments of floats (Air Launched Autonomous Micro-Observer (ALAMO) floats).	—	—	—	—	2	—	N/A	4	6

OAR	3.1	Proposed New	Cumulative number of deployments of moorings (Bering & Chukchi moorings).	—	—	—	—	13	—	N/A	24	36
OAR	3.1	Proposed New	Cumulative number of field studies, lab studies, and model studies that contribute to process understanding and diagnosis of the role of radiation, clouds, and aerosol and their variability in the atmospheric climate system.	—	—	—	—	1	—	N/A	3	4
OAR	3.1	Proposed New	Cumulative number of ground, tall tower and aircraft Greenhouse Gases (GHG) measurements made at observatories and other network sites distributed across the continental US and globe	—	—	—	—	75	—	N/A	85	220
OAR	3.1	Proposed New	Cumulative number of high-resolution prototype ocean hindcasts, predictions, and projections produced for Living Marine Resource applications in each of 4 regions covered by NOAA's Living Marine Resource mandates (East Coast, West Coast, Arctic, and Pacific Islands)	—	—	—	—	0	—	N/A	3	3
OAR	3.1	Proposed New	Cumulative number of inter-disciplinary activities funded that integrate social scientists in the research process	—	—	—	—	18	—	N/A	30	26
OAR	3.1	Proposed New	Cumulative number of machine learning methodologies and techniques to improve the resolution of processes to resolve the interactions in the Earth System.	—	—	—	9	18	—	N/A	28	38
OAR	3.1	Proposed New	Cumulative number of projects, partnerships, or analyses working to advance integration of 'omics approaches into applications and operations	—	—	—	—	52	—	N/A	78	104
OAR	3.1	Proposed New	Cumulative number of Research to Application, Demonstration, Development, Operations or Research (R2X) projects that include social science research and methods to address forecaster and end user needs to prepare for and respond to/ minimize societal impact for extreme weather events	—	—	—	—	36	—	N/A	47	48
OAR	3.1	Proposed New	Cumulative number of Uncrewed System (UxS) projects which advance Readiness Levels for	—	—	—	—	26	—	N/A	34	44

			observing system applications by at least one Readiness Level									
OAR	3.1	Proposed New	Improved precipitation prediction lead time (measured in days) due to new or improved Planetary Boundary Layer (PBL) parameterizations on an R&D model	—	—	—	—	6	—	N/A	7	8
OAR	3.1	Proposed New	Reduce the bias in U.S. seasonal precipitation simulations in OAR Earth System models by margins that are statistically significant	—	—	—	—	3%	—	N/A	5%	8%
OAR	3.2	Current/Recurring	Number of Sea Grant tools, technologies and information services that are used by our partners/customers to improve ecosystem-based management	200	200	192	172	200	200	Met	200	200
OCIO	3.1	Closing Out	Cumulative number of NOAA datasets made openly available via partners' cloud platforms to the public, America's Weather Enterprise and other environmental information stakeholders	40	84	132	221	240	223	Exceeded	225	DISC
OCIO	3.1	Current/Recurring	Total capacity (in petaflops) resulting from reduction in gap between high-performance computing deployed and what is needed to meet modeling requirements	16.4	17.8	18.9	23.7	33.7	26.0	Exceeded	34.0	36.0
OMAO	3.1	Current/Recurring	Aircraft Key Milestones completed on time for aircraft acquisitions	—	2	1	1	2	3	Not Met	3	1
OMAO	3.1	Current/Recurring	Key milestones completed on time for ship deployments (Class A & B)	1	1	1	1	2	3	Not Met	4	1
OMAO	3.1	Current/Recurring	OMAO Ship Facility - North East Marine Operations Hub at NAVSTA Newport, RI	—	—	—	0	1	1	Met	2	0
OMAO	3.1	Current/Recurring	Total Funded Days-At-Sea for NOAA ships	2,352	1,719	917	2,010	1,946	2,647	Not Met	2,599	2,840
OMAO	5.2	Proposed New	Number of milestones or targets met to improve DEIA within OMAO.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	1
OSC	1.7	Current/Recurring	Milestones achieved towards establishment of space situational awareness (SSA) services for civil and commercial stakeholders	—	10%	25%	30%	40%	40%	Met	50%	50%

OSC	1.7	Current/ Recurring	Number of actions taken in response to stakeholder requests for advocacy support	—	—	40	60	70	70	Met	80	80
OSC	1.7	Current/ Recurring	Number of space policy related decision processes, rulemakings, statements, or other governmental activities influenced/led by the Department of Commerce	10	16	16	18	20	20	Met	20	20
OSC	1.7	Current/ Recurring	Number of workshops, reports, and other tools produced to facilitate growth and advancement of the U.S. commercial space industry	3	4	3	5	6	6	Met	7	7