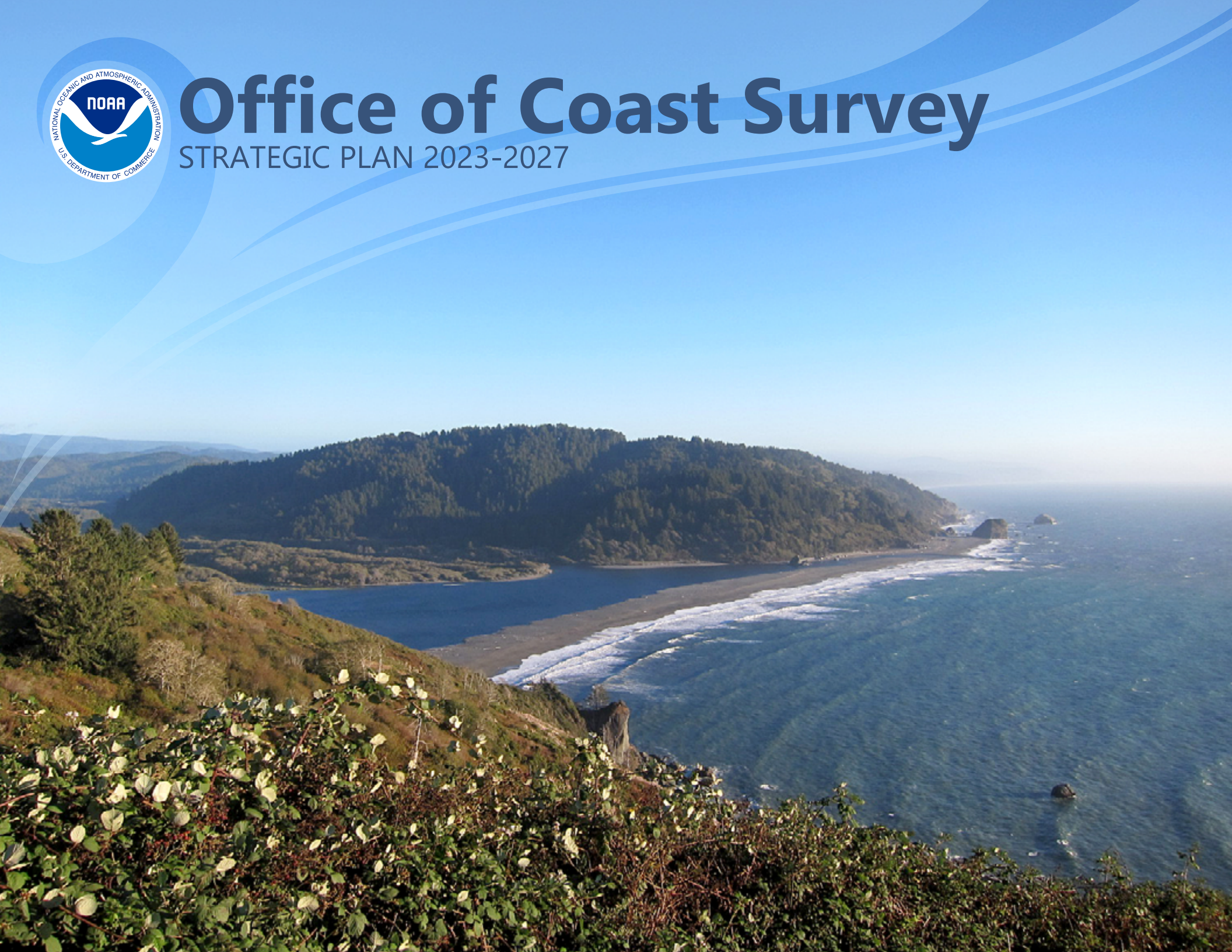




# Office of Coast Survey

STRATEGIC PLAN 2023-2027



## MESSAGE FROM THE DIRECTOR

Since 1807, the Office of Coast Survey has supported safe navigation and kept people and commerce moving through U.S. waters. Today, we enable nearly \$5.4 trillion in economic activity generated by U.S. ports each year, and ensuring safe, efficient navigation remains our central focus. We survey thousands of square miles of our nation's waters every year, collect data from a wide range of other sources, and apply our unique expertise to integrate it into nautical charts and other products that are essential to mariners in U.S. waters. We have evolved with the needs of mariners as vessels have increased in size, ports have grown more congested, and electronic navigation has largely supplanted traditional techniques. We are international leaders in the fields of hydrography and nautical cartography and are leading the worldwide transformation to the next generation of navigation products and services.

However, as the oldest scientific agency in the federal government, we also have much to contribute to the broader range of critical challenges facing our country and our planet. Coast Survey data and expertise are in demand not only from mariners, but all users who benefit from authoritative knowledge of the depth, shape, and composition of our sea and lake floors. Our marine modeling capability enables NOAA's forecasts of water levels, currents, and other parameters that impact the health, safety, and resilience of our coastal communities and ecosystems. Our data, products, and services advance both established and emerging sectors of the blue economy, support NOAA's coastal climate resilience actions such as storm surge modeling, enable the conservation and responsible management of our coastal living and cultural marine resources, and more. This geospatial infrastructure is essential to NOAA and the U.S. government's delivery of a broad suite of products and services that improves the lives of all Americans and the international community.

Fundamentally, all these demands require that we deliver authoritative information, in a fit-for-purpose format and timely fashion, to the stakeholders who depend on it. This strategic plan sets Coast Survey's course to do exactly that during the next five years. It will be a period of major evolution as we complete the transition to electronic nautical charts and re-tool our workflows to produce the next generation of navigation products and services defined by the S-100 family of international standards. We will continue to survey unmapped waters and increase access to our data holdings through the National Bathymetric Source, and further incorporate automation, uncrewed systems, and other innovations into our work afloat and ashore. We will deploy new products and services such as our Precision Marine Navigation suite to provide the benefit of this work to stakeholders rapidly and at the resolution they need. We will forecast and respond to new demands such as autonomous shipping, lowering the carbon footprint of marine transportation, and others not yet on the horizon.

Coast Survey's ability to meet these needs is both our unique value proposition for the nation and our core challenge for the future. To achieve this, we must develop and sustain our skilled, passionate workforce of experts in hydrography, nautical cartography, and other critical fields. We must be fully representative of the citizens we serve, and ensure that none of these voices are unheard or left behind. We must sustain and expand our relationships with private sector, academic, interagency, and international partners and engage them in the execution of the vision in this plan. Just as we have evolved with the needs of the nation for the past 216 years, we will engage our people and our technology to ensure safe, efficient marine navigation and the foundational geospatial data needed by our coastal communities for generations to come.

Rear Admiral Benjamin K. Evans



Director, Office of Coast Survey



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*Front cover: A view south across the Klamath River mouth, California  
Credit: Richard Powell*

*This page: Behm Canal, Alaska  
Credit: Grant Froelich*

## MISSION

Provide the nation with navigation services that support ocean-going commerce and coastal economies, keep people safe and secure, and protect coastal environments.

## VISION

The nation's economy is stronger, vessel navigation is safer, and coasts are more resilient.

## TAGLINE

Navigate with confidence.

## GOALS

**1** Expand and strengthen U.S. capabilities to acquire high-value ocean and coastal geospatial data



**2** Deliver products and services that advance safe navigation, increase coastal resilience, and support data-driven decision making



**3** Enhance and sustain a highly skilled, diverse, and thriving workforce



**4** Evolve Coast Survey's systems and processes to improve timely product development and delivery



## STRATEGIC GOAL 1

### Expand and strengthen U.S. capabilities to acquire high-value ocean and coastal geospatial data

The Office of Coast Survey leads the nation in acquisition of ocean and coastal geospatial data. These data enable next-generation navigation systems, enhance the marine transportation system, strengthen our national security, and support responsible and effective management of the United States' ocean, coastal, and Great Lakes resources. Applying geospatial information to economic challenges invigorates both established and emerging segments of the blue economy.

#### Strategic Objective 1.1

##### Lead the collaborative national effort to increase ocean and coastal mapping in U.S. waters to better understand the seafloor and to update inadequately surveyed areas

Coast Survey will lead our partners on integrated ocean and coastal mapping, leverage current and expanded resources, and increase data acquisition using traditional and emerging technologies. We will improve upon our world-class hydrographic data to create products and services that increase understanding of the seafloor for safe navigation through a blended data acquisition approach using NOAA fleet, contractors, in-house navigation response teams, and other private and public sector partners.



GOAL 1



#### Strategic Objective 1.2

##### Expand Coast Survey's in-house hydrographic capability for rapid-response surveys

Coast Survey's mobile navigation response teams conduct hydrographic surveys to update NOAA's suite of Electronic Navigational Charts (ENCs) as well as respond to emergencies such as severe storms to accelerate the resumption of shipping. The teams are strategically located around the country and have been building capability to expand their use of uncrewed surface vessels. Coast Survey must maintain and expand this capability by strengthening its presence in remote and traditionally underserved communities such as the greater Pacific region, including Alaska and Hawaii.

# WHAT IS COAST SURVEY DATA?

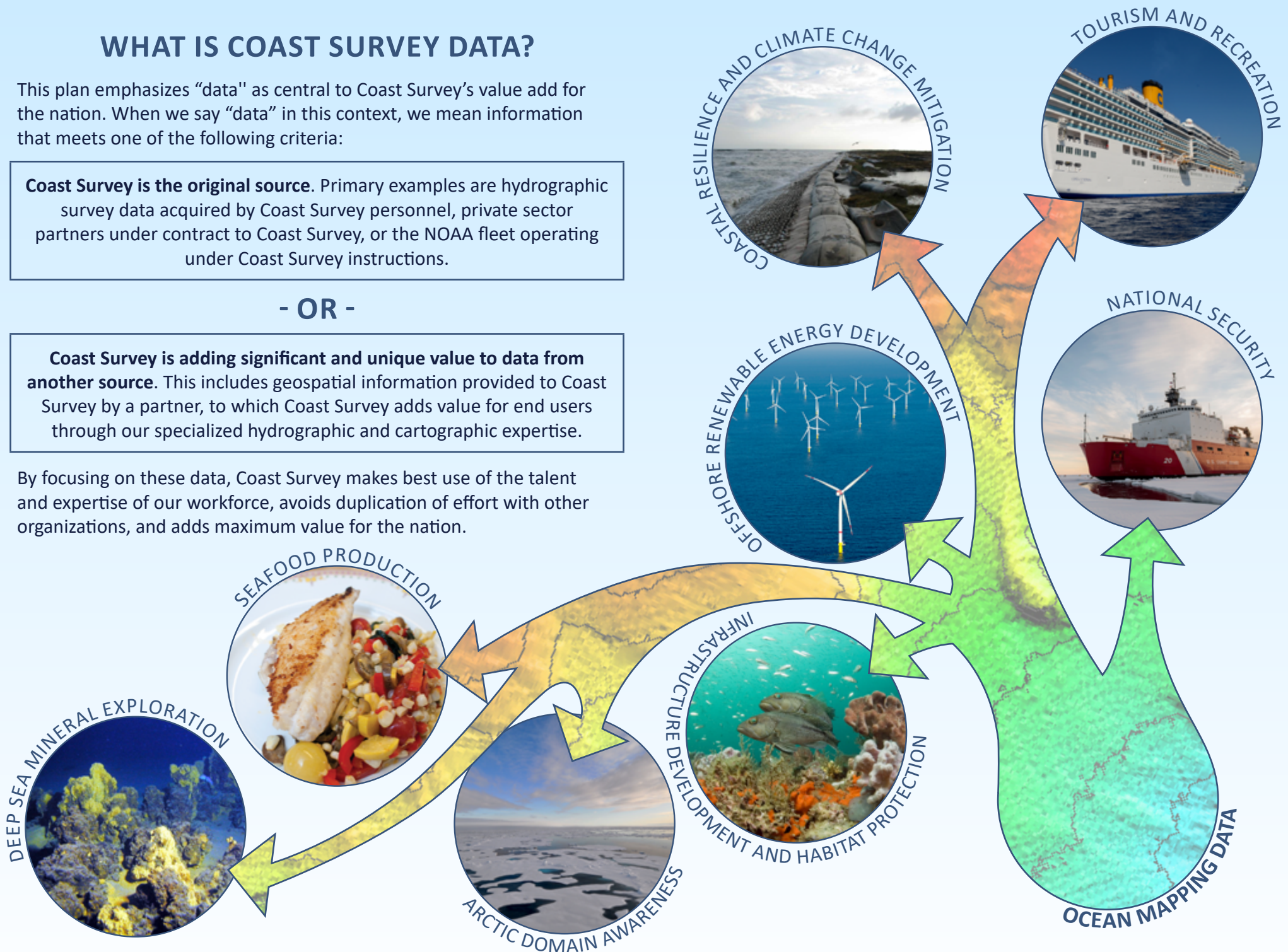
This plan emphasizes “data” as central to Coast Survey’s value add for the nation. When we say “data” in this context, we mean information that meets one of the following criteria:

**Coast Survey is the original source.** Primary examples are hydrographic survey data acquired by Coast Survey personnel, private sector partners under contract to Coast Survey, or the NOAA fleet operating under Coast Survey instructions.

- OR -

**Coast Survey is adding significant and unique value to data from another source.** This includes geospatial information provided to Coast Survey by a partner, to which Coast Survey adds value for end users through our specialized hydrographic and cartographic expertise.

By focusing on these data, Coast Survey makes best use of the talent and expertise of our workforce, avoids duplication of effort with other organizations, and adds maximum value for the nation.



## STRATEGIC GOAL 2

### Deliver products and services that advance safe navigation, increase coastal resilience, and support data-driven decision making

As the maritime community evolves, so do user needs, and Coast Survey must keep pace by providing value-added products to public and private sector users for decisions big and small. Improvements through the National Bathymetric Source will enhance the charting suite, integration via Precision Marine Navigation will provide route optimization and strengthen the supply chain, and improved marine models will increase the safety of coastal communities.

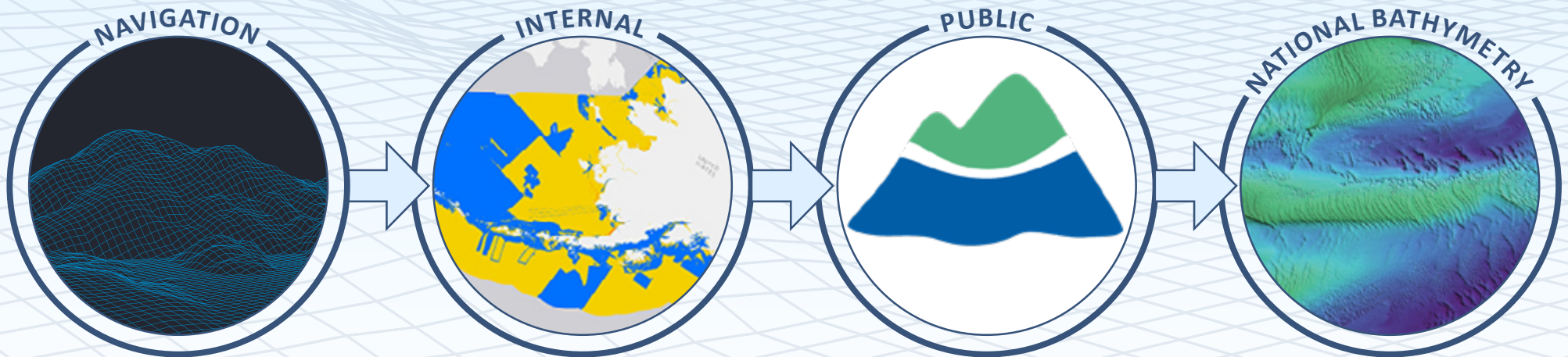
#### Strategic Objective 2.1

**Build and maintain the National Bathymetric Source (NBS), a seamless, nationwide, authoritative geospatial data set to enhance nautical chart production and enable established and emerging sectors of the Blue Economy**

Coast Survey will find and compile the best available bathymetry and elevation data to populate the National Bathymetric Source. The NBS will be used to generate new, high-resolution navigation products for multi-sector requirements through an accessible dissemination system and will also support non-navigation uses via BlueTopo™, supporting innovative solutions to coastal management decisions and economic development driven by ocean data.



### NOAA'S NATIONAL BATHYMETRIC SOURCE<sup>1</sup>

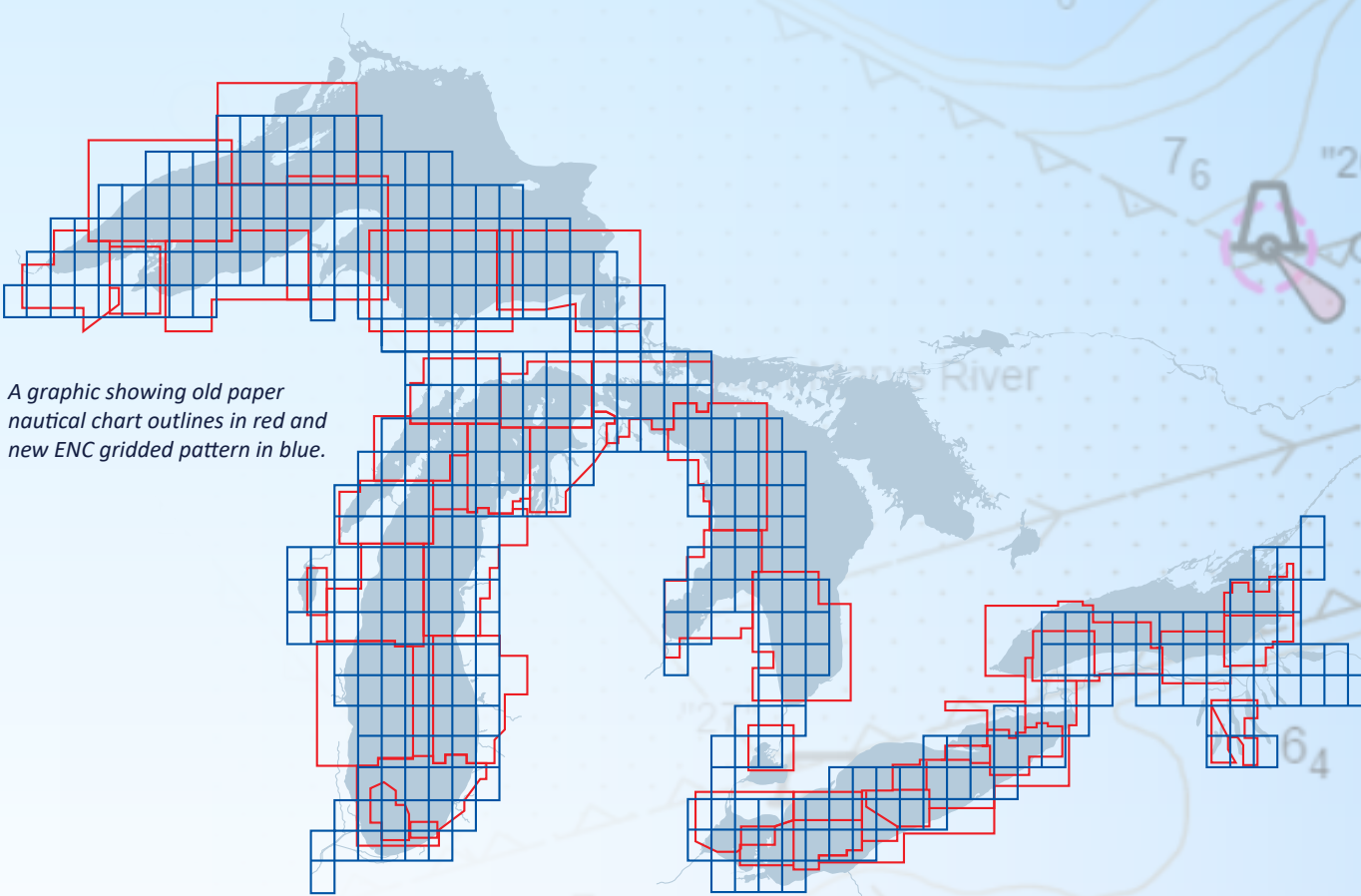


<sup>1</sup>[National Bathymetric Source](#)

## Strategic Objective 2.2

### Build the next-generation U.S. Electronic Navigational Chart (ENC) suite for improved safety, quality, timeliness, and compliance with international standards

Coast Survey will transform our ENC suite to meet evolving requirements and standards from the international navigation community. The retirement of Coast Survey's suite of paper nautical charts ends the requirement to align paper and ENC chart boundaries. The new ENC suite will use a regular gridded pattern at standardized scales that will provide better performance in navigation systems, be more efficient to maintain, and better support production of other ENC-derived products. The new product suite will further enable Coast Survey to meet new international standards, as well as support precision marine navigation and next-generation electronic navigation systems.



A graphic showing old paper nautical chart outlines in red and new ENC gridded pattern in blue.

GOAL 2

### DID YOU KNOW?

A 2022 study by NOAA economists estimated the overall annual value\* of NOAA's electronic navigational charts at \$2 to \$3.4 billion per year!<sup>2</sup>

*\*Annual value includes commercial shipping, accident avoidance, commercial and recreational fishing, and recreational boating.*

<sup>2</sup>Wolfe, E.K. (2022) *Estimated Gross Benefits Provided by Navigational Charts in the United States* [Manuscript submitted for publication]. National Ocean Service, National Oceanic and Atmospheric Administration.



## INTERNATIONAL PROGRAM

Coast Survey has a proven history of global leadership in hydrography dating back to 1899.

Throughout this time, we have been at the forefront of producing and sharing authoritative navigational data, drafting and influencing international standards for mapping, charting, and oceanographic modeling, as well as promoting diversity and assisting other nations as they build their capacity in these critical disciplines. Coast Survey and the National Geospatial-Intelligence Agency represent the U.S. in the International Hydrographic Organization where 98 countries are involved. Together these efforts move the world of hydrography and nautical cartography into the next generation.

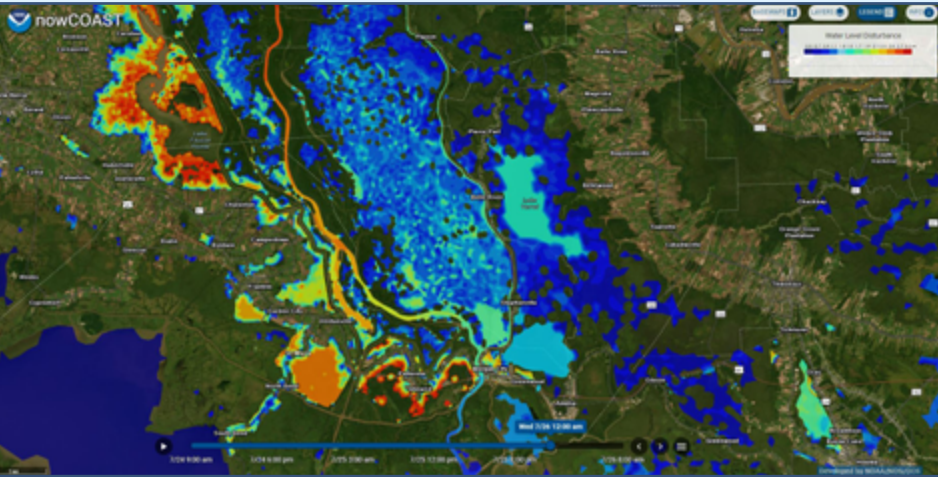


**DID YOU KNOW?**  
*The International Maritime Organization will begin allowing vessels to use the new ENC standard (S-101) starting in 2026, with full implementation in 2029.*

## Strategic Objective 2.3

### Operationalize Precision Marine Navigation (PMN) services for a safe and efficient marine transportation system

Precision Marine Navigation supports our nation's "just-in-time" supply chain, providing near real-time decision support tools for mariners as they plan and execute transits within U.S. waterways and seaports. The PMN program will provide innovative and integrated data products and services that will significantly enhance the safety and efficiency of vessel navigation in and around U.S. ports and harbors, strengthening the nation's marine transportation system.



## Strategic Objective 2.4

### Lead the development of coastal and ocean models to support safe navigation and strengthen coastal resilience

Coast Survey will develop, evaluate, and deliver coastal ocean models that inform and improve the nation's coastal resilience and navigation safety. Such models accurately represent best-available bathymetry and topography, capturing their influence on coastal ocean dynamics, and supporting tools such as coastal inundation simulations. Coast Survey will lead collaborative efforts among NOAA, academic, and federal partners, and provide cutting-edge algorithms for NOS operational models.



## STRATEGIC GOAL 3

### Enhance and sustain a highly skilled, diverse, and thriving workforce

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Our mission is only as strong as the people and teams we have to execute it. Investing in generating, recruiting, developing, and retaining a highly skilled and passionate workforce that reflects the diversity of our nation will ensure Coast Survey's ability to meet the current and future needs of our stakeholders as our ports and waterways are under increasing pressures.

#### Strategic Objective 3.1

**Fill priority staffing gaps and recruit a diverse workforce that reflects the population we serve in order to meet current and future mission needs**

Coast Survey's success depends on the recruitment and retention of a strong, capable workforce. While vacancies create immediate mission execution challenges, they also provide an opportunity to build a stronger, more capable, and more diverse workforce in order to better meet the needs of our customers.

#### Strategic Objective 3.2

**Design and implement onboarding, training, and career development programs to sustain core functions and supporting activities**

As the organization evolves to fully implement its vision and execute its mission, we must also adapt our workforce to meet changing operational needs. Coast Survey will review the training and career development needs of the office, examine existing training programs to determine applicability and identify gaps, and develop a comprehensive training plan to ensure the workforce is ready and able to fully support Coast Survey into the future. With the development of the Center of Excellence for Operational Ocean and Great Lakes Mapping, internships and workforce training in conjunction with industry will yield a new level of benefits to the entire maritime sector.



## Strategic Objective 3.3

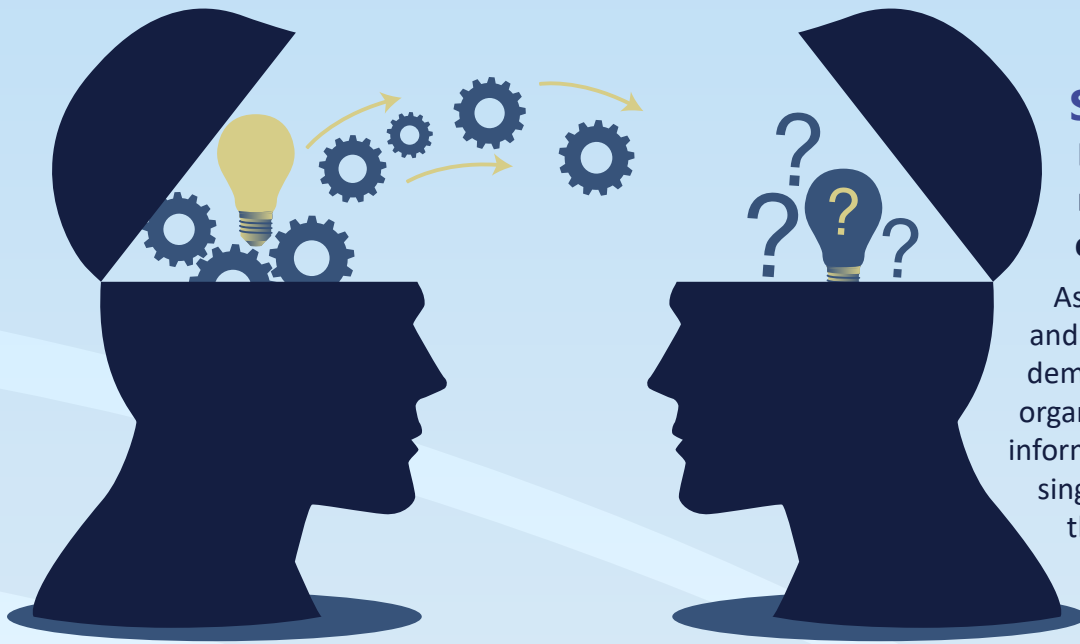
### Promote a culture of inclusion and collaboration that maximizes the benefits of individual contributions

To build a high-functioning organization, Coast Survey encourages staff to give voice to their thoughts, ensuring broad input, as each individual brings a unique perspective to the organization. Coast Survey will focus on opportunities to connect and learn from one another through team building events, short internal rotational assignments, and actively building diverse teams within the organization. Coast Survey will leverage the days that staff are in the office for in-person collaboration and problem solving.

2023 Field Procedures Workshop  
Credit: Lt. j.g. Gabriella McGann

### DID YOU KNOW?

*Expertise is the Essential Ingredient! Coast Survey's deep knowledge and experience in hydrography, nautical cartography, marine modeling, and other critical fields enables the organization to add unique and essential value to its data streams. The results are enhanced data, products, and services that are authoritative, responsive, innovative, and timely.*



### **Strategic Objective 3.4**

#### **Establish succession planning to strengthen corporate resilience and ensure knowledge transfer and organizational stability**

As the workforce changes, Coast Survey must be able to adapt and change with it. To succeed in meeting the ever-increasing demand for our products and services, we will need to share organizational knowledge across divisions and preserve that information during staff transitions. Coast Survey will identify where single points of failure exist and develop robust plans to reinforce those functions, and establish mechanisms to share knowledge, resulting in a more resilient organization.

### **Strategic Objective 3.5**

#### **Increase the efficiency of the Coast Survey business and administrative processes and apply a customer service approach in day-to-day operations**

The business and administrative structure that facilitates all of our work underlies Coast Survey's mission accomplishment. Coast Survey will review its business and administrative structure and processes, discover opportunities for improvement, and develop a plan to implement changes to improve these functions. By ensuring these day-to-day activities are carried out as efficiently and effectively as possible, Coast Survey will be better able to execute its mission.



## STRATEGIC GOAL 4

### Evolve Coast Survey's systems and processes to improve timely product development and delivery

Coast Survey is evolving as a data-focused, data-driven organization to deliver leading-edge, world-class navigation products and services in an increasingly digital world. As part of this evolution, Coast Survey will capitalize on emerging technologies, practices, and organizational frameworks to maximize the efficiency at which products and services are developed and delivered to users. Coast Survey will maximize the efficiency of data exchange by streamlining legacy practices and procedures highlighted by internal subject matter experts assigned to examine the Coast Survey "Plan to Product" cycle.

#### Strategic Objective 4.1

**Integrate, standardize, and automate processes across a single streamlined Coast Survey workflow for the entire data life cycle to accelerate product development and throughput**

Coast Survey will increase workflow efficiency by reducing internal data transfers, standardizing data processing platforms, and deconstructing subdivisions that prevent systems and data interoperability across the organization. Coast Survey will also encourage contributions by experts at all levels of the organization.

#### Strategic Objective 4.2

**Modernize IT infrastructure and tools to support a single workflow and maximize organizational efficiency**

Information technology is the backbone of the data-driven world in which we operate. Coast Survey IT infrastructure spans the country allowing for data redundancy and storage. As NOAA continues to advance data into the cloud, Coast Survey will ensure those data holdings are properly managed and new technologies are leveraged to ensure efficiency of our data processing and delivery pipelines.



*Small-craft harbor in Puerto Rico  
Credit: Nicolás Alvarado*

# NAVIGATE WITH CONFIDENCE

