



# **Your National Weather Service: Evolving to Build a Weather-Ready Nation**

**Dr. Louis W. Uccellini**

**Director, National Weather Service**

**NOAA Assistant Administrator for Weather Services**

**AMS Partners Meeting**

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# **What We Heard the Past 2 Days**



# Strategic Plan

# Strategic Plan

## Building a Weather-Ready Nation Remains the Strategic Outcome

### 3 Goals:

1. Reduce the impacts of weather, water, and climate events by transforming the way people receive, understand, and act on information
2. Harness cutting-edge science, technology, and engineering to provide the best observations, forecasts, and warnings
3. Evolve the NWS to excel in the face of change through investment in our people, partnerships, and organizational performance



# Evolve strategy based on three pillars

## What we do to Evolve NWS

**Vision: Weather-Ready Nation:** Society is prepared for and responds to extreme weather, water, climate events

The vision of a WRN is **realized through the NWS Mission:** Provide forecasts and warnings for the protection of life and property and to enhance the national economy

## How we manage it

- Build the Roadmap into a phasing diagram and a central to near and long-term



**to core partners:**  
 Testing and implementing the  
 Workforce Analysis (EWA)  
 recommendations through the NWS  
 Program Management Office (PMO)

**science and technology capabilities:** Ensure  
 NWS operational infrastructure remains at the "cutting edge" (e.g., next-generation modeling and data-assimilation systems)

**strategically with and grow the broader enterprise:**  
 NWS fosters partnerships at all levels proactively harnesses external advances that benefit the mission, and enables the enterprise to grow

Incorporate the NWS operations and budget  
 Integrate organizational health

and  
 initiatives (OHI, FEVS)

Implemented through updated NWS Strategic Plan and Roadmap



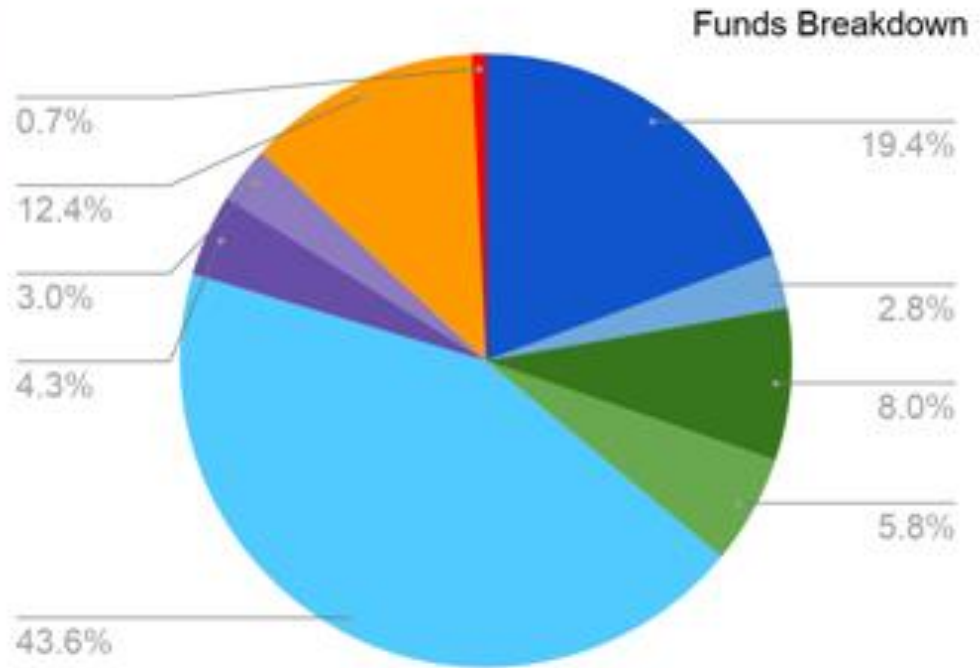
# Budget



# FY 2018 Omnibus Budget

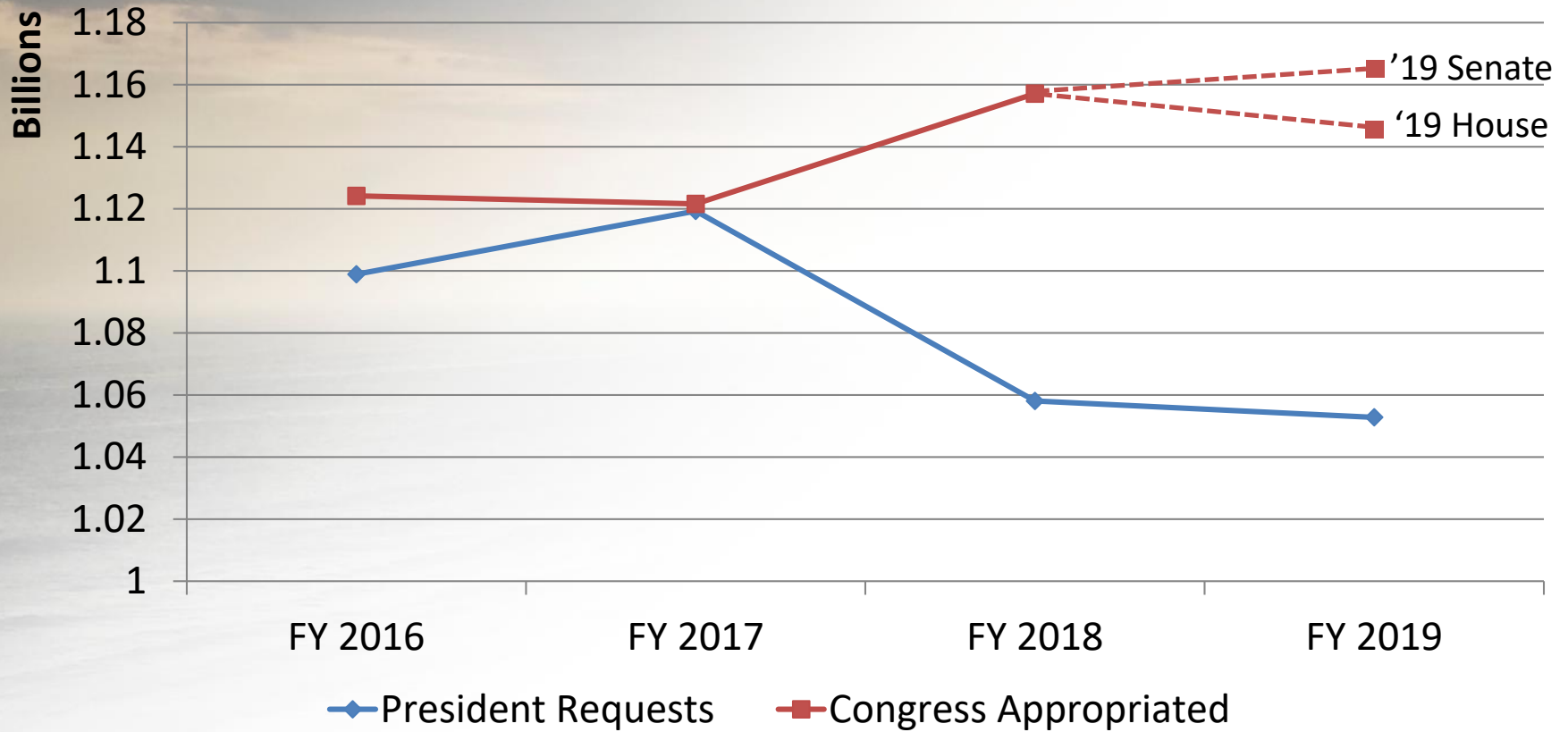
| Portfolio                              | Funds (\$K)        | Position Estimate* |
|--|--------------------|--------------------|
| Observations ORF                       | \$224,363          | 780                |
| Observations PAC                       | \$32,953           | -                  |
| Central Processing ORF                 | \$92,790           | 227                |
| Central Processing PAC                 | \$66,761           | 24                 |
| Analyze, Forecast and Support ORF      | \$503,938          | 3,048              |
| Dissemination ORF                      | \$50,028           | 88                 |
| Dissemination PAC                      | \$34,619           | -                  |
| Science and Technology Integration PAC | \$143,000          | 456                |
| Facilities PAC                         | \$8,650            | -                  |
| <b>TOTAL</b>                           | <b>\$1,157,102</b> | <b>4623</b>        |

\*NWS Staffing Plan revised



# Budget Status

## Comparison of Requested and Enacted Amounts







# Highest Priorities

## Observations

- GOES-16 operational as GOES-East
- First phase of NEXRAD SLEP (Signal Processor) completed in early 2018
- ASOS SLEP initiated to extend service life to 2040
- Alaska Demonstration Project is underway to deploy Autosonde technology
- Nearly 40% of weather buoys upgraded with SCOOP technology

## Science & Tech Integration

- Full implementation of the Virtual Lab
- FV3 (GFDL Finite Volume Cubed-Sphere Dynamical Core) selected to upgrade the current operational GFS
- Implemented new and improved products for National Hurricane Center (NHC) operations
- National Water Model upgraded
- National Blend of Models upgraded

## Facilities

- WFO Boston and Cleveland relocations
- Facility Assessments at 20 Sites
- Barrow Property Disposal
- NWS Facilities Strategic Plan

FY 2018



**WRN Ambassador Initiative**  
**8100+ Ambassadors**

## Dissemination

- OneNWS upgrades for all WFO sites
- Operational implementation of Integrated Dissemination Program (IDP)
- GOES-16 Readiness

## Central Processing

- AWIPS II deployed /AWIPS III
- 60% capacity increase in Supercomputing service
- AHPS locations expanded to 4,011 locations nationwide
- AWIPS configured for GOES-16 data

## Analyze, Forecast, Support

- Pathfinder Partnerships between WFOs and State DOTs
- Operationalize National Blend of Models
- GOES 16 Training Readiness
- Hazard Simplification consolidation for winter products
- Operational Storm Surge Watch/Warnings
- Experimental National Water Model products
- New Operational Tsunami Modeling System
- Operational Impact-Based format for Convective Warnings
- Operational implementation of Week 3-4 Temperature Outlook

## Implementation Plans for FV3 Global Forecast System (GFS V15.0) and Global Ensemble Forecast System (GEFS V12.0)

| Timeline                                 | FY17  |  |  |    | FY18 |  |   |  | FY19 |                      |  |    | FY20                  |    | % Complete |
|--|---|--|--|----|------|--|---|--|------|----------------------|--|----|-----------------------|----|------------|
| Component                                | Q1  | Q2   | Q3   | Q4 | Q1   | Q2   | Q3  | Q4   | Q1   | Q2                   | Q3   | Q4 | Q1                    | Q2 |            |
| FV3 GFS Development                      | Implement FV3 dycore in NEMS & couple to GFS Physics + GFDL Microphysics; Evaluate, and document FV3 dycore for GFS |  |  |    |      |  |   |  |      |                      |  |    |                       |    | 100%       |
| FV3 GDAS Development                     |   |  | 4D Hybrid GSI/EnKF DA for FV3; Assimilation of new satellite datasets (GOES-16/17, NOAA-20 etc.); Cycled DA testing, tuning and optimization |    |      |  |   |  |      |                      |  |    |                       |    | 100%       |
| Post-Processing, Downstream applications |   |  | Pre- and post-processing, verification & downstream product generation, real-time data dissemination   |    |      |  |   |  |      | GFSV15 in operations |  |    |                       |    | 100%       |
| GFS v15.0 Implementation                 |   |  |  |    |      | retrospective + real-time parallels, evaluation and transition to operations |   |  |      |                      |  |    |                       |    | 75%        |
| FV3 GEFS Development                     |   | Develop and test low resolution FV3GFS with FV3GDAS, configure it for reanalysis (ESRL)                        |  |    |      |  |   |  |      |                      |  |    |                       |    | 100%       |
| FV3 GEFS Reanalysis                      |   |  |  |    |      |  | Produce ~20-year reanalysis datasets using FV3GFS/GDAS (ESRL) |  |      |                      |  |    |                       |    | 30%        |
| Ensemble configuration                   |   | Configure FV3GFS ensemble resolution, perturbations, members, physics, and extend forecasts to weeks 3&4 (EMC) |  |    |      |  |   |  |      |                      |  |    |                       |    | 98%        |
| FV3 GEFS Reforecasts                     |   |  |  |    |      |  |   | Produce ~30-year reforecasts (extended to 35 days) (EMC) |      |                      |  |    | GEFSV12 in operations |    | 0%         |
| GEFS v12.0 implementation                |   |  |  |    |      |  | Today   |  |      |                      | retrospective evaluation of FV3GEFS V12 and transition to operations |    |                       |    | 0%         |

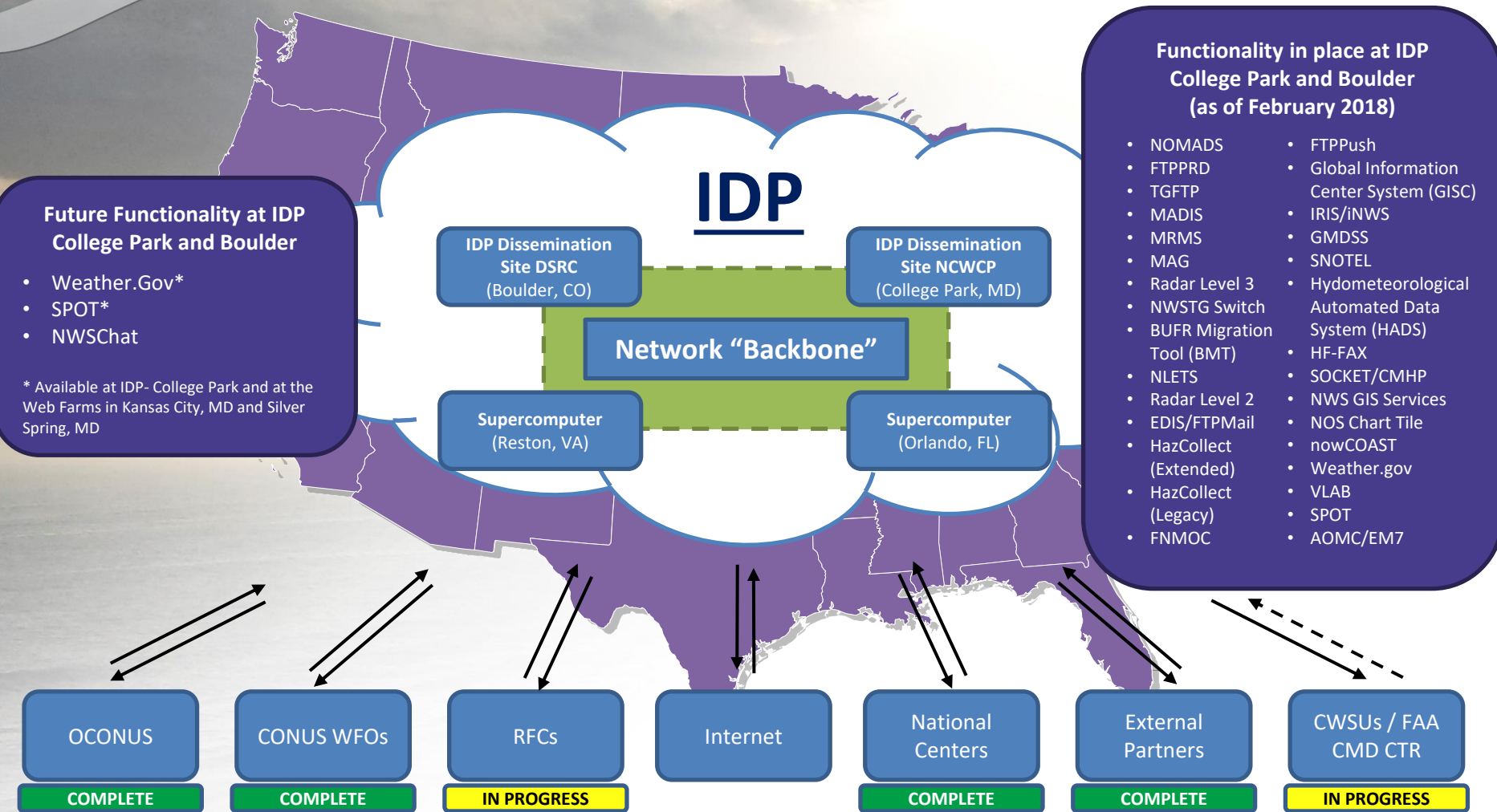


# **IDP – Focus on Dissemination**



# Integrated Dissemination Program (IDP)

## Long-Term Sustainable Solution



**Future Functionality at IDP College Park and Boulder**

- Weather.Gov\*
- SPOT\*
- NWSChat

\* Available at IDP- College Park and at the Web Farms in Kansas City, MD and Silver Spring, MD

**Functionality in place at IDP College Park and Boulder (as of February 2018)**

- NOMADS
- FTTPRD
- TGFTP
- MADIS
- MRMS
- MAG
- Radar Level 3
- NWSTG Switch
- BUFR Migration Tool (BMT)
- NLETS
- Radar Level 2
- EDIS/FTPmail
- HazCollect (Extended)
- HazCollect (Legacy)
- FNMOC
- FTTPush
- Global Information Center System (GISC)
- IRIS/iNWS
- GMDSS
- SNOTEL
- Hydrometeorological Automated Data System (HADS)
- HF-FAX
- SOCKET/CMHP
- NWS GIS Services
- NOS Chart Tile
- nowCOAST
- Weather.gov
- VLAB
- SPOT
- AOMC/EM7

**“OneNWS” Network**

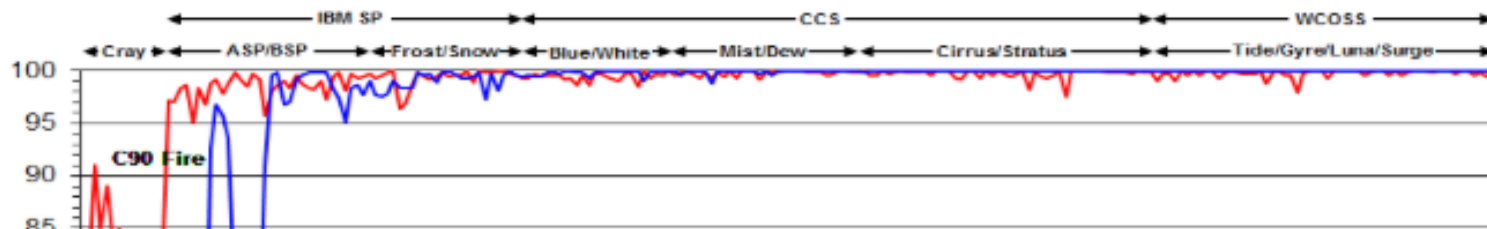
The future OneNWS network will consolidate all operational networks (OPSnet, Regional, etc.) as a single managed network under NCEP Central Operations (NCO).



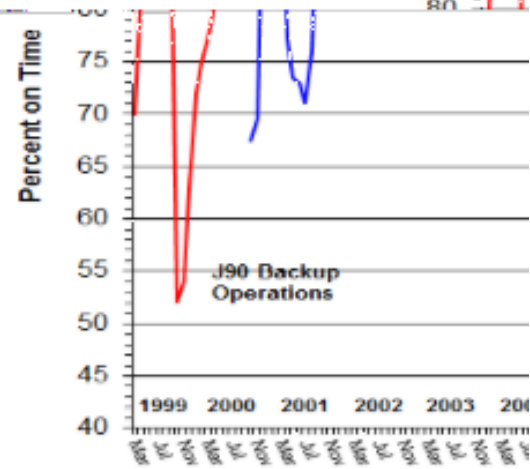
# Weather and Climate Operational Supercomputing System (WCOSS)

Project Status as of: 30 Jun 2018

## Product Generation Summary



Apr: 99.82%  
 May: 99.51%  
 Jun: 99.92%



### FY18 NOAA AOP Milestone- WCOSS

Sustain 99% on-time product generation on 90% of the time

supercomputers

# Other Topics

- Private sector status within WMO.  
Key interactions now:
  - Assessment of NGGPS prior to implementation
  - Ongoing during R20
  - Ongoing interactions on IDP.

# Thank You

