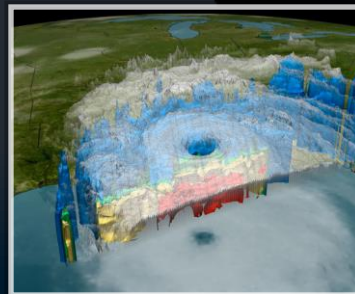
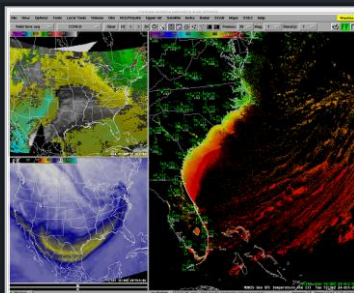


Observations that Support a Weather-Ready Nation

NWS Partners Meeting

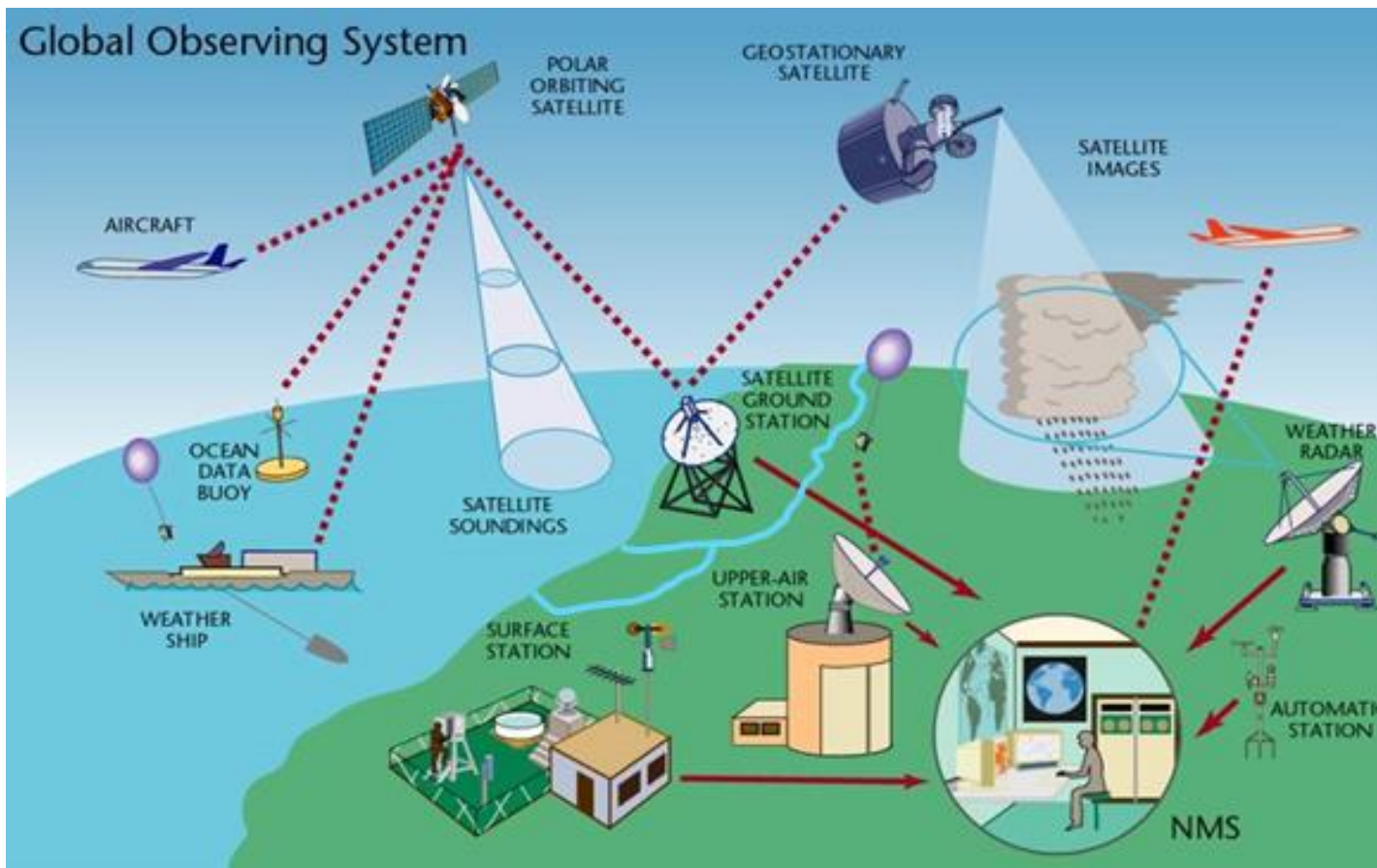
November 1, 2016 • Silver Spring, MD



Joseph A. Pica, Director
NWS Office of Observations

Observations Portfolio

Responsible for the collection of space, atmosphere, water, and climate observational data owned or leveraged by the NWS



Sustaining Critical Observations

Maintaining System Availability to Support the NWS Mission



NEXRAD

- Maintain system availability > 96%



Upper Air

- Maintain 102 sites with GPS radiosondes; 2 launches per day



ASOS

- Maintain system at required sensor availability > 96%



Buoy Networks – Weather, DART, TAO

- Average network data availability > 80%

NEXRAD Service Life Extension Program (SLEP)

- Signal Processor Technology Refresh
 - Deployment underway
 - 19 sites completed as of November 1
 - Will be completed June 2017
- Transmitter Technology Refresh
 - First of three transmitter projects beginning deployment now
- Shelter and Pedestal Refurbishments
 - 2017-2022 time frame



Photo: NOAA, KLGX

NEXRAD Radar Data (Level II, III) Distribution

Level II Impacts to External Users:

- Model data added to data stream
- Model data includes environmental info
- Bandwidth increase ~500 Kb/hour per radar
- Interface Control Document (ICD) on ROC website

Level III Impacts to External Users:

- Archive Status Product (ASP) frequency increased to once every three hours
- Adding Level III Collection/Distribution for Korea (Camp Humphreys & Kunsan) and Japan (Kadena) AFB



Photo: Tanja Fransen, WFO GGW, @mtwxgirl

Radiosonde Frequency Migration Project

- Due to sale of “spectrum,” radiosondes in 1680 MHz band must be migrated to the 403 MHz band
- Migration funded by “spectrum” sale funds
- Eight sites migrated as stop-gap due to GOES-R satellite launch on November 16
- Auto-launching technologies evaluated as preferred alternative
- Testing at Sterling, VA and Kodiak, AK



Automated Surface Observing System (ASOS) SLEP

\$7.5M identified in FY17 President Budget includes funding for:

- ACU/DCP replacement
- Telecommunications upgrade
- Replacement of 3 sensors
 - All-Weather Precipitation Accumulation Gage
 - Wind sensor
 - Dew point sensor



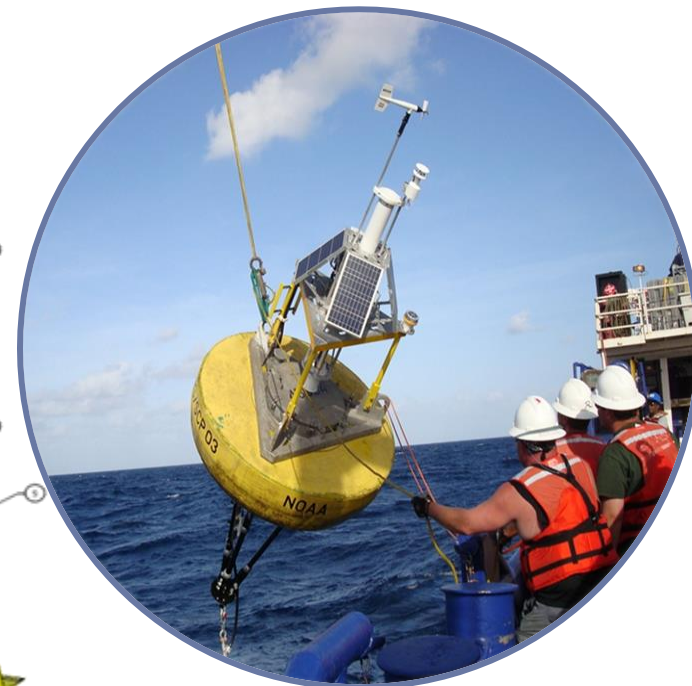
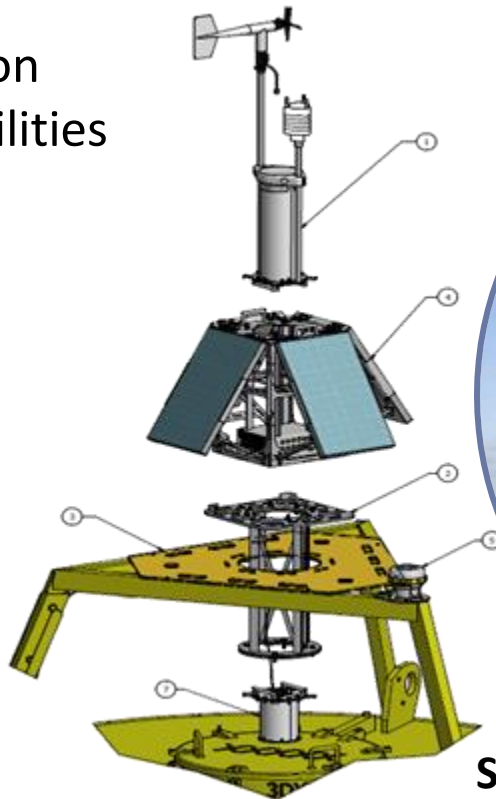
ASOS One Minute Data

- Status: FAA ASOS 1-minute data is being obtained via MADIS
- The following shortcomings have been identified by the user community:
 - Truncated to whole degrees Celsius
 - Data latency issues
 - Observations are taken every minute but transmitted every 30 minutes
- **Long term fix:** ASOS Program to address as a part of the SLEP telecommunications upgrade, software development



Self-Contained Ocean Observations Payload (SCOOP) Systems

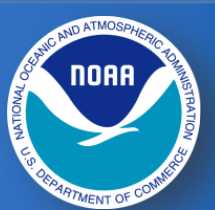
- Less labor intensive assembly
- Allows use of ships with less lift capacity
- At-sea servicing
- Requires less time on station
- Expanded observing capabilities



Significantly increased reliability



Observations Portfolio Management

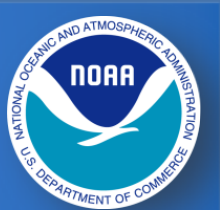


As our portfolio management matures, the following are guiding principles towards which we are striving:

- Mission-Effective
- Superior Service and Reputation
- Adaptable
- Cost-Effective, Affordable, and Sustainable
- Integrated
- Global Context and Commitments
- In-House Expertise
- *Well-Governed, Understood, and Trusted*



Emerging Technologies



NOAA's Observing Systems Council hosted the first Emerging Technologies Workshop for Observations

- Provided a forum for NOAA to gather, share, and communicate technology, research, and development activities
- Integration of all of our observing systems and technologies
- Solid requirement processes and sound prioritization methods are needed for mission efficiency, integration, adaptability, and affordability
- Smaller, more targeted, and nimble technologies could improve the time needed for acquisition and development, while keeping costs down and maintaining pace with rapid technology advances
- Find and leverage technologies that allow NOAA to share its data more readily and to a larger range of users



Observations Portfolio



Upcoming AMS Highlights:

- Keynote address to the 21st AMS Conference on Integrated Observing and Assimilation Systems for the Atmosphere, Ocean, and Land Surface (IOAS-AOLS) - Louis W. Uccellini, NWS Director
- “State of NOAA's Observing System Architecture Portfolio” - Joseph A. Pica, NWS Office of Observations Director
- “National Strategy for Sustained Network of Coastal Moorings” - Joseph A. Pica on behalf of NOAA authors Kathleen Bailey, Shannon McArthur, and Teresa Murphy
- “NOAA's First Emerging Technologies Workshop Summary” Richard Edwing, NOS Center for Operational Oceanographic Products and Services Director



Questions?



Investing in Observation Infrastructure



NEXRAD Upcoming Builds/Deployment

- **RDA/RPG Build 18**

- Surveillance Cut DP variable windowing (improves DP data quality)
- Increases size of RDA Status Message (adds 40 bytes of unused halfwords)
- Removes seven unused products from the RPG
- Adds VCPs 215 (Precip) & 35 (Clear Air)
- Removes Precip VCPs 21, 221, 11 & 211
- Adds Super-Res Data Quality Edited Reflectivity product (FAA)
- Improvements to Hydrometeor Classification Algorithm (HCA)
- Adapts Tornado Detection Algorithm & Mesocyclone Detection Algorithms to use SAILS cuts
- Deployment scheduled for Sept/2017

- **SPG**

- Build 9.0 – Supports FAA TDWR Build 2
- Deployment tentative for Nov/2016 or Jan/2017