



# NOAA Report on Current & Planned Activities

*Mitch Goldberg NOAA/NESDIS*

ITSC-XX

NOAA Satellite and Information Service



# NESDIS Principal Activities

## Currently Providing 24/7 On-Orbit Satellite Operations

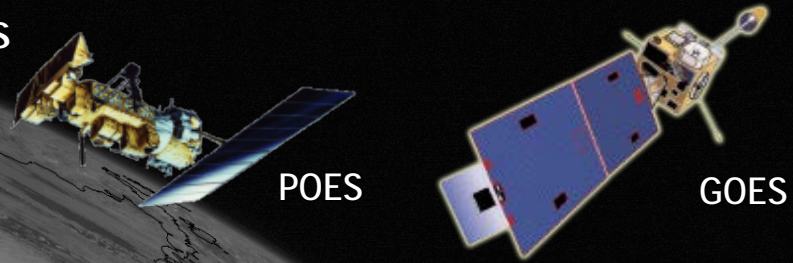
- Geostationary satellites (GOES)
- Polar-orbiting satellites (POES)
- Defense Meteorological Satellite Program (DMSP)
- Jason-2 Altimetry Satellite
- Suomi National Polar-orbiting Partnership (S-NPP)
- DSCOVR (Solar Wind Continuity)

## Acquiring Next Generation Satellites

- Jason-3 Altimetry Satellite
- COSMIC-2 Radio Occultation
- GOES-R Satellite Series
- Joint Polar Satellite System

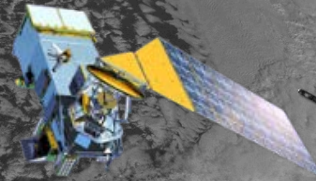
## Providing Long Term Data Stewardship

## Conducting Research and Developing Operations

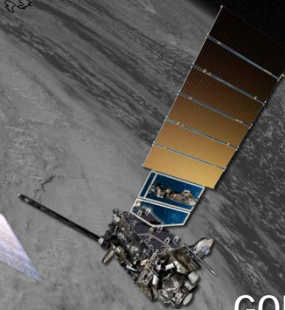


POES

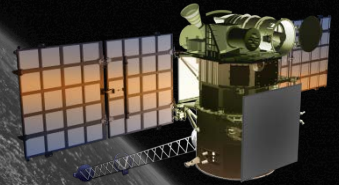
GOES



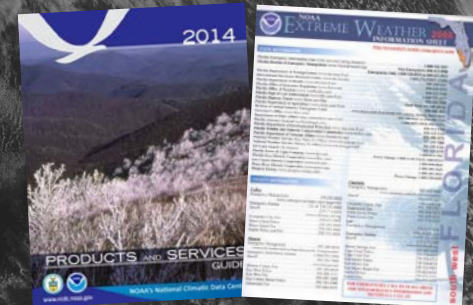
JPSS



GOES-R



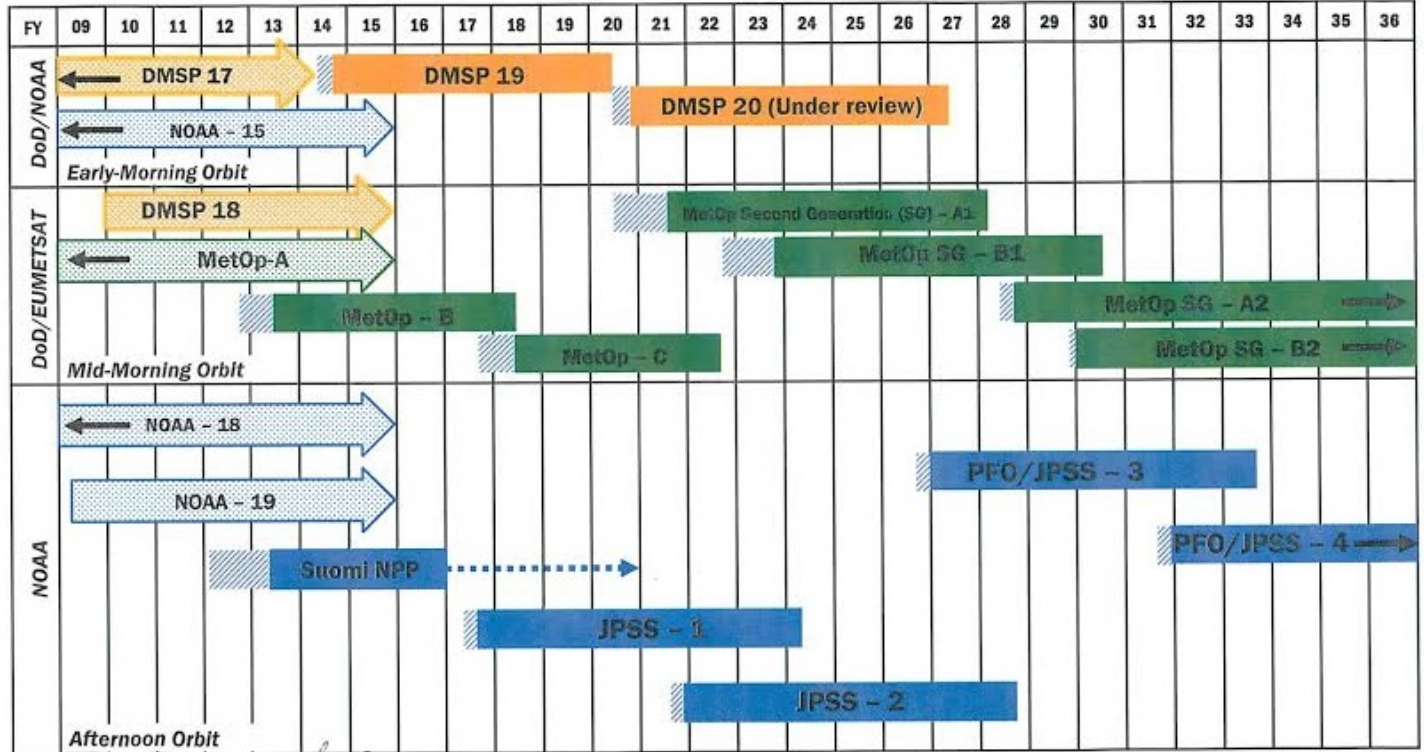
DSCOVR



NEIO

# Polar Flyout Chart

As of April 2015



Approved: *Mark S. Parise*  
 Assistant Administrator for Satellite and Information Services

Note: Extended operations are reflected through the current FY, based on current operating health.

- Post Launch Test
- Operational based on design life
- Secondary
- Operational beyond FY 2036
- Extended mission life
- Launched before Oct 2008

DMSP: Defense Meteorological Satellite Program  
 JPSS: Joint Polar Satellite System Program  
 Suomi NPP: Suomi National Polar-orbiting Partnership

Note: DoD and EUMETSAT data provided for reference only

JPSS-1 becomes NOAA-20

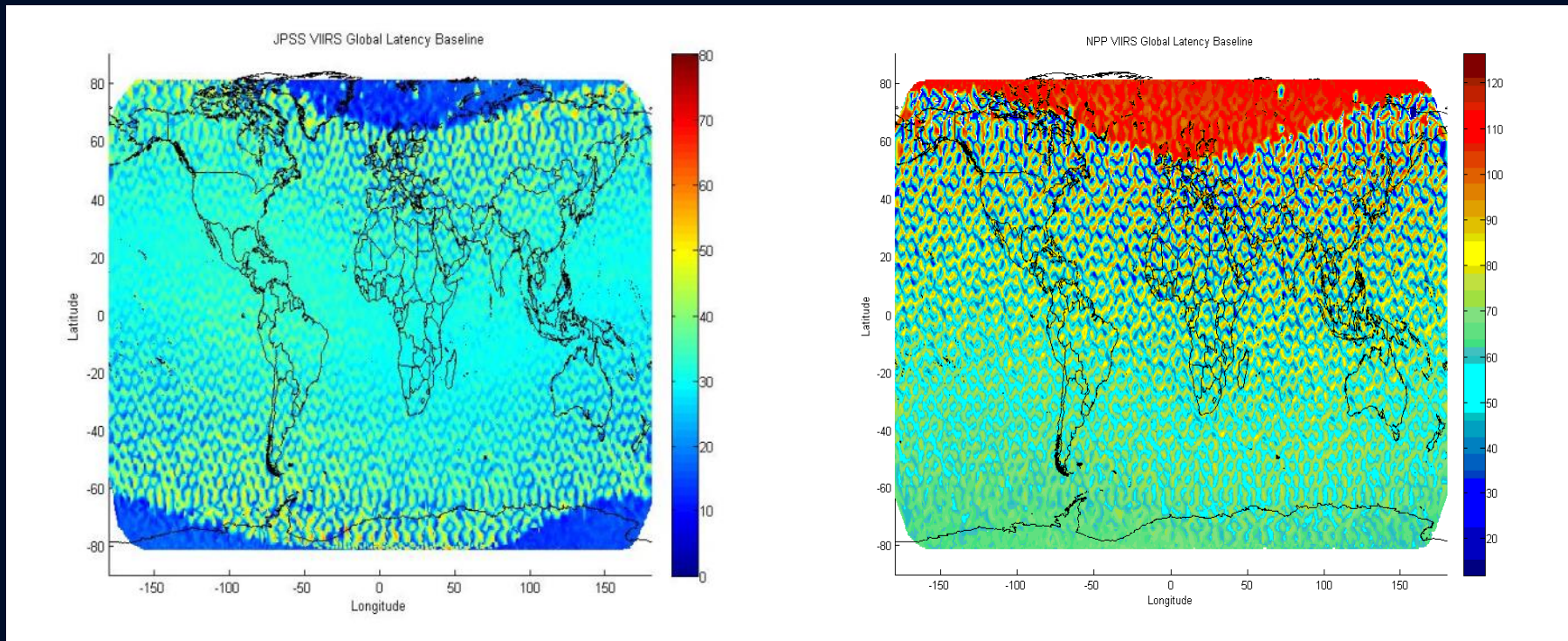
NOAA-20 ahead of SNPP by 50 minutes

# Driving requirements are global coverage of a wide range of environmental parameters with improved latency and high accuracy and reliability



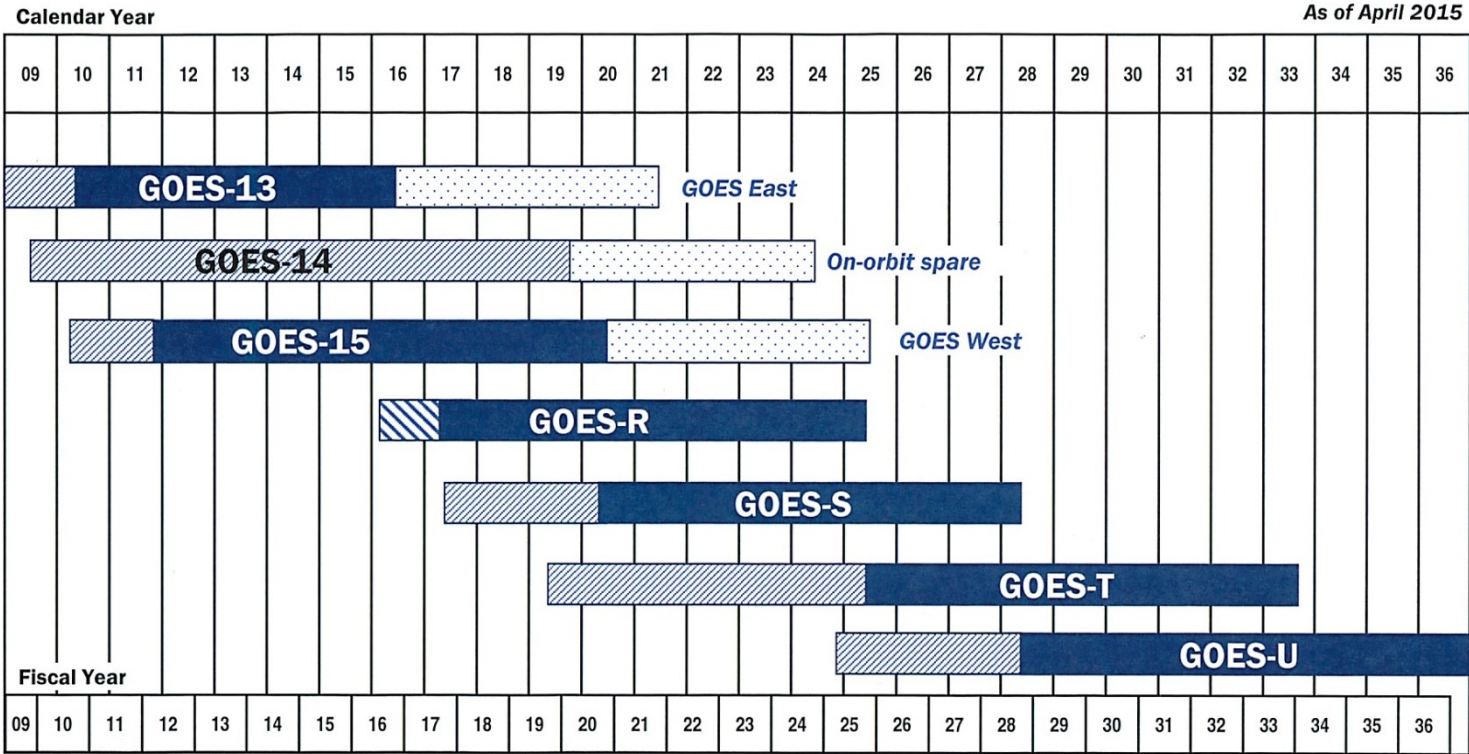
## JPSS

## SNPP



***Polar region latency improved from 2 hours to 10 minutes***  
***95% of the data is within 50 minutes (taking into account BUFR conversion, etc.)***  
***Between +/- 50 degrees latitude ~ 30 minutes***  
***Actual performance will be 50% better than specification***

# GOES Flyout Chart



Approved: Stephen V. [Signature] 4/21/2015  
 Assistant Administrator for Satellite and Information Services

**GOES: Geostationary Operational Environmental Satellite**

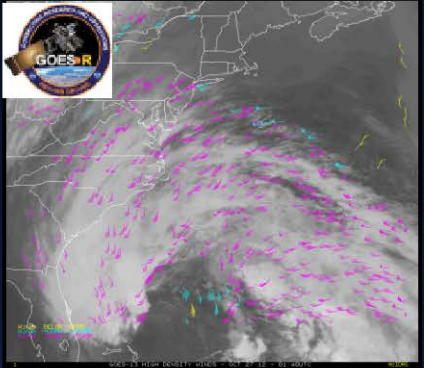
- On-orbit Storage
- Test & Checkout
- Operational
- Fuel-Limited Lifetime



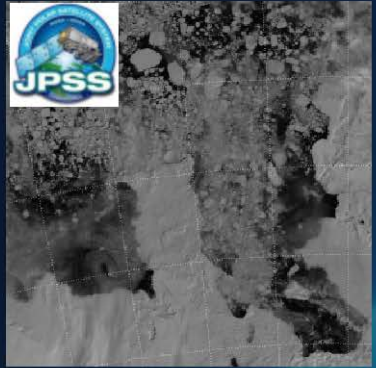
# Satellite Proving Ground



Supporting demonstration and utilization of new capabilities by the end users  
 Facilitating the transition of GOES-R and JPSS to operations  
 Incorporating user feedback for product improvements

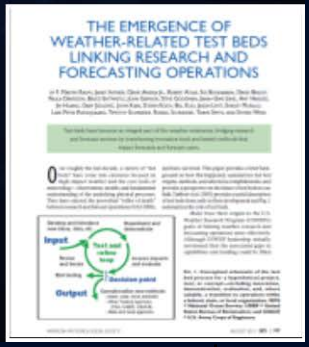
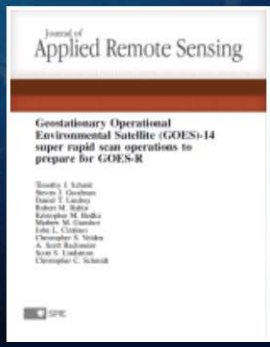
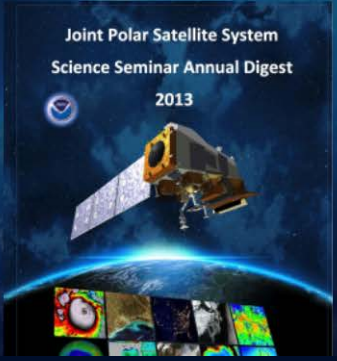
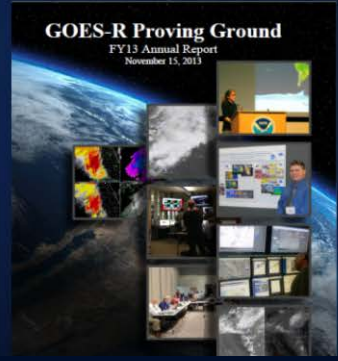


Hurricane Sandy-  
 GOES High Density  
 Atmospheric Motion Vectors



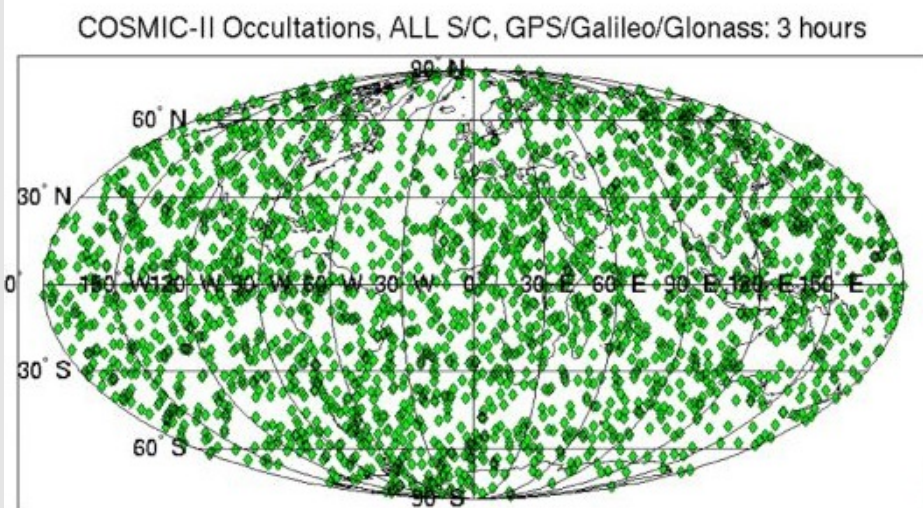
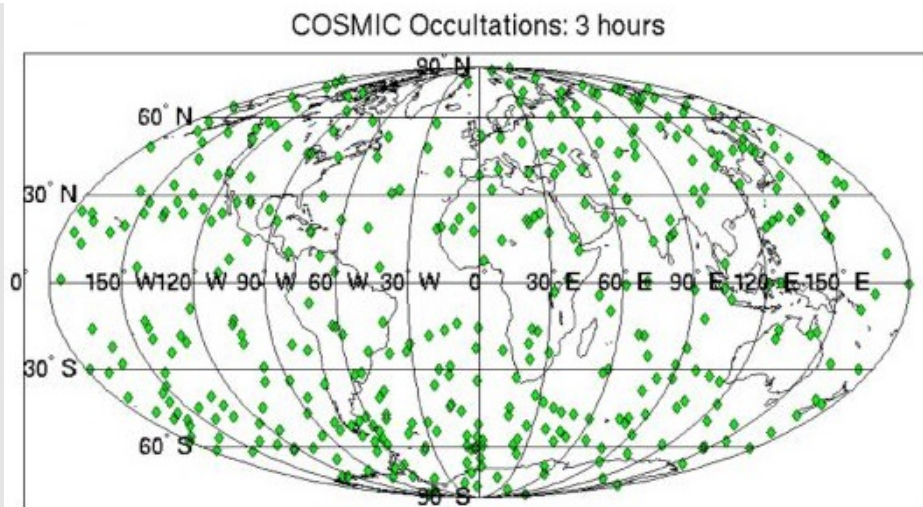
S-NPP Day/Night Band  
 Ice Detection

## NOAA Hazardous Weather Testbed (HWT)

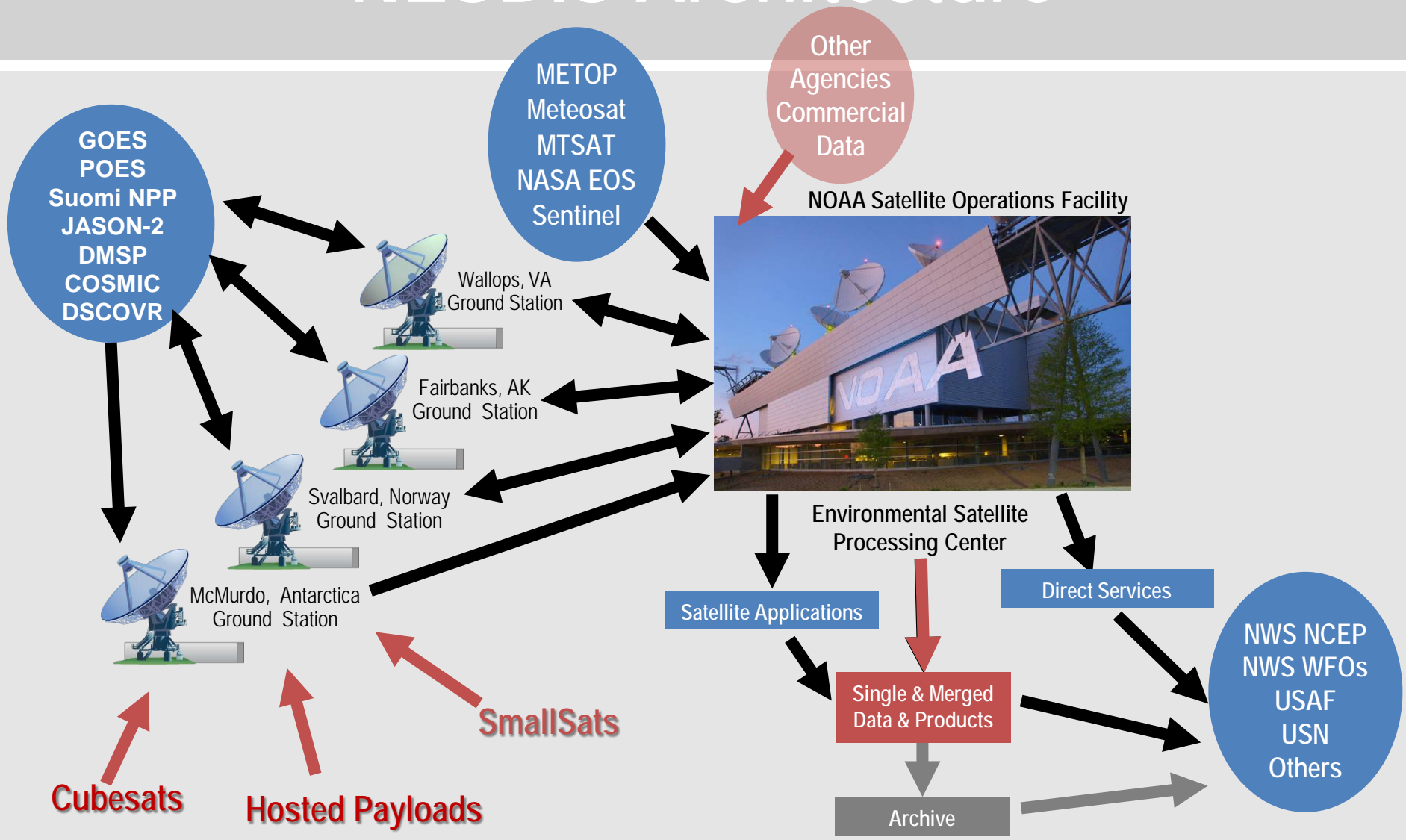


# COSMIC-2

- The Constellation Observing System for Meteorology, Ionosphere, and Climate, or COSMIC, mission is a Partnership with Taiwan, NASA, and the U.S. Air Force
- Will provide global radio-occultation measurements of ionosphere, temperature and water vapor information to improve weather forecasts
- Valuable data due to non-biased quality, accuracy and depth
- Shown here is a comparison of sounding distribution over three hour periods between COSMIC and fully-implemented COSMIC-2 (12 satellites)
- Launch in 2016 of the first set of six COSMIC-2 satellites



# NESDIS Architecture





# Environmental Information

National Climatic Data Center

National Ocean Data Center

National Geophysical Data Center

Maximize the Return on Investment of the Nation's Earth Observing Satellites Systems

Ensure a high scientific quality satellite data stream

Develop science to maximize the utilization of the different satellite data

Analyze and interpret data for decision making purposes



<https://www.ncei.noaa.gov/>