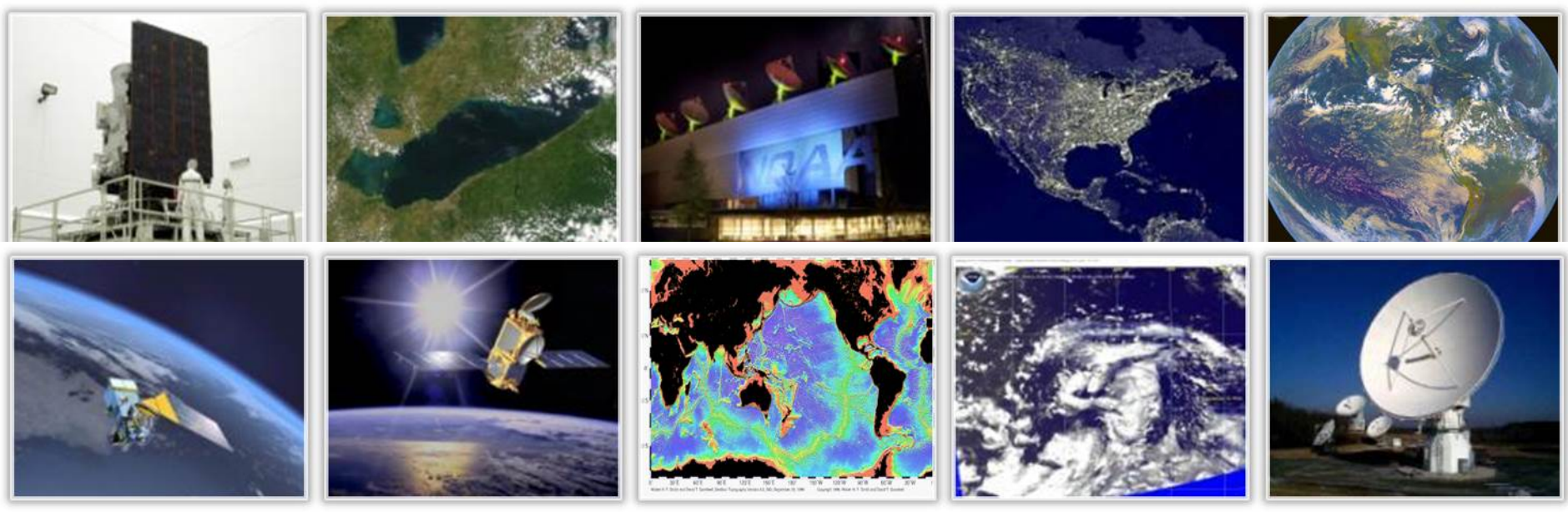


# NOAA Satellite and Information Service

National Environmental Satellite, Data, and Information Service (NESDIS)



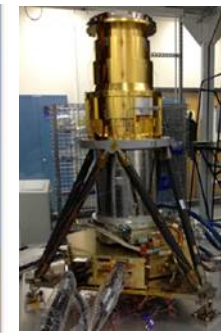
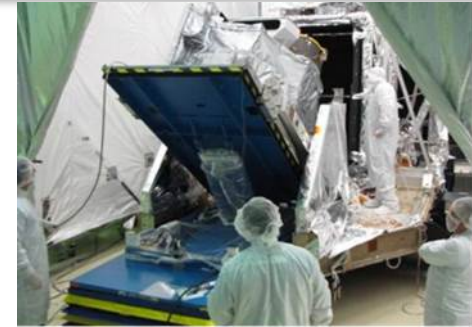
Status of Current and Future Systems (NOAA-PP-02)  
Presentation to CGMS-41  
July 2013



# GOES-R Update

## Synopsis

- ✔ GOES-R Maintains continuity of weather observations and critical environmental data from geostationary orbit
  - Provides faster scanning of entire hemisphere while simultaneously observing individual storms with greater resolution, provides a new lightning mapping capability for improved early warnings of severe weather, provides improved warning of solar events to minimize impact to communications, navigation systems, and power grids
- ✔ Program successfully completed its Mission Critical Design Review in November 2012
- ✔ Spacecraft development progressing well. All first instrument flight models will be completed by the end of 2013 (except for lightning mapper which will be completed in 2014)
- ✔ Ground system development is making good progress. New antenna systems are installed at Wallops, VA and Fairmont, WV



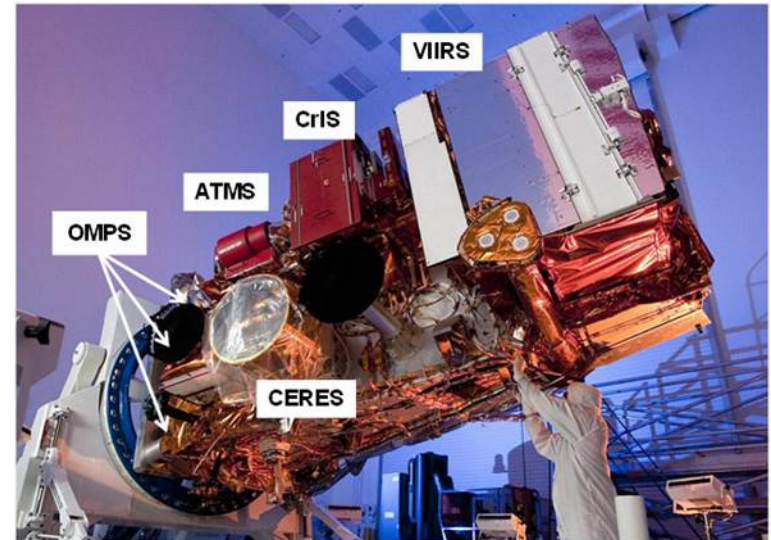
GOES-R Launch Readiness Date	October 2015*
Program Architecture	4 Satellites (GOES-R, S, T & U) 10 year operational design life for each spacecraft
Program Operational Life	FY 2017 – FY 2036
Program Life-cycle (FY 2013 President's Budget)	\$10.860 billion

\*Launch Readiness Date based on FY 2013 President's Budget Request



# Joint Polar Satellite System (JPSS) Update

- ✓ JPSS provides operational continuity of polar afternoon orbit satellite-based observations and products
- ✓ S-NPP operating well, spacecraft and instruments healthy, cal/val progressing well and on schedule, ATMS data being assimilated into operational weather models
- ✓ JPSS-1 instruments on schedule with instrument flight builds ranging from 65 to 100% complete; spacecraft development well underway; launch vehicle (Delta II) under contract
- ✓ RFO for free flyer spacecraft (FF1) released; supports SARSAT, data collection (ARGOS) and Total Solar Irradiance
- ✓ TSIS Calibration Transfer Experiment (TCTE) delivered and integrated onto STP-3

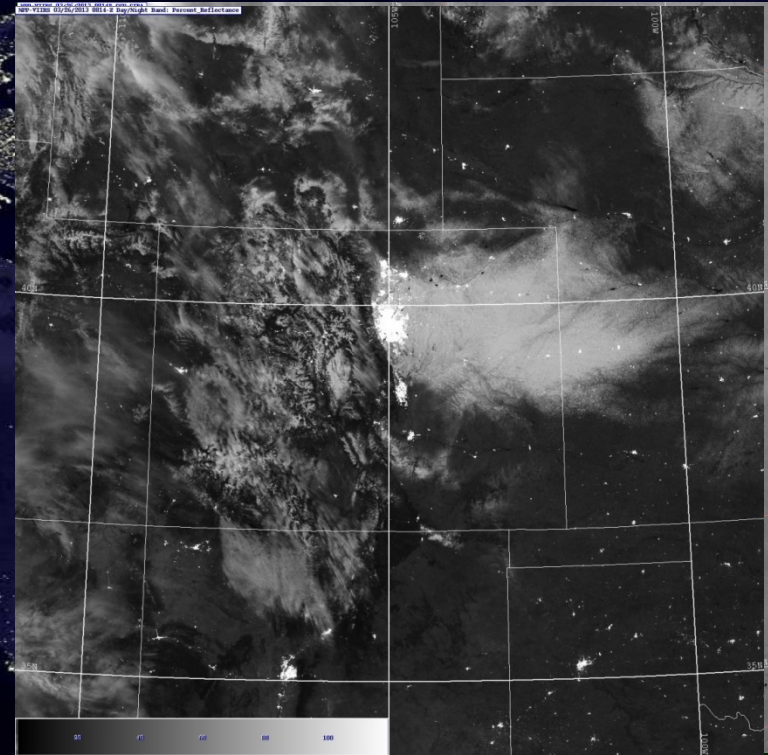
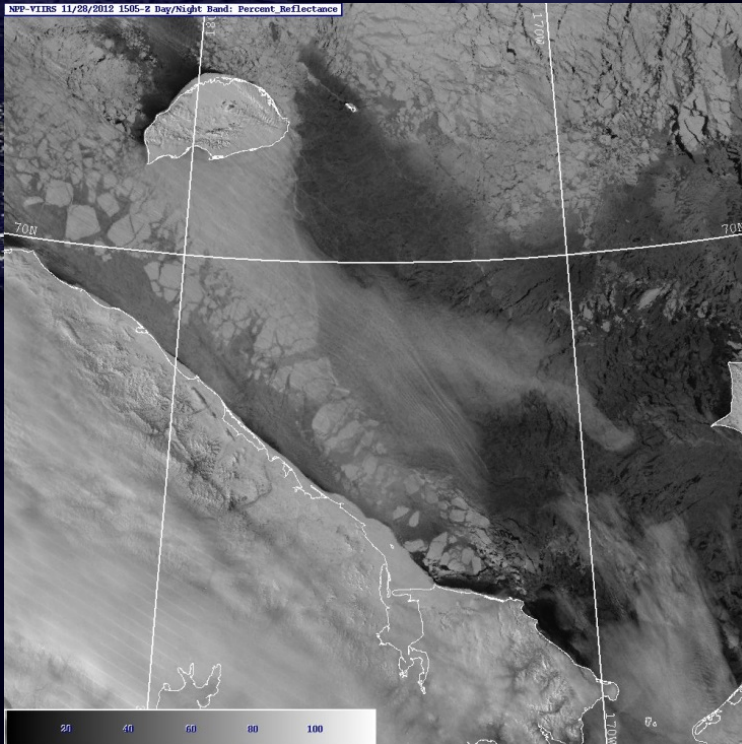


Launch Readiness Date	FY 2017 (JPSS-1)*; FY 2022 (JPSS-2)
Program Architecture	3 Satellites (SNPP, JPSS-1, JPSS-2)
Program Operational Life	FY 2013 – FY 2025
Program Life-cycle FY 2014 President's Budget	\$11.3 billion

\*Launch Readiness Date based on FY 2014 President's Budget Request



# Suomi NPP Day Night Band



Snow and Ice applications courtesy of Steve Miller (CIRA)



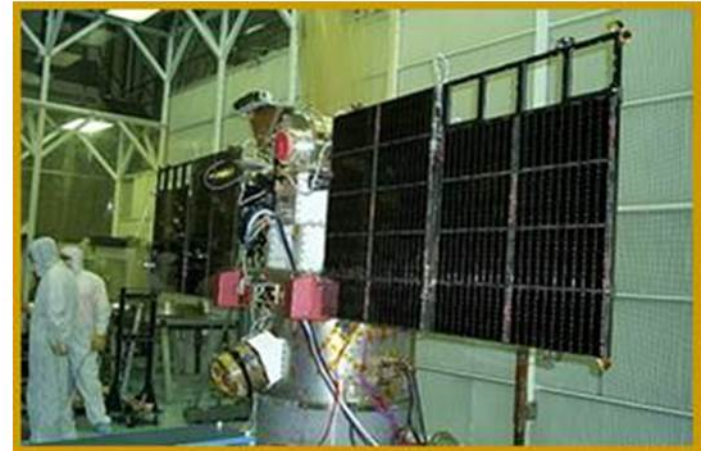
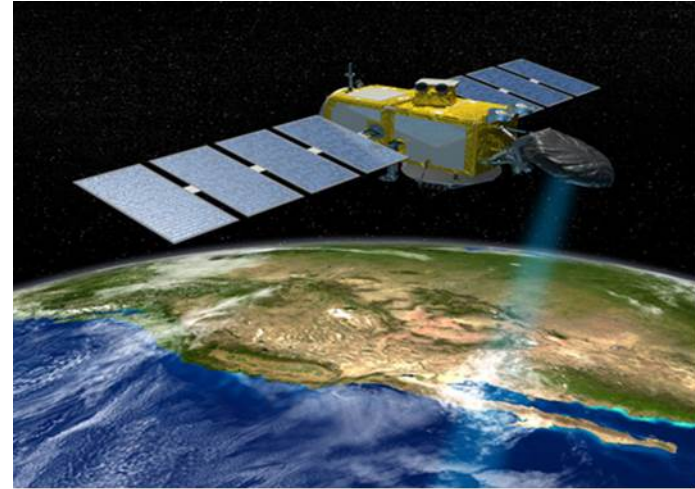
# Jason-3 and DSCOVR Updates

## Jason 3

- Jason-3 ensures the continuity of space-based altimetry (i.e., sea surface height) observations.
- NOAA instrument development is complete. Instruments integration to the spacecraft is planned for June 2013 at CNES's contractor Facilities in France
- Launch vehicle (Falcon 9) under contract to support launch NET Mar 2015

## DSCOVR

- DSCOVR provides continuity of solar wind measurements in support of advanced warnings of geomagnetic storms.
- DSCOVR spacecraft and instrument refurbishment underway at NASA GSFC in support of launch NET 1<sup>st</sup> Quarter FY 2015.
- DSCOVR launch services awarded Nov 2012 to SpaceX by USAF/SMC – launch vehicle will be a Falcon 9.



\*Launch Readiness Dates based on FY 2013 President's Budget



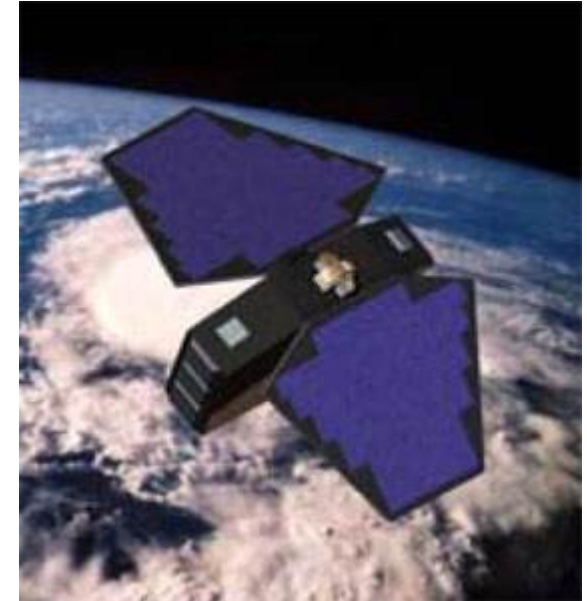
# COSMIC Updates

## ❖ COSMIC-1

- ❖ In partnership with Taiwan NSPO, COSMIC-1 provides real-time global atmospheric temperature and moisture data that are valuable in improving weather forecast accuracy
- ❖ NOAA requires continuation of GPS radio occultation (GPSRO) data that it receives from the COSMIC-1 mission, currently operating beyond the end of mission design life (2011)

## ❖ COSMIC-2

- ❖ US & Taiwan signed a MOU in May 2010 to jointly develop a satellite program to deliver next-generation global navigation satellite system (GNSS) radio occultation (RO) data to users around the world.
- ❖ USAF is on contract to provide the first six COSMIC-2 primary payloads and the launch vehicle for the first 6 COSMIC-2 satellites.
- ❖ Taiwan's NSPO's spacecraft contractor Surrey Satellite Technology Limited (SSTL) UK, held a preliminary design review (PDR) in June
- ❖ Ground architecture study underway that is examining the use of existing infrastructure domestically and internationally to capture the RO data from COSMIC-2 to meet operational data latencies.
  - ❖ Actively investigating international partnerships for ground station support





# NOAA Satellite and Information Service International Partnerships

- ✓ The U.S. National Space Policy recognizes the importance of international partnerships. International partnerships are crucial to obtaining continuity, providing global observations and filling gaps:
  - ✓ NOAA-EUMETSAT Joint Polar System agreements— polar orbiting satellite systems in complementary orbits, options for exchange of key instruments, sharing of data
  - ✓ NOAA, EUMETSAT, NASA, CNES and ESA agreements for Jason-2, Jason-3 ocean altimetry missions and discussion ongoing for Jason-CS (follow-on)
  - ✓ NOAA-JAXA agreement for JAXA Global Change Observation Missions
  - ✓ AIT-TECRO (Taiwan) for COSMIC-2 GPS radio-occultation mission
  - ✓ NOAA-EUMETSAT-JMA agreements for backup in case of failure of geostationary weather satellites
  - ✓ U.S., Canada, France, Russia International Cospas-SARSAT Programme agreements to support international search and rescue capability
  - ✓ NOAA-CNES- EUMETSAT agreements to exchange and operate Argos instruments on polar orbiting satellites
  - ✓ NOAA-NASA-ISRO agreements for Oceansat-2 scatterometer and ocean color
- ✓ NOAA also maintains a number of partnerships in CEOS through mechanisms like the Virtual Constellations

We continue to be mindful of our international partnerships in responding to our ongoing fiscal challenges

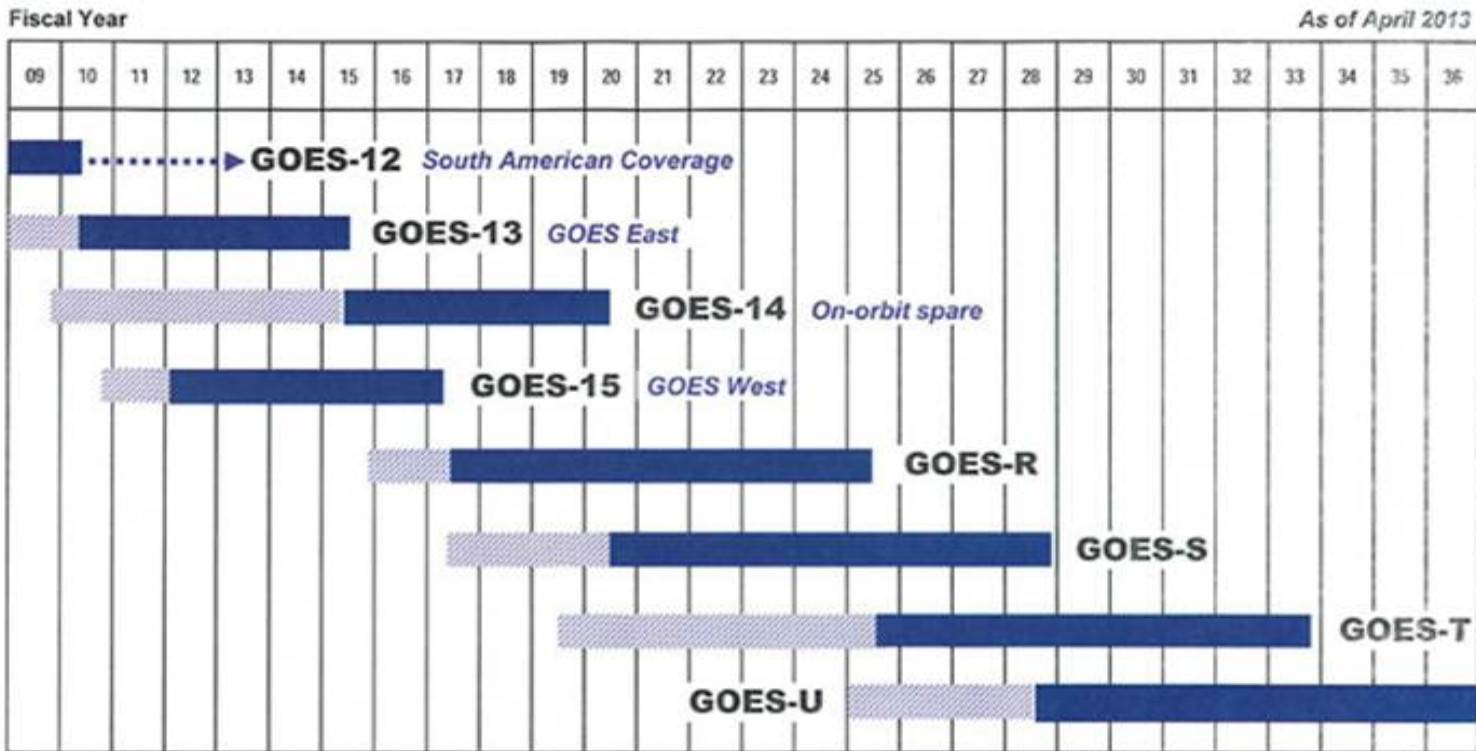


**BACK UP**

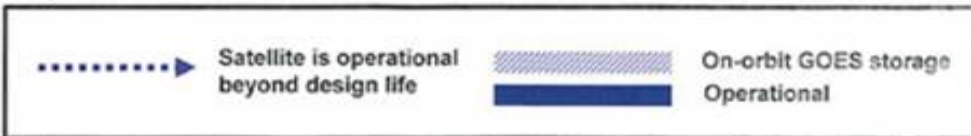




# Continuity of NOAA's Geostationary Satellite Program



Key



Approved: *Mary E. King*  
 Assistant Administrator for Satellite and Information Services





# Continuity of NOAA's Polar Satellite Program

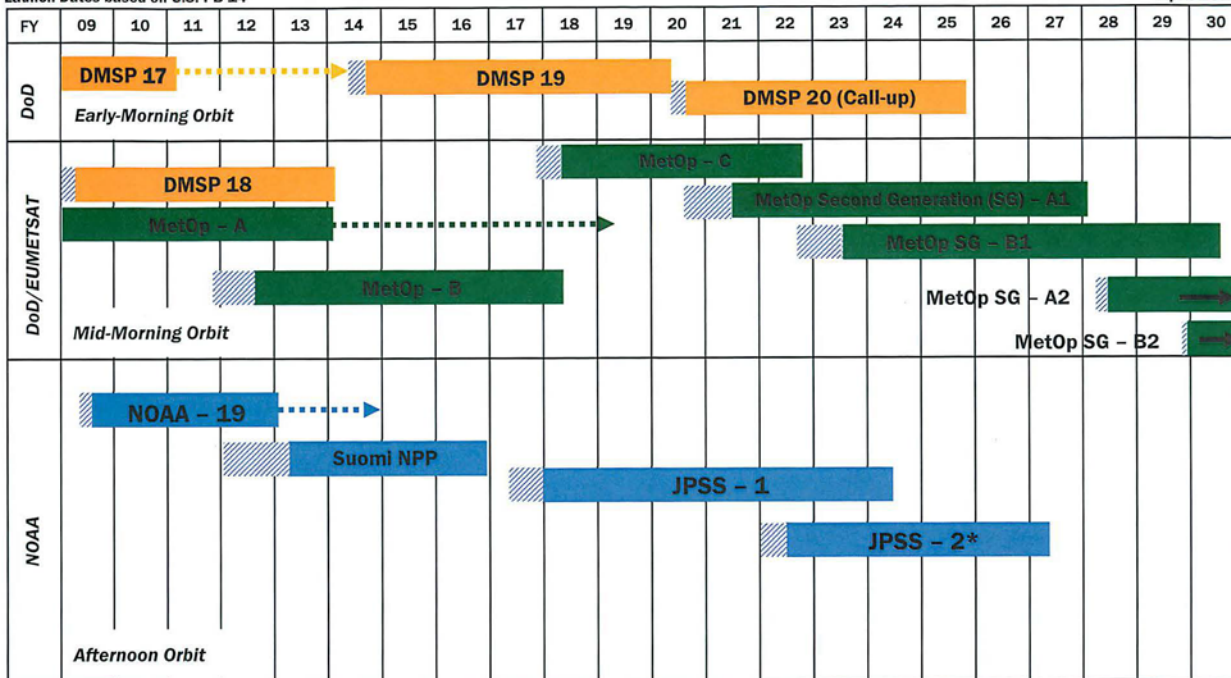


## Continuity of NOAA's Polar (Primary) Operational Weather Satellite Programs



Launch Dates based on U.S. PB 14

April 2013



Approved: Mary E. H.  
 Assistant Administrator for Satellite and Information Services

DMSP: Defense Meteorological Satellite Program  
 JPSS: Joint Polar Satellite Program  
 Suomi NPP: Suomi National Polar Partnership  
 Operations beyond design life  
 Post Launch Test  
 Operational  
 Operational beyond FY 2030

\* Program funding provided through FY2025. The follow-on program will provide funding for operations post FY2025.

