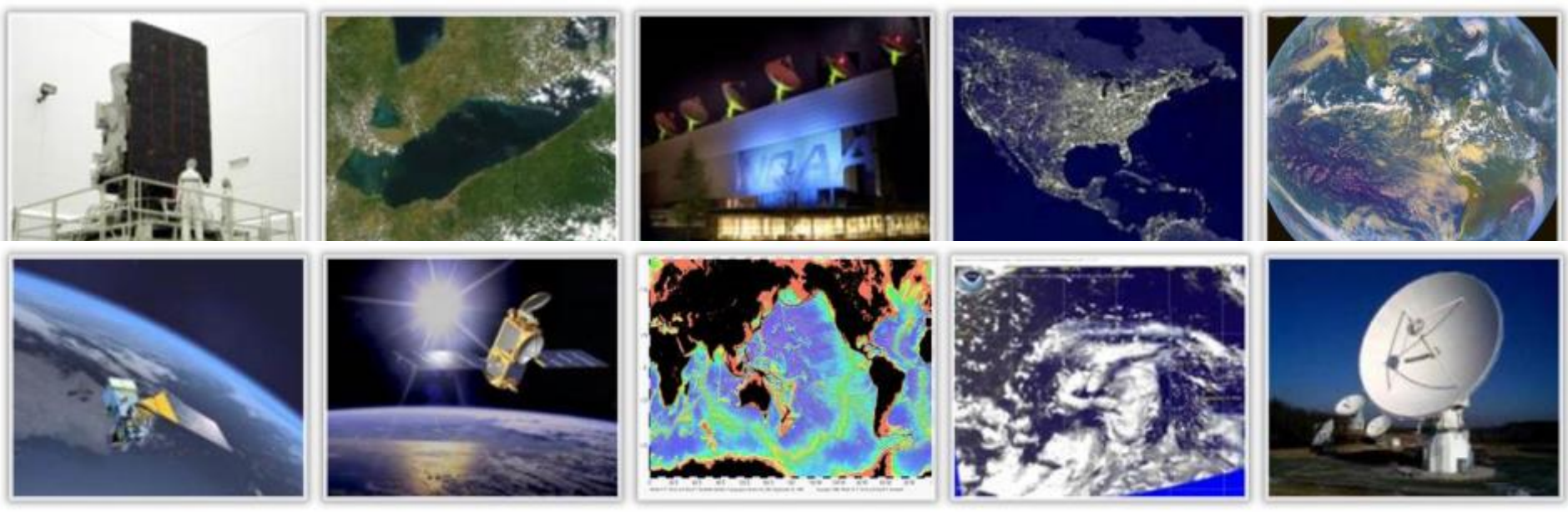


NOAA Satellite and Information Service

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



Status of Current and Future Systems (NOAA-PP-02)
Presentation to CGMS-42
May 2014



GOES-R Series Update

Synopsis

- ✔ GOES-R Series 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

Status

- ✔ Spacecraft development progressing well. Core propulsion module delivered in March. System module to ship in April.
- ✔ Successfully completed RF compatibility testing in April.
- ✔ Four (of six) instruments now complete and ready to begin I&T. GLM and Magnetometer to be completed by spring 2014.
- ✔ Ground system development is making good progress. Enterprise Infrastructure (155 racks) and antenna feeds installed at WCDAS, NSOF, & RBU.



GOES-R Launch Commitment Date	2 nd Quarter FY2016 (adjusted one quarter due to impact from FY13 Sequestration)
Program Architecture	4 Satellites (GOES-R, S, T & U) 10 year operational design life for each spacecraft
Program Operational Life	FY 2017 – FY 2036



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, ATMS, CrIS and VIIRS are being used operationally; Operations transferred to NSOF; S-NPP has been declared primary polar mission
- ✔ JPSS-1 instruments on schedule to be delivered in CY 2014; spacecraft assembly well underway; launch vehicle (Delta II) under contract
- ✔ TSIS Calibration Transfer Experiment (TCTE) launched on STP-3 in November 2013. Initial data has been collected and is being analyzed.



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 2015 President's Budget	\$11.3 billion

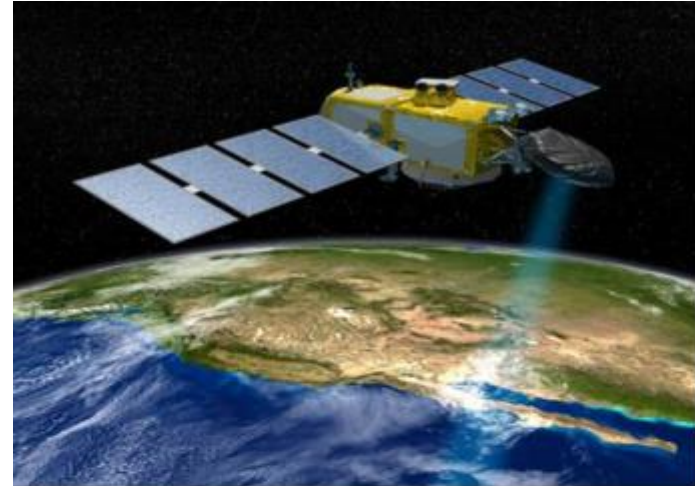
*Launch Readiness Date based on FY 2015 President's Budget Request



Jason-3 and DSCOVR Updates

✓ Jason 3

- ✓ Jason-3 ensures the continuity of space-based altimetry (i.e., sea surface height) observations
- ✓ Spacecraft integration and test are ongoing 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 in environmental test TVAC Thermal cycling completed.
- ✓ DSCOVR launch will be a January 2015 on a SpaceX Falcon 9.



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



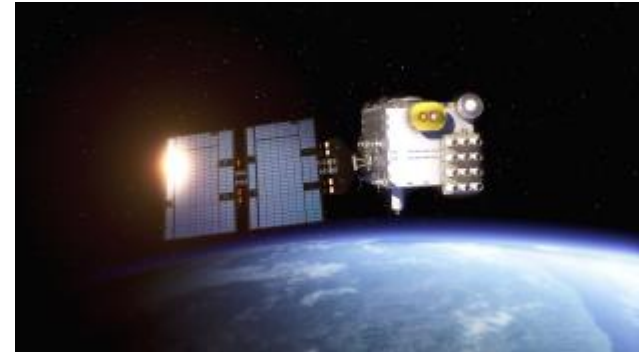
COSMIC Updates

❖ 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
- ❖ COSMIC-2 become an official NOAA program in 2014.





What's New and Going Forward

Strengthening NESDIS

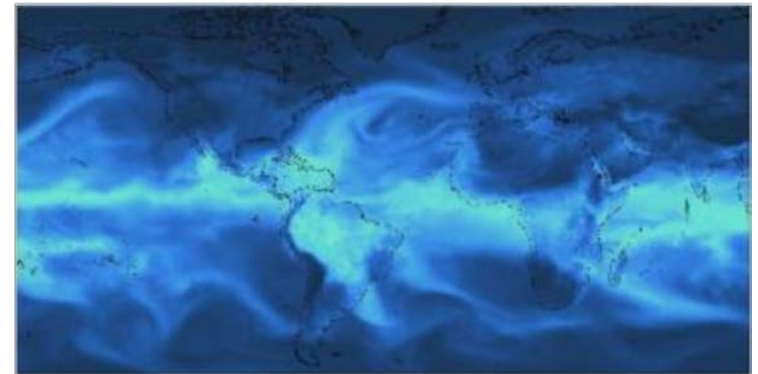
- ✔ Comprehensive reorganization plan to keep NESDIS meeting mission objectives in a cost-effective manner into coming decades.
- ✔ Adding advanced ground services and systems engineering capabilities
- ✔ Consolidation of world-class NOAA data centers
- ✔ Reorganization authority as part of FY 2015 budget process

Common Ground Services

- ✔ Developing common approaches to ground services—no more mission stovepipes
- ✔ Standardizing product distribution, access, archiving and compression

More robust systems architecture

- ✔ Systems engineering approach at the enterprise level
- ✔ Advanced system and technology planning for future programs
- ✔ Ensuring comprehensive engineering solutions



Atmospheric moisture data imagery from NOAA Visualization Laboratory's new NOAA View product.

Studies underway to enhance robustness of the operational Polar Weather Constellation beyond the JPSS program



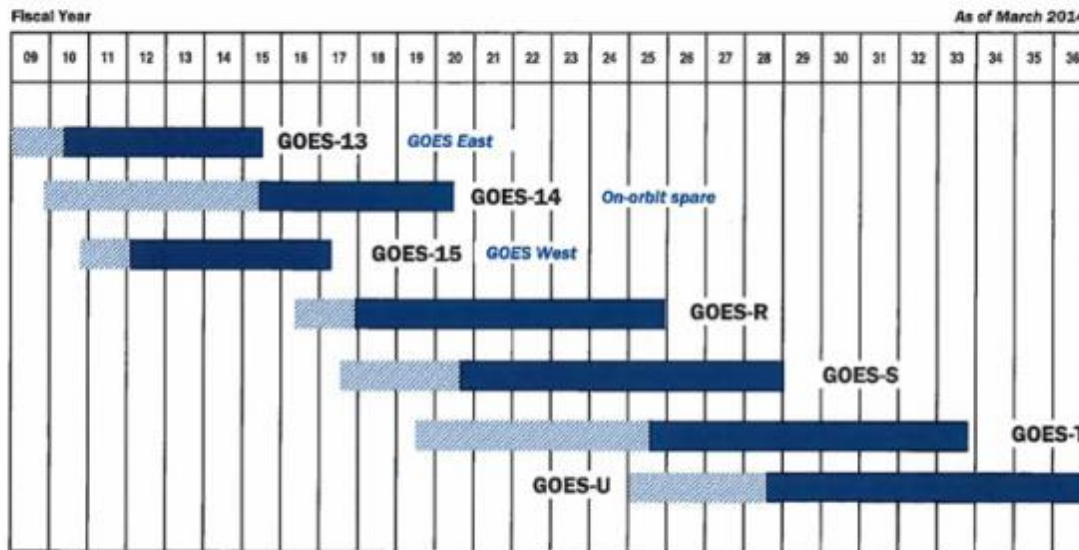
BACK UP



Continuity of NOAA's Geostationary Satellite Program



Continuity of GOES Mission



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

GOES: Geostationary Operational Environmental Satellite

- On-orbit storage
- Operational
- Operational beyond design life



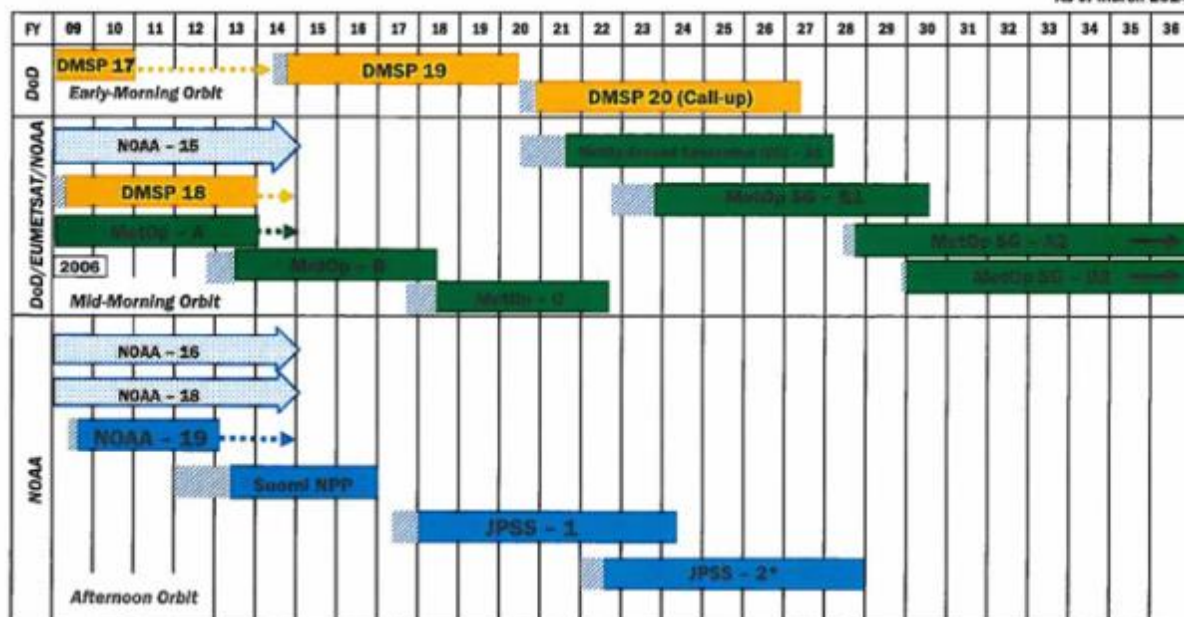
Continuity of NOAA's Polar Satellite Program



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



As of March 2024



Approved: *Mary E. Kujawa*
 Assistant Administrator for Satellite and Information Services
 * Program funding provided through FY2025. The follow-on program will provide funding for operations post 2025.

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

Post Launch Test
 Operational based on design life
 Secondary
 Operational beyond FY 2036
 In Extended Mission

Note: Previous chart dated Oct 2013 showed some extended operations past FY15, but this could be misleading because it was based on the expected life of the spacecraft bus and did not account for the expected life of the primary weather instruments, which is critical in determining any projected gap in weather monitoring. Extended operations are now reflected through the current FY, pending further coordination on assumptions of end-of-life criteria. Once the review is completed, NOAA will reissue flyout charts.





Geostationary Operational Environmental Satellite (GOES)

GOES-13	Primary East Satellite (75 degrees)
GOES-12	Decommissioned on August 16, 2013
GOES-14*	Storage/Space Weather Support
GOES-15	Operational West Satellite (135 degrees)

<http://www.oso.noaa.gov/goesstatus/>



Polar-orbiting Operational Environmental Satellites (POES)

NOAA-19 (2009)	PM Primary IJPS satellite	
✓ All instruments health		(HIRS, AMSUA1, AMSUA2, MHS, AVHRR, SBUV2, SEM)
Metop-B (2012)	AM Primary IJPS satellite	
✓ All instruments health		(HIRS, AMSUA1, AMSUA2, MHS, AVHRR, SEM)
Metop-A (2006)	AM Backup	HIRS, AMSUA1, AMSUA2, MHS, AVHRR, SBUV2, SEM
NOAA-18 (2005)	PM Secondary	HIRS, AMSUA1, AMSUA2, MHS, AVHRR, SBUV2, SEM
NOAA-17 (2002)	AM Backup	Decommissioned on 10 April, 2013
NOAA-16 (2000)	PM Secondary	HIRS, AMSUA1, AMSUA2, AMSUB, AVHRR, SBUV2, SEM
NOAA-15 (1998)	AM Secondary	HIRS, AMSUA1, AMSUA2, AMSUB, AVHRR, SEM

www.oso.noaa.gov/poesstatus

<http://www.star.nesdis.noaa.gov/icvts> (trending)

Status Key	
Status Color	Meaning
GREEN	= Operational (or capable of)
YELLOW	= Operational with limitations (or Standby)
ORANGE	= Operational with Degraded Performance
RED	= Not Operational
BLUE	= Functional but Turned Off
BLANK	= No Status Reported

