

A satellite image of Earth from space, showing a portion of the Western Hemisphere. The image displays the Americas, the Atlantic Ocean, and parts of Europe and Africa. A blue horizontal bar is positioned above the main title.

NOAA Satellite and Information Service

Dr. Thomas Burns, Deputy Assistant Administrator for Systems

CESAS Meeting
April 1, 2015

NOAA Satellite and Information Service






Outline

- NESDIS Strategic Direction
 - Mission
 - Established Platforms
 - What is ahead?
- FY 2016 Budget Overview
- Program Highlights
- FY 2015 Upcoming Activities



NESDIS Mission



Our mission is to deliver accurate, timely, and reliable satellite observations and integrated products and to provide long-term stewardship for global environmental data in support of the NOAA mission.

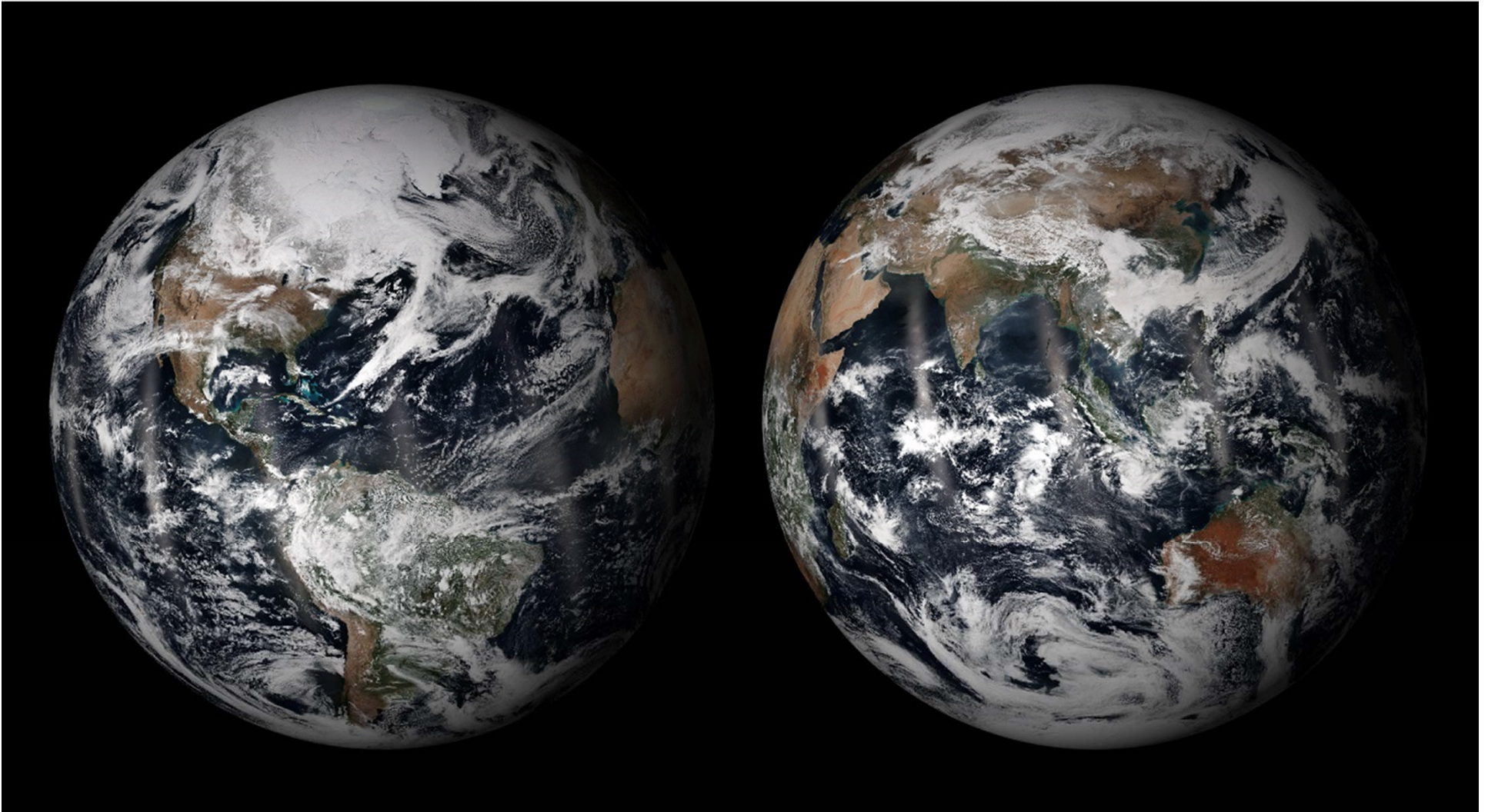


NOAA's Established LEO and GEO Platforms

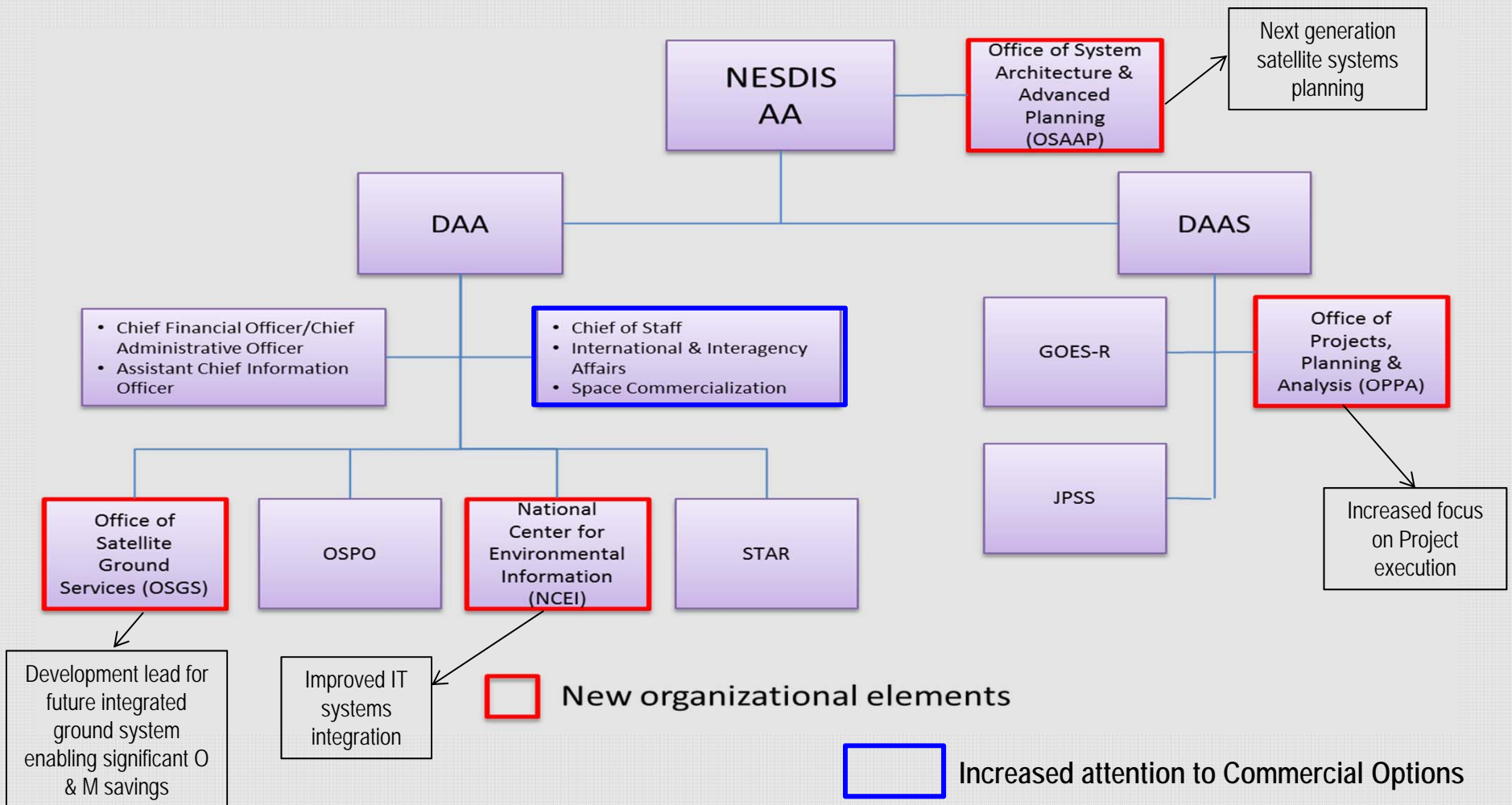
- From Low Earth Orbit
 - The five (5) satellite combination of JPSS + Polar Follow-On (PFO) will establish NOAA's LEO coverage in the afternoon orbit well into the 2030s
 - Cooperative agreements with EUMETSAT and DMSP (near term) establishes the global polar constellation
- From Geostationary Orbit
 - The GOES-R through -U series, following on the GOES-N/O/P series, provides the US continental coverage well into the 2030s
 - Cooperative agreements with EUMETSAT and JMA establishes the global geostationary constellation
- Together, these platforms have and will form the backbone of our observing network for the coming decades
 - To which we will add measurements from other sources to improve our support across NOAA's mission areas



What is ahead?

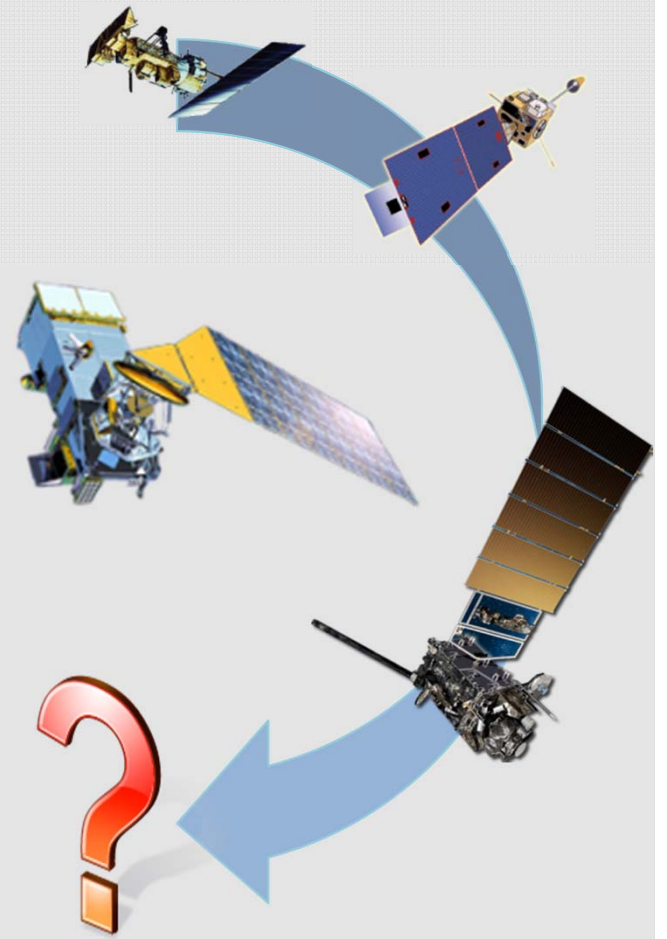


NESDIS Reorganization Supports A New Way of Doing Business



Beyond Two Orbits

- NOAA is rethinking “polar satellite” LEO perspective...
 - Cosmic-2 RO mission, 1st six satellites launching in 2016, 2nd six targeted for FY2019
 - Earth Observing Nanosatellite - Microwave (EON-MW) as an alternative microwave sounding approach
- Will be reviewing how we collect GEO in the future, to be more than GOES platforms
 - Will be engaged in analyzing alternative architectures, including hosted payload opportunities
- Increasingly, commercial possibilities may emerge to supply some of NOAA's data needs





Enterprise Ground System

Ground Enterprise Architecture Services (GEARS)

Observatory Management	Defined interfaces to ground systems
Product Management	Generate products
	Publish products
	Collect product information
	Collect processing information
Enterprise Management	Workflow management
	Repository management
	Access service
	Repository management services
Infrastructure	Infrastructure as a Service
Developer and Maintenance Tools Suite	

Ground Enterprise Value Added

- 
- Greater efficiency and lower costs through common services and logistics
 - Improved utilization by sharing resources across all mission needs
 - Faster, more economical algorithm and product development and deployment
 - Increased interoperability and simpler incorporation of new assets
 - More flexible technology insertion
 - Requirements-based end-to-end systems engineering for better risk management



NOAA's Ongoing Commercial Discussions

- NOAA Commercial Space Policy
 - Policy to guide the use of space-based commercial data and services to meet NOAA requirements
 - In review in the Administration, expected release 2015
- NESDIS Commercial Solutions Assessment Process
 - Defines NESDIS process for engaging with the commercial sector to leverage commercial solutions for space-based earth observation requirements
 - Under development, expected release 2015
- NESDIS workshop: April 28, College Park
 - Focus is consideration of commercial data to address NOAA's priority data needs
 - Opportunity to give your input on the NESDIS process of engagement with the commercial sector
 - http://www.nesdis.noaa.gov/April_workshop/



FY2016 Budget Overview

- Includes funding for the Polar Follow On, Space Weather Follow On, and COSMIC-2 second set of sensors
- Accommodates continued operations and planning for additional A-DCS and SARSAT instruments
- Enables continued development of systems engineering and enterprise ground capabilities supporting OSGS, OSAAP, OPPA
- Provides for a clarification of NOAA and NASA Earth observation satellite responsibilities
 - "The Budget supports NOAA's broad environmental mission and redefines NASA and NOAA Earth-observing satellite responsibilities whereby NOAA will be responsible only for satellite missions which contribute directly to NOAA's ability to issue weather and space weather forecasts and warnings to protect life and property."





Program Highlights: JPSS

S-NPP Status

- S-NPP continues to meet all requirements as the primary weather satellite in the afternoon polar orbit

JPSS-1 Status

- Of the 5 JPSS-1 instruments, three (3) are integrated (CERES, OMPS, VIIRS), one (1) is delivered (CrIS), and one (1) is under repair and refurbishment (ATMS)
- JPSS-1 Mission System Integration Review successfully completed February 25-27, 2015
- JPSS-1 Mission Key Decision Point D (KDP-D), upcoming Q3 FY 2015

JPSS-2 Status

- All four (4) JPSS-2 instruments are progressing in parts and sub-assembly build
- JPSS-2 spacecraft contract awarded March 2015

Near-term Focus

- Ensuring timely ATMS integration

Launch Commitment Dates

- JPSS-1: Q2 FY 2017
- JPSS-2: Q2 FY 2022



Program Highlights: PFO

Proposed in FY 2016 President's Budget to continue building on-orbit robustness to maintain observations in the afternoon polar orbit

- Begins procurement and development of JPSS-3 and -4 instruments
- Allows for a JPSS-3 sounder-only contingency mission, if needed
- Partially mitigates the risk of a gap between JPSS-1 and -2 using an Earth Observing Nanosatellite-Microwave (EON-MW)

Status

- Sole Source procurement process for instruments underway; planning to be ready to sign full instrument contracts in Q1 FY 2016, pending appropriations authority
- Fixed Price Options for PFO J-3/J-4 buses included in J-2 bus competition

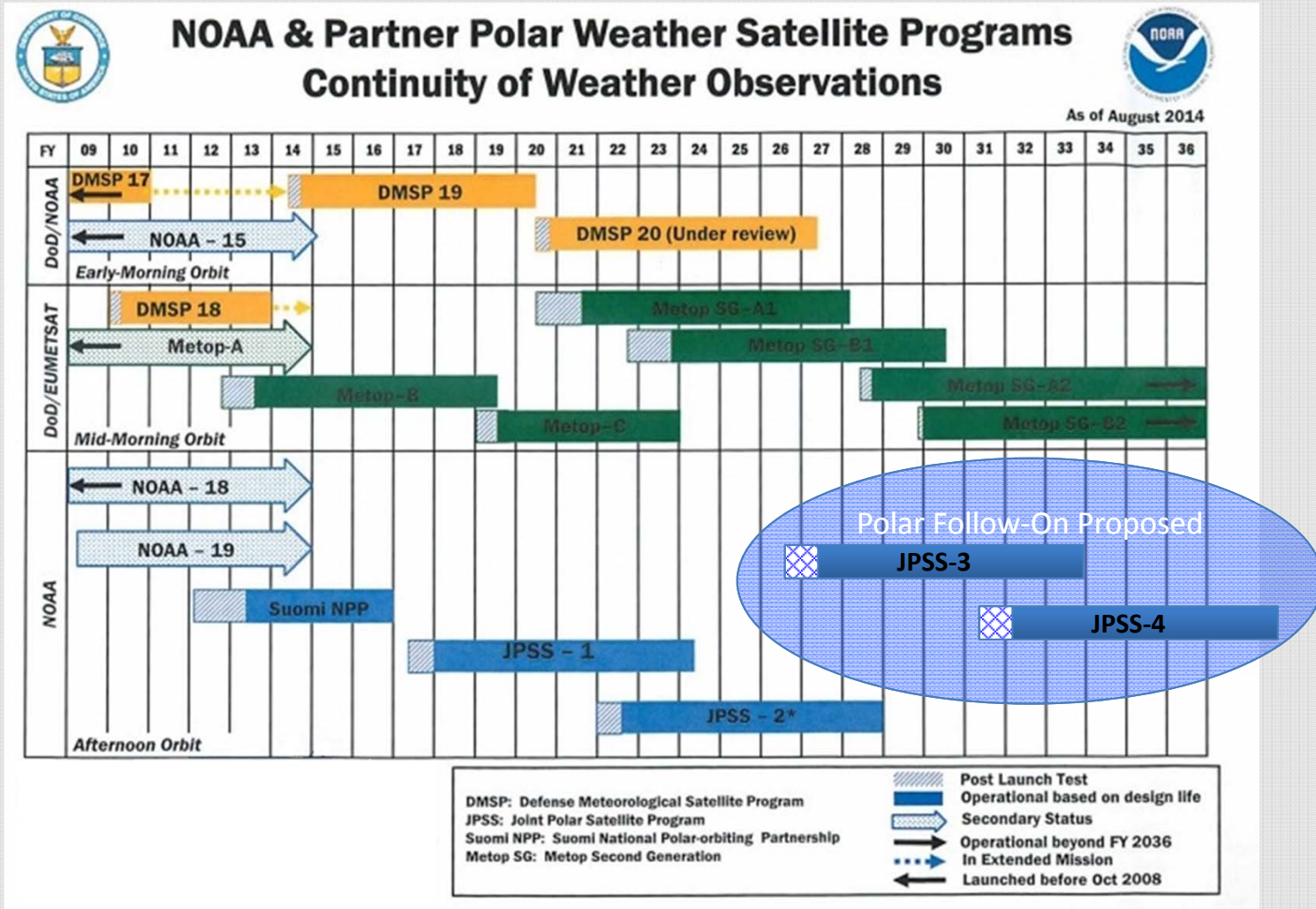
Near-term Focus

- Working with Congress to clarify FY16 PB request

Target Launch Readiness Dates

- JPSS-3 Contingency: Q3 FY 2023
- JPSS-3 Full Mission: Q2 FY 2024
- JPSS-4: Q3 FY 2026

Polar Flyout Chart





Program Highlights: GOES-R

GOES-R Status

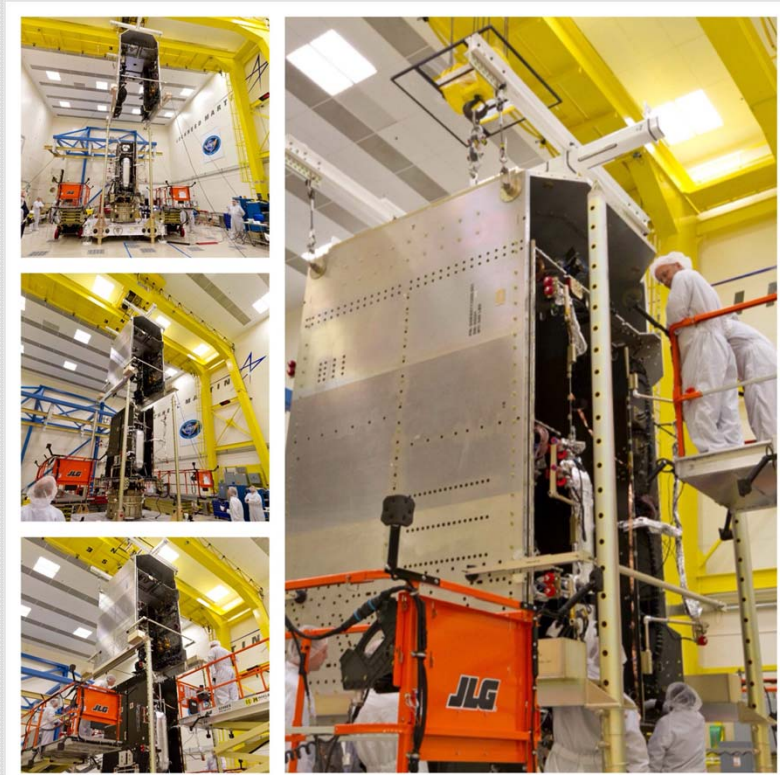
- All instruments mechanically integrated to the spacecraft
- Preparations underway to begin environmental testing in spring

Near-term Focus

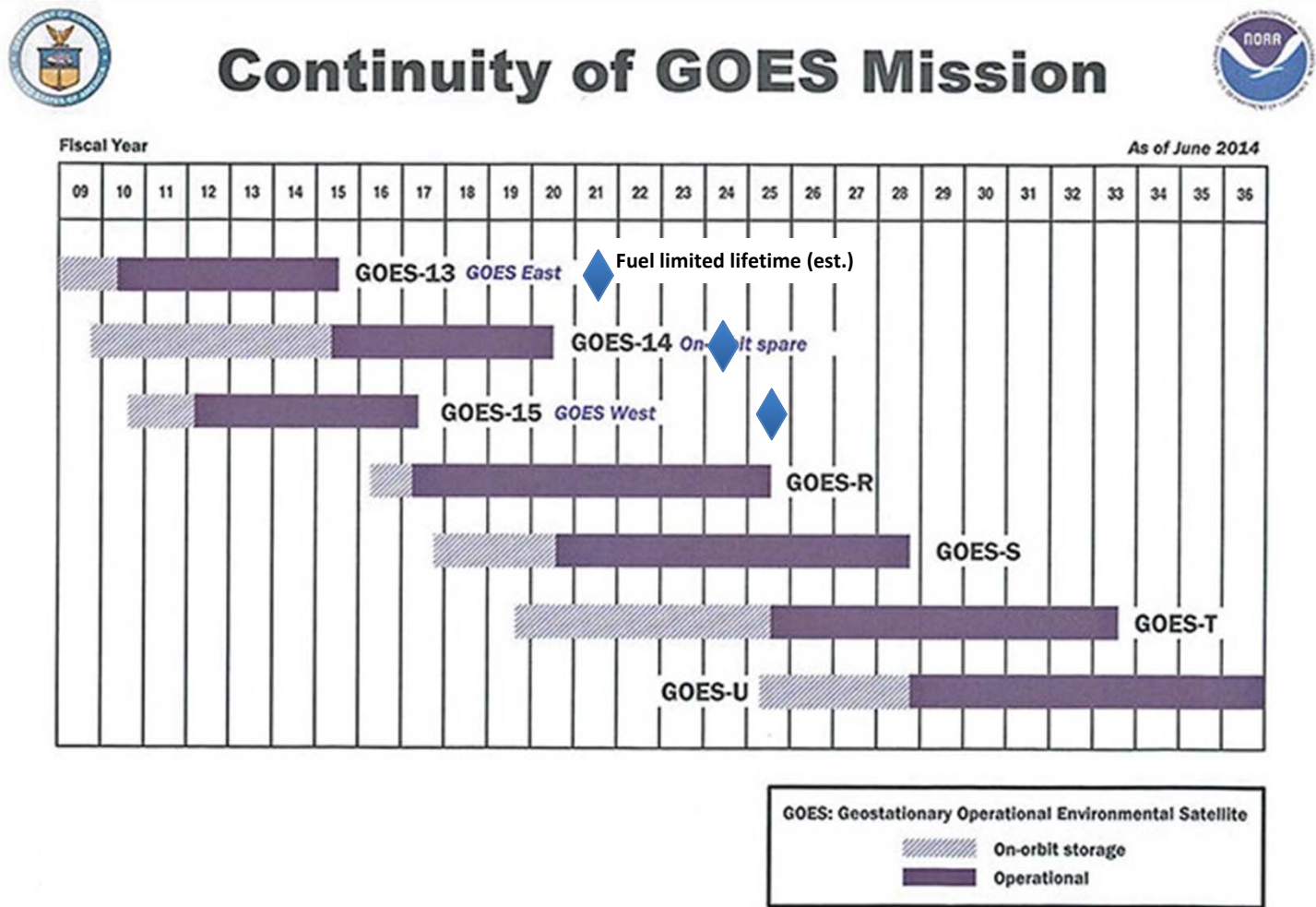
- Execution through integration and testing phase

Launch Commitment Dates

- GOES-R: Q2 FY 2016
- GOES-S: Q3 FY 2017
- GOES-T: Q3 FY 2019
- GOES-U: Q1 FY 2025



GOES Flyout Chart



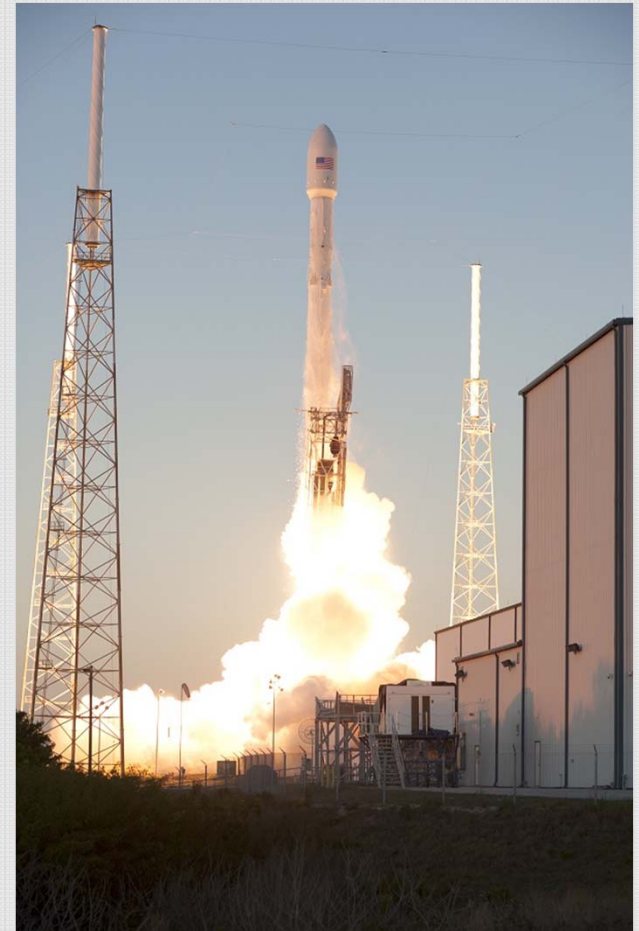
Program Highlights: DSCOVR

Status

- Successful launch February 11, 2015
- Spacecraft performing well; all 6 instruments activated; checkout proceeding nominally
- DSCOVR is over half way to L1, where it will arrive in June
- Operational handover from NASA to NOAA at L+150
- FY 2016 PB funds analysis and initial development of a Space Weather Follow On to ensure data continuity beyond DSCOVR

Near-term Focus

- Preparing for operational handover



Program Highlights: Jason-3

Status

- Spacecraft is completely integrated and tested, residing at Thales in Cannes, France, under sponsorship of CNES
- New planned launch date defined, agreed to by EUMETSAT and CNES
- Satellite Pre-Ship Review in May, satellite shipped to VAFB in June
- Per the FY 2016 PB, future altimetry missions will be the responsibility of NASA

Near-term Focus

- Launch vehicle

Planned Launch Date

- July 22, 2015



© CNES/THALES ALENIA SPACE 2014



Program Highlights: COSMIC-2/GNSS RO

Status

- Spacecraft integration and test of first of six spacecraft completed at Surrey Satellite Technology Ltd. in UK
- Face-to-face discussions with potential commercial RO providers, identifying possible cooperative approaches
- The FY 2016 PB funds continued development of the COSMIC-2 ground system and supports procurement of the second set of six (COSMIC-2B) RO sensors

Near-term Focus

- Securing funding for COSMIC-2B launch

Launch Commitment Dates

- COSMIC-2A: Q3 FY 2016
- COSMIC-2B: FY 2019





Program Highlights: SIDAR

Status

- \$7.3M in FY 2015 will begin work to accommodate TSIS on ISS and continue HoPS studies for ADCS and SARSAT host
- Per the FY 2016 PB, NASA will provide the solar irradiance measurements and will be responsible for the launch and operation of TSIS-1 beginning in FY 2016.

Near-term Focus

- Delivery of the ADCS and SARSAT to space before the existing assets in the afternoon orbit fail

Launch Commitment Date

- TSIS instrument funded to support FY 2017 launch readiness

What's Ahead in 2015

- Keep GOES-R and JPSS on track for launches in 2016 and 2017
- Integrate PFO into the polar program
- Turn DSCOVR over to operations
- Jason-3 (Ocean Surface Topography Mission) launch
- National Academies Decadal Survey kick-off
- Release NOAA Commercial Space Policy and NESDIS Commercial Solutions Assessment Process
- Host workshop as we develop our process for assessing commercial solutions
- Define the NOAA-NASA relationship as proposed in the FY2016 PB
- Enter next phase of work on next-generation architecture studies





Questions?

