FY 2014 NOAA Satellites Budget Comparison

President's FY 2013 Budget Request; NOAA appropriations within the FY 2014 Omnibus Appropriations Bill (H.R. 3547)
Update 2

This document provides an overview of the President's FY 2014 NOAA Budget request for satellites in comparison with the FY 2014 Omnibus Appropriations bill (H.R. 3547).

NOAA Satellites – FY 2014 Funding[1]

Budget Authority, $ in million	President's FY 2014 NOAA Budget Request	FY 2014 Omnibus Appropriations bill (H.R. 3547)
Satellites		
Geostationary Systems – N Series	26.948	26.321
Geostationary Systems – R Series	954.800	954.761
Polar Orbiting Systems - POES	29.415	28.788
Altimetry Mission - Jason-3	37.000	18.500
Polar Orbiting Systems - Joint Polar Satellite System	824.000	824.000
Polar Free Flyer (PFF)	62.000	0.000
Deep Space Climate Observatory (DSCOVR)	23.675	23.675
COSMIC-2	0.000	2.000
EOS& Advanced Polar Data Processing, Distribution and Archiving Systems	0.990	0.900
Critical Single Point of Failure (CIP)	2.772	2.772
Comprehensive Large Array Data Stewardship System (CLASS)	6.476	6.476
NPOESS Preparatory Data Exploitation	4.445	3.455
Satellite CDA Facility	2.228	2.228
Total	**1,974.749**	**1,893.876**

[1]Please note that the numbers used for this table reflect the numbers explicitly called out in the relevant document. In some cases, the sum of the budgets for each category does not match the total funding level given in the document.

Overall Congressional Action

FY 2014 Omnibus Appropriations Bill (H.R. 3547):

- The Joint Explanatory Statement notes that the conferees are "aware that a recent analysis by the Independent Review Team found that NOAA has made significant progress and improvements in overall program management and interagency collaboration and that the GOES-R and JPSS programs are proceeding well and being effectively executed." With that said, "this assessment also concludes, along with prior assessments made by the Commerce Inspector General and the Government Accountability Office, that critical issues remain to be addressed, namely JPSS gap mitigation and program fragility." Therefore, the conferees "expect NOAA to present a strategy with the fiscal year 2015 budget that fully addresses both the short- and long-term challenges associated with the gap and fragility of the program." The strategy is required to "examine the proposed polar free flyer mission, which the agreement does not fund due to fiscal constraints." Further, NOAA is "expected to focus on the weather mission and to better address the weather gap in its fiscal year 2015 budget." Also, "NOAA may use JPSS funds included in the [Omnibus Act] and prior appropriations for the procurement of additional spare instruments and spacecraft as necessary to ensure the continuity of polar observations," but NOAA is required to "consult with the Committees on Appropriations prior to beginning this effort." Finally, NOAA is required to "continue to provide quarterly updates to the Committees on the status of its weather satellite portfolio."

Geostationary Operational Environmental Satellite –N (GOES-N)

Budget Authority, $ in million	President's FY 2014 NOAA Budget Request	FY 2014 Omnibus Appropriations bill (H.R. 3547)
GOES-N	26.948	26.321
Total	**26.948**	**26.321**

Mission

The Geostationary Operational Environmental Satellite –N (GOES-N) Series program includes GOES-13, GOES-14, and GOES-15 satellites, launched in May 2006, June 2009, and March 2010, respectively. The GOES-N satellites provide nearly continuous imaging and sounding, which allow forecasters to better measure changes in atmospheric temperature and moisture distributions and, hence, increase the accuracy of their forecasts. GOES-N environmental information is used for a host of applications, including weather monitoring and prediction models, ocean temperatures and moisture locations, climate studies, cryosphere (ice, snow, glaciers) detection and extent, land temperatures and crop conditions, and hazards detection.

President's FY 2014 NOAA Budget Request

- In FY 2014, NOAA requested $26 million for GOES-N satellite programs, $2 million below the President's FY 2013 request.

FY 2014 funds will be used to support:

- Continued operational support and maintenance of the GOES ground systems and on-orbit assets.

Congressional Action

FY 2014 Omnibus Appropriations Bill (H.R. 3547):

- The FY 14 Omnibus Appropriations bill appropriates $26.3 million for GOES-N in FY 2014, $630 thousand below the President's FY 2014 request.

Geostationary Operational Environmental Satellite –R (GOES-R)

Budget Authority, $ in million	President's FY 2014 NOAA Budget Request	FY 2014 Omnibus Appropriations bill (H.R. 3547)
GOES-R	954.761	954.761
Total	**954.761**	**954.761**

Mission

The Geostationary Operational Environmental Satellite –R (GOES-R) Series is a collaborative development and acquisition effort between NOAA and NASA to develop, deploy and operate the next-generation geostationary environmental satellite series that will provide timely and accurate weather forecasts, severe storm tracking, space weather monitoring, and meteorological research. The GOES-R series will incorporate new instruments with increased capability over the incumbent GOES-N series and will improve its ground system, which will provide better data products for National Weather Service (NWS) and other NOAA stakeholders.

President's FY 2014 NOAA Budget Request

- In FY 2014, NOAA requested $954 million for GOES-R, $152 million above the President's FY 2013 request.

FY 2014 funds will be used to support:

- Continued development of GOES-R spacecraft and ground system. The program will complete the System Integration Review (SIR), Mission Operations Review (MOR), and Pre-Environmental Review (PER) for the GOES-R System.
- Begin GOES-S and –T instrument deliveries.
- Continuation of instruments already under contract: Advanced Baseline Imager (ABI), Solar Ultra Violet Imager (SUVI), Extreme Ultra Violet Sensor/X-Ray Sensor Irradiance Sensor (EXIS), Space Environmental In-Situ Suite (SEISS), and Geostationary Lightning Mapper (GLM). Initial Flight Models for each instrument will be delivered in FY 2013 or early FY 2014, and will be prepared for integration with the spacecraft in FY 2014.
- Continuation of the ground system integration and test activities including the new antennas.
- Continued development of GOES-T & U spacecraft and instruments.

Congressional Action

FY 2014 Omnibus Appropriations Bill (H.R. 3547):

- The FY 14 Omnibus Appropriations bill appropriates $954 million for GOES-R in FY 2014 to fully fund the President's FY 2014 request.

Polar-Orbiting Operational Environmental Satellite (POES)

Budget Authority, $ in million	President's FY 2014 NOAA Budget Request	FY 2014 Omnibus Appropriations bill (H.R. 3547)
POES	29.415	28.788
Total	**29.415**	**28.788**

Mission

The Polar-orbiting Operational Environmental Satellite Programs (POES) is NOAA's current operational polar satellite system, with the last satellite in the series—NOAA-19—launched on February 6, 2009. NOAA has the responsibility to provide forecasts and warnings for the U.S., its territories, adjacent waters and ocean area; for the protection of life and property and the enhancement of the national economy. This mission requires an enduring capability to acquire global data from satellites, and the capability to process and disseminate environmental data on an extensive spatial range within a variety of time scales to central processing centers and distributed direct users. These data include, but are not limited to global imagery; cloud and precipitation parameters; atmospheric profiles of temperature, moisture, wind, aerosols and ozone; surface conditions concerning ice, snow and vegetation; ocean parameters of sea temperature, color and state; and solar and in-situ space environment conditions.

President's FY 2014 NOAA Budget Request

- In FY 2014, NOAA requested $29 million for POES satellite programs, $3 million below the President's FY 2013 request.

FY 2014 funds will be used to support:

- Satellite and instrument anomaly support to the on-orbit POES satellites.
- Polar Data Product Development.
- Maintaining the ground system for operations.
- Procurement, maintenance and testing of the U.S. instruments on the European Meteorological Operational (MetOp) satellites.

Congressional Action

FY 2014 Omnibus Appropriations Bill (H.R. 3547):

- The FY 14 Omnibus Appropriations bill appropriates $28.7 million for POES in FY 2014, $627 thousand below the President's FY 2014 request.

Jason-3

Budget Authority, $ in million	President's FY 2014 NOAA Budget Request	FY 2014 Omnibus Appropriations bill (H.R. 3547)
Jason-3	37.000	18.500
Total	**37.000**	**18.500**

Mission

The Jason-3 satellite is planned as a follow-on for Jason-2. Jason-3 is a joint satellite altimetry mission between NOAA, the European Organization for the Exploitation of Meteorological Satellites (EUMETSAT), and the Centre National d'Etudes Spatiales (CNES), the French Space Agency. Jason-3 will provide continuity of precise measurement of sea surface heights for applications in ocean climatology and ocean weather. NOAA is providing a microwave radiometer, precision orbit determination components [e.g., GPS, Laser Retroreflector Array (LRA)], launch services, ground system and operations, and associated engineering services for Jason-3. EUMETSAT and CNES are providing the spacecraft, altimeter, additional precision orbit components, ground system and operations.

President's FY 2014 NOAA Budget Request

- In FY 2014, NOAA requested $37 million for Jason-3, $7 million above the President's FY 013 request.

FY 2014 funds will be used to support:

- Complete development and integration activities of the U.S. instruments, including a microwave radiometer, and the precision orbit determination components.
- Continue to support launch services, launch vehicle procurement and associated engineering services.

Congressional Action

FY 2014 Omnibus Appropriations Bill (H.R. 3547):

- The FY 14 Omnibus Appropriations bill appropriates $18.5 million for Jason-3 in FY 2014, $18.5 million below the President's FY 2014 request.

Joint Polar Satellite System (JPSS)

Budget Authority, $ in million	President's FY 2014 NOAA Budget Request	FY 2014 Omnibus Appropriations bill (H.R. 3547)
Joint Polar Satellite System	824.000	824.000
Total	**824.000**	**824.000**

Mission

The Joint Polar Satellite System (JPSS) is the United States' next generation polar-orbiting operational environmental satellite system. JPSS is a collaborative program between the National Oceanic and Atmospheric Administration (NOAA) and its acquisition agent—National Aeronautics and Space Administration (NASA). This interagency effort is the latest generation of U.S. polar-orbiting, non-geosynchronous environmental satellites. Established in February 2010 in the President's Fiscal Year 2011 budget request as the civilian successor to the restructured National Polar-orbiting Operational Environmental Satellite System (NPOESS), JPSS will provide continuity of critical, global Earth observations—including oceans, clouds, ozone, snow, ice, vegetation and atmosphere through 2028. The global environmental data from JPSS will be fed into Numerical Weather Prediction (NWP) models for forecasts and used for climate monitoring.

President's FY 2014 Budget Request

- In FY 2014, NOAA requested $824 million for JPSS, $92 million below the President's FY 2013 request.

FY 2014 funds will be used to support:

- Completion and integration of JPSS-1 spacecraft bus; an integrated independent review of the spacecraft; and preparations for procurement of the JPSS-2 spacecraft budget.
- Completion and delivery of Advanced Technology Microwave Sounder (ATMS), Cross-track Infrared Sounder (CrIS), Ozone Mapping Profiler Suite-Nadir (OMPS-N) and Visible/Infrared Imager/Radiometer Suite (VIIRS) instruments; removal of Clouds and Earth's Radiant Energy System (CERES) FM-6 from storage and execution of environmental and performance testing on all instruments by the Flight Vehicle Test Suite which supports verification of software products, system requirements validation, mission rehearsal and operations and training and anomaly investigations during testing phase; beginning the development of instruments of JPSS-2.
- Continued ground system enhancements to operationalize JPSS-1, and upgrades of IT in Fairmont, West Virginia to the NOAA Satellite Operations Facility (NSOF) in Suitland, Maryland and sustainment of S-NPP.
- Continue with planning of launch vehicle and launch services for JPSS-1 launch in 2017.

Congressional Action

FY 2014 Omnibus Appropriations Bill (H.R. 3547):

- The FY 14 Omnibus Appropriations bill appropriates $824 million for JPSS in FY 2014 to fully fund the President's FY 2014 request.

Polar Free-Flyer-1

Budget Authority, $ in million	President's FY 2014 NOAA Budget Request	FY 2014 Omnibus Appropriations bill (H.R. 3547)
Polar Free-Flyer-1	62.000	0.000
Total	**62.000**	**0.000**

Mission

The Polar Free Flyer (PFF) mission consists of the Free Flyer-1 (FF-1) spacecraft, the accommodation of the Total Solar Irradiance Sensor-1 (TSIS-1), Advanced Data Collection System-1 (ADCS-1), and Search and Rescue Satellite Aided Tracking-1 (SARSAT-1) instruments, along with operations and sustainment, and support of launch services. PFF also provides the accommodation of Advanced Data Collection System-2 (ADCS-2) on a to-be-determined spacecraft.

The ground system requirements for PFF are supported in the JPSS core weather-satellite mission. The PFF mission will address NOAA's requirements to provide global environmental data, such as variability in the Sun's total output, as well as search and rescue, direct read-out data transmission, and data collection services.

NOAA will continue its partnership with NASA to implement the PFF mission, using its space acquisition expertise and acquisition authority to develop the spacecraft, to test and integrate the instruments, and to acquire and execute launch services.

The PFF FY 2014 base was created through a technical transfer of funds from the JPSS program, which has been refocused to a core weather-based satellite mission. The lifecycle cost of JPSS has been reduced, and no longer includes the costs that were planned for the activities now covered in the PFF PPA.

<u>FY 2014 funds will be used to support:</u>

- Execute Preliminary Design Review, Key Decision Point-C; Critical Design Review, Spacecraft System Requirement Review; acceptance of completed instruments on site; execute TSIS-1 testing; and continue planning and coordination for ride share and launch services for FF-1.

Congressional Action

<u>FY 2014 Omnibus Appropriations Bill (H.R. 3547):</u>

- The Omnibus does not fund the Polar Free-Flyer mission "due to fiscal constraints."

Deep Space Climate Observatory (DSCOVR)

Budget Authority, $ in million	President's FY 2014 NOAA Budget Request	FY 2014 Omnibus Appropriations bill (H.R. 3547)
Deep Space Climate Observatory	23.675	23.675
Total	**23.675**	**23.675**

Mission

Refurbishment of NASA's Deep Space Climate Observatory (DSCOVR) satellite will allow NOAA to maintain continuity of solar wind data used for geomagnetic storm warnings. NOAA will manage the DSCOVR mission as an operational sentinel to give notice of approaching solar storms with potentially calamitous consequences for terrestrial electrical grids, communications, GPS navigation, air travel, satellite operations and human spaceflight. This program is being conducted in partnership with the U.S. Air Force, which will provide the launch vehicle and services.

President's FY 2014 NOAA Budget Request

- In FY 2014, NOAA requested $23 million for DSCOVR, $1 million above the President's FY 2013 request.

FY 2014 funds will be used to support:

- Complete the development of the data processing and archive systems, ship the satellite to its launch site, process its payload, and begin satellite operations and data processing operations.
- DSCOVR solar wind sensors will be checked out during transit to its final orbit.
- Operations and data processing will continue after the satellite reaches its duty station.

Congressional Action

FY 2014 Omnibus Appropriations Bill (H.R. 3547):

- The FY 14 Omnibus Appropriations bill appropriates $23.6 million for DSCOVR in FY 2014 to fully fund the President's FY 2014 request.

About the Space Foundation

The foremost advocate for all sectors of the space industry and an expert in all aspects of space, the Space Foundation is a global, nonprofit leader in space awareness activities, educational programs that bring space into the classroom and major industry events, including the *National Space Symposium*, all in support of its mission "to advance space-related endeavors to inspire, enable and propel humanity." The Space Foundation publishes *The Space Report: The Authoritative Guide to Global Space Activity* and provides three indexes that track daily U.S. stock market performance of the space industry. Through its Space Certification™ and Space Technology Hall of Fame® programs, the Space Foundation recognizes space-based technologies and innovations that have been adapted to improve life on Earth. The Space Foundation was founded in 1983 and is based in Colorado Springs, Colo. Its world headquarters features a public Visitors Center with two main areas - the El Pomar Space Gallery and the Northrop Grumman Science Center featuring Science On a Sphere®. The Space Foundation also conducts research and analysis and government affairs activities from its Washington, D.C., office and has a field office in Houston, Texas. For more information, visit www.SpaceFoundation.org. Follow us on Facebook, LinkedIn and Twitter, and read about the latest space news and Space Foundation activities in *Space Watch*.