



# NOAA's National Environmental Satellite, Data, and Information Service

## The nation's operational weather satellite and information service

NOAA's National Environmental Satellite, Data, and Information Service (NESDIS) collects observations of the atmosphere, oceans, and the sun. The global observing systems that provide these data are the foundation of the environmental intelligence NOAA provides the nation. Investments are necessary today to ensure NOAA's fleet of observational platforms are available to meet our mission and support the products and services of tomorrow.

NESDIS develops and operates:

- **Geostationary Operational Environmental Satellites (GOES)** for short-range warning and forecasting, and
- **Polar-orbiting Operational Environmental Satellites (POES)** for longer term forecasting.

NESDIS has managed operational POES satellites since 1966, and operational GOES satellites since 1974. A new generation of satellites is being developed to succeed POES and GOES, the Joint Polar Satellite System (JPSS) and GOES-R programs, respectively. In addition, NOAA has established the Lagrange-1 as an observation point for solar winds data to support operational space weather monitoring and forecasting.



The DSCOVR Satellite is set to launch in early 2015 and will maintain the nation's real-time solar wind monitoring capabilities which are critical to the accuracy and lead time of NOAA's space weather alerts and forecasts

### NOAA Satellites Serve the Nation

- NOAA satellites enable timely and accurate weather forecasts, watches, and warnings used by Federal, State, and local officials, and the general public, to make decisions to safeguard lives, property, and critical infrastructure in advance of severe weather.
- Data from NOAA satellites and NCEI are used by all DoD services to support their global mission and operational readiness.
- Telecommunications, public utilities, and satellite operators use outlooks and warnings from NOAA's Space Weather Prediction.

- Center to protect electric grids and communications assets from solar flares and geomagnetic storms. NOAA satellite data are the primary input into these outlooks and warnings.
- Since 1982, more than 7,000 boaters, aviators, hikers, and other recreational enthusiasts in the U.S. (and over 35,000 persons worldwide) have been rescued with the aid of the satellite-assisted search and rescue (SARSAT) program. The U.S. Coast Guard and local rescue coordinators utilize the location capabilities that SARSAT provides to quickly locate and rescue persons in life threatening situations.
- Commercial air traffic is routed using data from NOAA satellites to avoid airspace that may contain volcanic ash.

### Foundational Data That Support NOAA's Mission

NESDIS supports NOAA Line Offices and their programs. Select examples include:

- **National Weather Service** uses satellite data in its numerical weather prediction models to develop short and long term forecasts. Data from the Suomi National Polar-orbiting Partnership (Suomi NPP) satellite are providing significant enhancements to numerical weather prediction models. NESDIS also provides data to support operational space weather warnings and forecasts. GOES satellites provide instantaneous images of weather that are routinely used by NWS, commercial weather entities, and the media.
- **Oceanic and Atmospheric Research** uses data from satellites and monitoring stations to conduct research and modeling relating to environmental trends as diverse as drought, stratospheric ozone, air quality from wildland fires, and seasonal climate events.
- **National Marine Fisheries Service** uses satellite data and NCEI to monitor movement of endangered and threatened marine life. Sea surface temperature data from NOAA's satellites are used to monitor the distribution of fishery stocks that are sensitive to water temperature.
- **National Ocean Service** utilizes satellite data and NCEI to monitor ocean and coastal phenomena, such as coral reefs and harmful algal blooms, that affect commercial and recreational activities in America's ocean and coastal areas.
- **Office of Marine and Aviation Operations** use data from NOAA satellites to safely operate their ships and aircraft. Data are used by Hurricane Hunter aircraft to determine where specific measurements should be taken in order to provide critical data that the National Hurricane Center needs for its forecast products.



For more information, please visit:  
[www.noaa.gov](http://www.noaa.gov) and [www.nesdis.noaa.gov](http://www.nesdis.noaa.gov)

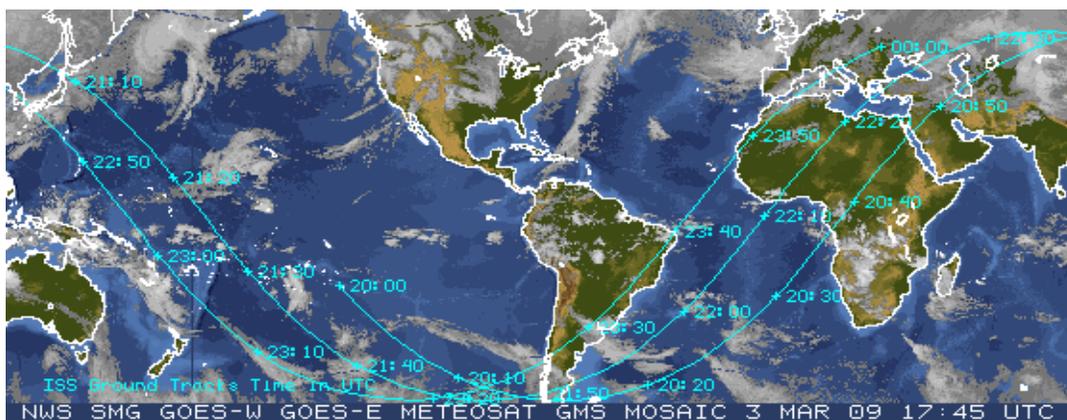




# FY 2016 Budget Request Highlights

The FY 2016 President's Budget Request for NESDIS is \$2,379.6 million. This includes funds and decreases to support operations of current geostationary, polar-orbiting, and deep space satellites, and to maintain acquisition schedules for satellite systems of national significance. The program changes noted below are with respect to the FY 2016 Base (= FY 2015 Enacted + Inflationary Adjustments). Highlights include:

- **Polar Follow On (+ \$380.0M)** to initiate the Polar Follow On (PFO). This investment is critical to ensure the continuity of polar weather observations and to achieving robustness in the constellation as early as FY 2023. The request will initiate development to support launch readiness dates of FY 2024 for JPSS-3 and FY 2026 for JPSS-4; will develop an option for a JPSS-3 contingency mission with critical sounder instruments only; and will invest in an advanced technology nanosatellite microwave sounder (EON).
- **COSMIC-2 / Global Navigation Satellite System Radio Occultation (GNSS RO) Ground System (+ \$13.2M)** will continue development of ground reception and processing capability of GNSS RO satellite data. This ground system allows NOAA to acquire RO data from COSMIC-2 missions and from foreign and commercial sources. The launch of the first set of 6 satellites planned for launch in FY 2016 is currently in production. The FY 2016 Budget initiative will also support procurement of the second set of 6 RO sensors planned for launch in FY 2019. The COSMIC-2 constellation will consist of 12 total RO sensors to ensure continued access to timely and quality RO data that are critical to maintain NWS forecast skill and serve as an important component of satellite gap mitigation strategies.
- **Space Weather Follow On (+ \$2.5M)** will analyze options from the Analysis of Alternatives (AoA) for critical space weather observations and initiate development of the Space Weather Follow On program. The request will support studies and plans needed in FY 16 to ensure data continuity following the anticipated end of life for DSCOVR in FY 19. Securing the future of space weather observations is critical to NOAA's ability to provide timely and accurate geomagnetic storm warnings.
- **JPSS Program (- \$107.3M; total request of \$809.0M)** will support continued development of weather-focused satellites JPSS-1 and JPSS-2 which will provide data continuity for NWS numerical weather prediction models. JPSS-1 remains on-schedule for launch in FY 17, and JPSS-2 in FY 22.
- **GOES-R Series Program (- \$109.0M; total request of \$871.8M)** will support continued space and ground development in preparation for launch of the first satellite, GOES-R, in FY 16, GOES-S in FY 17, and maintain development of GOES-T and GOES-U.



**NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION**

For more information, please visit: <http://www.noaa.gov/budget>