

National Environmental Satellite, Data, and Information Service (NESDIS) October 2015 Newsletter



Operations – NOAA CoastWatch

Supporting Coastal Regions and Economies

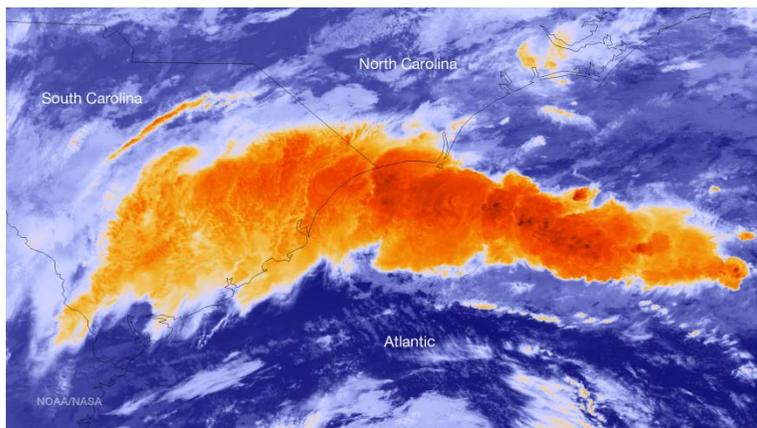
NOAA [CoastWatch](#) was established in 1987 in response to two significant environmental events. A Harmful Algal Bloom (HAB) event occurred off the coast of North Carolina transporting the toxic *Karenia brevis* cells from Florida via the Gulf Stream into the colder coastal waters near Cape Lookout. Also, a severe mammal die-off occurred, where more than 700 bottlenose dolphins died off the mid-Atlantic coast. Both instances prompted Federal and State officials to explore additional data sources for monitoring the coastal waters, such as near real-time satellite data.

CoastWatch has expanded from NOAA Advanced Very High Resolution Radiometer sea surface temperature (SST) data for the East Coast to providing a variety of environmental data (i.e. SST, ocean color, winds, etc.) from several different satellite platforms covering all U.S. coastal waters, including Hawaii and Alaska. Today, SST maps support meteorological weather predictions and also support commercial and recreational activities (e.g., fishing). Biologists utilize ocean color radiometry data and derived chlorophyll-*a* and total suspended matter/turbidity products to identify runoff plumes and blooms and also predict HABs; and sailors and commercial shipping pilots use ocean surface vector winds for safe navigation.

Today, there are CoastWatch nodes on the [East Coast](#) and [West Coast](#), the [Gulf of Mexico](#), the [Great Lakes](#), [Alaska](#) and [Hawaii](#) and provide data are being used to track ongoing HAB events off the West Coast and the Great Lakes.

Image of the Month

Historic Rainfalls in South Carolina

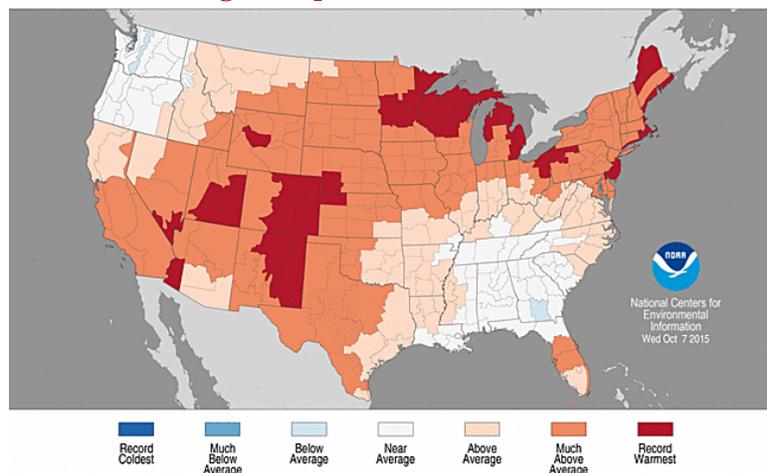


Historic rainfalls associated with tropical moisture and a surface low pressure system inundated portions of South Carolina in early October. The image above was captured by the NOAA/NASA Suomi NPP VIIRS instrument's channel 5 infrared on October 5.

Portions of South Carolina saw more than 20 inches of rain, causing disastrous flooding and damages primarily in the Columbia and Charleston regions. Since then, significant flooding has also occurred in Texas due to Hurricane Patricia, and in California due to a slow-moving storm system. Visit [here](#) for more Viz Lab imagery.

Spotlight – U.S. State of the Climate

Divisional Average Temperature Ranks



NOAA National Centers for Environmental Information monitors the climate of the U.S. to help inform local and state governments and commercial sectors such as energy, transportation, and agriculture. [This analysis of U.S. temperature and precipitation](#) is based on measurements from January 1895 to September 2015, a period of nearly 121 years. The average temperature for September 2015 was 68.5°F, or 3.7°F above the 20th century average. It was the 2nd warmest September on record for the contiguous U.S.; only September 1998 was warmer. Record and near-record warmth spanned most of the country, with nine states in the Northeast, Midwest, and Southwest experiencing record warm. Alaska was cooler than average in September. The first nine months of 2015 were the eighth warmest on record over the contiguous U.S. The [full report](#) has more detailed temperature and precipitation information.

Space Weather Activities

Providing Space Weather Information for the Nation

On October 20 and 21, the [Space Weather Enterprise Forum](#) brought together the space weather community to share information and ideas. The ultimate goal was to improve the Nation's ability to understand and forecast space weather events, and to prepare for, avoid, mitigate, respond to, and recover from the potentially devastating impacts of space weather events on our health, economy, and national security. Officials from NOAA participated in the event and appreciated your questions and feedback.

On October 28, NASA officially handed over command of the [Deep Space Climate Observatory \(DSCOVR\)](#) to NOAA for operations. DSCOVR was launched on February 11 and will succeed NASA's Advanced Composition Explorer's (ACE) role in supporting solar wind alerts and warning from the Lagrange 1 orbit, approximately one million miles from Earth.

On October 29, the Office of Science Technology and Policy released the [National Space Weather Strategy](#) and the [National Space Weather Action Plan](#). These will help inform strategic goals for enhancing preparedness to space weather events.

Update: Satellite and Acquisition Programs

JPSS:

- JPSS-1 satellite integration and testing is proceeding successfully. Flight Solar Array deployment test completed as shown below.

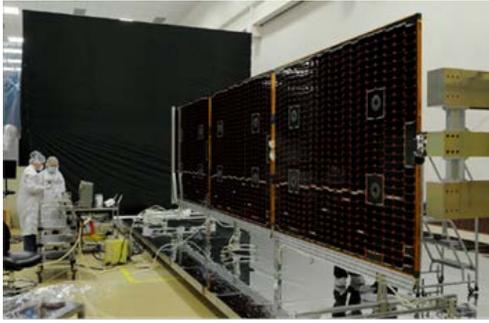


Photo Credit: Ball Aerospace and Technologies Corporation



- In preparation for launch of the JPSS-1 satellite by the baseline of 2Q FY 2017, the JPSS-1 Flight Operations Review is scheduled for 3Q FY 2016 and the JPSS-1 Operations Readiness Review is scheduled for 4Q FY 2016.
- Work on JPSS-2 instruments is underway, and kick off meetings with the JPSS-2 spacecraft contractor have occurred.
- Upon receipt of the FY 2016 President's Budget request, JPSS will prepare for a Multi-Mission Requirements Review in February 2016 for JPSS-2, PFO/JPSS-3, and PFO/JPSS-4 missions.

DSCOVR:

- NOAA Satellite Operations and Engineering Staff have been successfully performing routine DSCOVR operations with NASA oversight since August 10.
- Final aspects of DSCOVR commissioning and mission system updates are in progress to support the Mission Transition/Operations Acceptance Review later in October.
- Handover of DSCOVR spacecraft and mission from NASA to NOAA occurred following the Mission Transition/Operations Acceptance Review. The handover was official on October 28.

Jason-3:

- Space X continues to investigate the June 28 launch vehicle failure and plans to issue a Failure Investigation Report to the Federal Aviation Administration soon. Unknown at the moment when the Falcon 9 fleet of launch vehicles will return to service.
- Jason-2 continues to operate nominally as the operational sea surface altimeter satellite.
- To maintain the accuracy and continuity of the sea level record, Jason-3 is scheduled to fly in tandem with Jason-2 for six months, to obtain a direct satellite-to-satellite calibration.

GOES-R Series:

- NOAA released the March 2016 launch date for the GOES-R satellite due to extended integration and testing and repair work. A new launch slot in October 2016 has been selected.
- The GOES-R satellite completed thermal vacuum (TVAC) testing on August 24. The satellite is now being prepared for vibration testing.
- All NOAA Satellite Operations Facility and Wallops Command, Data, & Acquisition Station (WCDAS) antennas completed certification and are ready for current GOES and future GOES-R operations.
- Work on GOES-S continues:
 - Propulsion core module delivered to Littleton, Colorado from Lockheed Martin's facility at Stennis Space Center, Mississippi.
 - Solar Ultraviolet Imager (SUVI) and Extreme X-ray Imaging Sensor (EXIS) installed on solar pointing platform.
 - Advanced Baseline Imager (ABI) and Space Environment In Situ Suite (SEISS) have been delivered to Littleton, Colorado for integration..

COSMIC-2:

- All six COSMIC-2A satellites are on schedule and undergoing integration and testing in Taiwan.
- A spacecraft to launch vehicle payload adapter "fit check" was successfully completed September 14-18.
- Factory Acceptance Testing was completed for the ground antenna that will be used at the backup commanding site.
- The Ground System conducted a Critical Design Review on September 24-25.
- Planning continues for the COSMIC-2B mission. Upon receipt of FY 2016 President's Budget request, the procurement of the COSMIC-2B TriG GNSS Radio Occultation System instruments will commence.

SIDAR:

- NESDIS is finalizing an interagency agreement with the U.S. Air Force to use its Hosted Payload Solution (HoPS) contract for commercial hosting of the Argos Advanced Data Collection System (A-DCS) and Search and Rescue Satellite Aided tracking (SARSAT) instruments.
- The instruments being provided by the French Space Agency (CNES), the SAR Processor and A-DCS, have been built and are in storage, waiting to be shipped. The Canadian SAR Repeater will complete pre-ship review in November 2015.
- Thus far in CY 2015, SARSAT aided in the rescue of 199 people in the United States.