

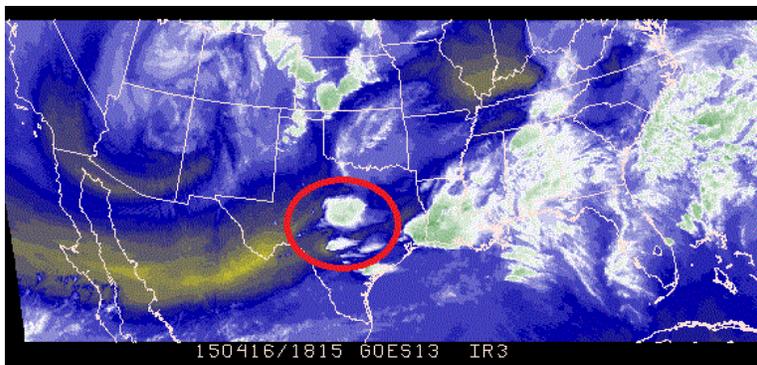
# National Environmental Satellite, Data, and Information Service (NESDIS)

## April 2015 Newsletter



### Operations – Flash Floods in Texas

#### GOES East Water Vapor Channel

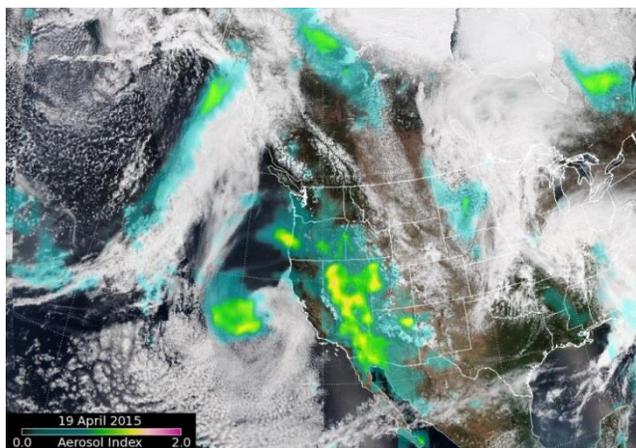


The above image was taken from NOAA's GOES-13 satellite on April 16 at 2:15 PM EST. It depicts upper level energy (circled in red) that eventually developed into an area of 4-8 inches of heavy rains in parts of east Texas. The image illustrates the utility of the GOES-13 Water Vapor Channel in assisting National Weather Service forecasters to track jet streams, upper level features, and mid to upper level moisture transport that are key to the prediction of severe weather and hazardous precipitation. The Advanced Baseline Imager (ABI) on GOES-R will be able to view the Earth with 16 different spectral bands (compared to five on current GOES), and will provide three times more spectral information, four times the spatial resolution, and more than five times faster temporal coverage than the current system drastically improving weather forecasts.

### Image of the Month

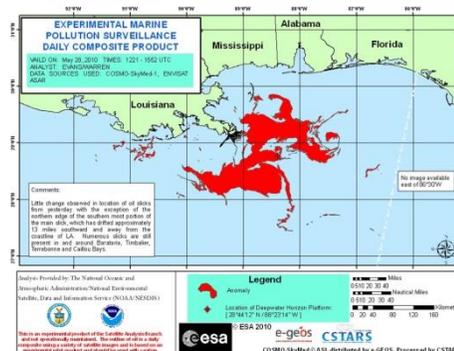
#### Siberian Smoke Over the United States

The image below taken on April 19 shows smoke originating from wildfires in Siberia, Russia that spread to much of the Western United States as depicted by the Ozone Mapping & Profiler Suite (OMPS) Aerosol Index (AI). AI can serve as a proxy for smoke and dust that Federal, state, and local authorities use to provide warnings of poor air quality. This AI product was developed from OMPS sensor data from the Suomi National Polar-orbiting Partnership (Suomi NPP) satellite. The instrument will also fly on the Joint Polar Satellite System (JPSS) and will provide important data on the concentration of stratospheric ozone in the atmosphere.



### Spotlight – Remembering *Deepwater Horizon*

#### NESDIS Satellite support during *Deepwater Horizon*



Five years ago, the *Deepwater Horizon* oil rig exploded 50 miles off the Louisiana coast in the Gulf of Mexico. Eleven people were killed and 17 others were injured. The explosion also triggered the largest offshore marine spill in our nation's history – one that lasted 87 days and released an estimated 3.19 million barrels of oil. NESDIS used data from a variety of high resolution visible and synthetic aperture radar satellites to document the extent of the surface oil. This analysis was sent to the NOAA Ocean Service's Emergency Response Division, the U.S. Coast Guard (USCG) and the Bureau of Ocean Energy Management (BOEM). NESDIS now routinely provides 24x7 oil spill support in its Marine Pollution Surveillance Program to NOAA's Office of Response and Restoration, the USCG, and BOEM. This program consists of manual detection and mapping of oil slicks primarily through the use of available moderate and high resolution multispectral imagery, but occasionally even space-based Synthetic Aperture Radar (SAR).

### Message from Dr. Stephen Volz

#### Assistant Administrator for NESDIS

April has been a productive month, which featured the successful NOAA Satellite Conference that brought forecasters, scientists, researchers, commercial, and international partners together to discuss some of the exciting current and future satellite programs within NESDIS and our partners. We convened a workshop where NESDIS leaders were able to engage the commercial sector in an open dialogue about NOAA data requirements and how NESDIS should and will engage with the commercial sector in the future. Important milestones include confirmation that JPSS remains on track after successfully completing the Key Decision Point-D. Jason-3 is getting ready for its launch readiness date of July 22 from Vandenberg Air Force Base in CA, and the GOES-R satellite remains on track for March 2016 launch.

I am continuing to meet with Congressional offices to discuss FY 2016 Presidents Budget Request, and am happy to meet with you to discuss our budget request. Please contact Josh Jankot ([josh.jankot@noaa.gov](mailto:josh.jankot@noaa.gov)) to schedule a briefing.

# Update: Satellite Acquisition Programs

## GOES-R Series:

- [GOES-R](#) on target for March 2016 launch
  - Solar Wing Subsystem and the Search & Rescue (SAR) and Global Positioning System Antennas integrated
  - Spacecraft Pre-Environmental Review (PER) held April 21-23, 2015 at Lockheed Martin in Littleton, Colorado
  - Continued progress on Ground System with operationalization and transition from Release Mission Management Upgrade
  - Successfully completed End-to-End Test 1B on April 14, 2015.
- GOES-S on target for 3Q FY 2017 launch
  - Completed first “Power-On” of System Module
  - All instruments, except Geostationary Lightning Mapper, are complete.
- GOES-T and GOES-U instrument development progressing well.

## JPSS:

- Suomi NPP performing well as the primary satellite in the afternoon orbit.
- [JPSS-1](#) Satellite integration and test making good progress towards 2Q FY 2017 launch. Ground Segment upgrades ongoing.
  - OMPS-Nadir, CERES, VIIRS, CrIS integration with the spacecraft successfully completed. ATMS re-work continues.
- Good progress on JPSS-2 instrument hardware procurement and assembly. JPSS-2 spacecraft contract awarded. Protest filed.
- FY 2016 Budget requests \$380 million for Polar Follow On to extend continuity to 2038.

## SIDAR:

- NESDIS sent a letter of intent to the U.S. Air Force to use its Hosted Payload Solution (HoPS) contract for hosting the [Argos A-Data Collection System](#) and [SARSAT](#) instruments.
- Planning the TSIS-1 transition with NASA per FY 2016 PBR.

## DSCOVR:

- [DSCOVR](#) continues the journey and by mid-June, DSCOVR will reach its operational orbit, approximately 1 million miles from Earth, at the Lagrange Point 1 position of the Sun-Earth system to provide warnings of solar wind events.
- The DSCOVR Spacecraft and Instruments are activated, in check-out, and final on-orbit calibrations will be completed after the June 7<sup>th</sup> Orbital Insertion.
- Planning and coordination activities are underway to perform handover of DSCOVR from NASA to NOAA in July 2015.

## Jason-3:

- [Jason-3](#) launch preparations are underway. The satellite will be launched on July 22, 2015 on a SpaceX Falcon-9 launch vehicle from Vandenberg Air Force Base in CA.
- The Falcon-9 Stage 2 engine was successfully tested at Space X’s McGregor, TX test facility last month, and the launch vehicle is on schedule to meet the launch date.
- NOAA, NASA, CNES and EUMETSAT completed a successful week long 4 Partner Ground Dress Rehearsal testing in March.

## COSMIC-2:

- The first set of COMIC-2 satellites is on target for launch in May 2016 on a SpaceX Falcon-9 launch vehicle from Kennedy Space Center, Cape Canaveral, FL.
- Ground system and data processing system development is on target. Ground and Data Processing Center Segment Critical Design Review (CDR) is planned for September 2015 in Boulder, CO.
- FY 2016 PBR requests funds for continued ground system development and to initiate instrument development for the second set of COSMIC-2 satellites planned for launch in FY 2019.

## National Center for Environmental Information (NCEI) Highlights

### Weather and Climate:

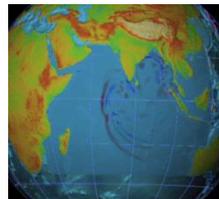
Scientists at [NCEI](#) and the Cooperative Institute of Climate and Satellites–North Carolina have developed a new version of the [air-freezing index](#) (AFI) to estimate maximum frost depth. In many areas of the country, proper building design and construction depend on accurate expectations of how deeply the ground will freeze in the winter. Soil frost depth also has important implications for hydrology, agriculture, and even burials. Frost depth is driven by both the intensity and length of below-freezing weather and the observed warming over the last several decades is likely altering patterns of soil freezing. Comparing averages for 1981–2010 and 1951–1980, the scientists found that the AFI has decreased significantly for most of the country.

### Regional Update:

Southern Plains Drought Outlook is a collaborative effort led by NCEI’s Southern Regional Climate Services Director, the National Weather Service Southern Region Headquarters, and NOAA Public Affairs. [Regular updates](#) have been provided to an audience of 300+ partners, legislative contacts, including all Congressional district offices, and media in Oklahoma, Texas, and New Mexico since 2011. The updates include information on current drought conditions, key economic and environmental impacts, and 3-month forecasts.

### Coasts, Oceans, and Geophysics

April marks 50 years since the start of the [Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System](#) (ICG/PTWS).



- The ICG/PTWS, based in Honolulu, Hawaii, coordinates an international effort across the Pacific to enhance tsunami warning and mitigation activities.
- In support of NOAA’s Tsunami Program, NCEI hosts the World Data Service for Geophysics, which includes information on tsunamis and is the national and international tsunami data archive.
- The World Data Service’s tsunami data archive and its data management activities will be highlighted at [the International Tsunami Symposium](#) and at the 26th Session of the ICG/PTWS.
- The NCEI [Tsunami Data and Information page](#) provides a number of tsunami-related products and services that are used by the tsunami community.