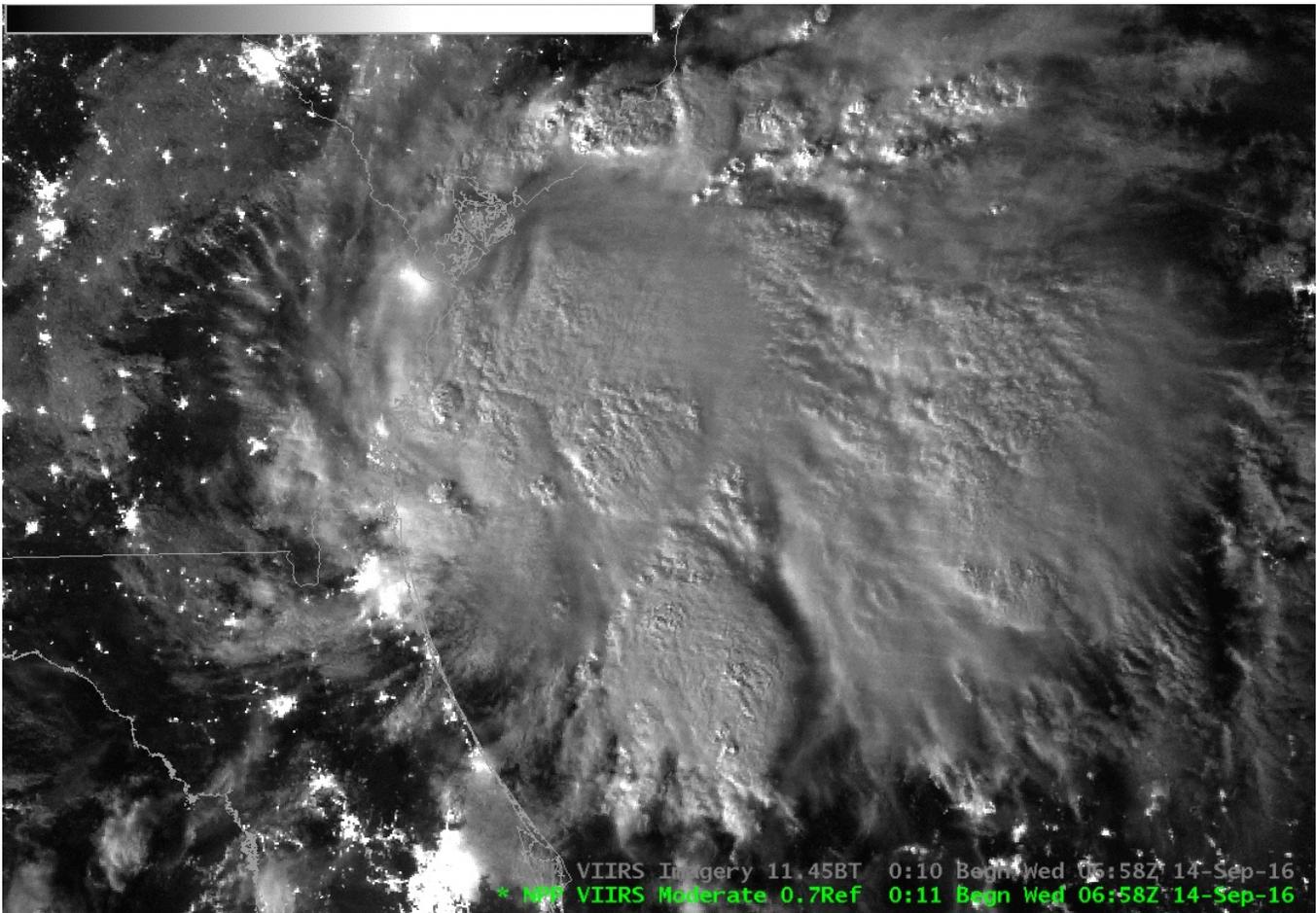


NESDIS NEWS

National Environmental Satellite, Data, and Information Service

September 2016



Tropical Storm Julia, the 10th tropical cyclone of the 2016 Atlantic hurricane season, formed the [evening of September 13, 2016](#), near the coast of northeastern Florida. Imagery from the Visible Imaging Infrared Radiometer Suite (VIIRS) instrument on board the Suomi NPP satellite is seen above. The image, courtesy of our partners at the [Cooperative Institute for Meteorological Satellite Studies](#), is toggling between the Day/Night Band and 11.45 micron Infrared imagery. Tropical Storm Julia brought heavy rain to the southeastern United States on September 14-15, with Charleston, South Carolina seeing 3.67 inches on September 14, according to The Weather Channel. Tropical cyclones typically develop over water. Julia is notable as being the first Atlantic tropical cyclone to form over land since Tropical Storm Beryl, which formed over Louisiana in 1988.

DID YOU KNOW?

GOES-R Satellite to be Launched November 4

NOAA's Geostationary Operational Environmental Satellite-R (GOES-R) will launch from Cape



The [U.S. National Ice Center \(NIC\)](#) declared the preliminary summer ice minimum to have occurred on September 9, 2016, when Arctic sea ice dwindled to 4.19 million square kilometers. This minimum extend puts this year's minimum at the 3rd lowest in the period of record (2006 - 2016), following 2012 (3.397 square km), and 2007 (4.019 square km).

This declaration coincides with the [National Snow and Ice Data Center](#) at the University of Colorado - Boulder. They declared the 2016 minimum as occurring on September 10 at 4.14 square kilometers, which statistically ties with the minimum from 2007 according to their data records.

This year's minimum is the earliest in the record. The summer ice minimum is typically recorded in the second half of September. New ice growth has begun in the Arctic but the U.S. NIC declaration is preliminary as the ice pack is still in a fragile state and compaction and melt is still possible.

For more, please visit [here](#).

SARSAT Saves

The [Search and Rescue Satellite Aided Tracking](#) system detects and locates mariners, aviators, and recreational enthusiasts in distress. The satellites relay distress signals from emergency beacons to a network of ground stations and ultimately to the U.S. Mission Control Center in Suitland, Maryland. The Center processes the distress signal and alerts the appropriate search and rescue authorities to who is in distress and where they are located.

Select recent SARSAT rescues:

- 1) On September 3, 2016, the signal from an emergency position indicating radio beacon (EPIRB) was detected approximately 43 nautical miles northeast of Newport News, Virginia. The EPIRB was activated when the fishing vessel (F/V) *Storm* ran aground. The captain was able to free the vessel, but its rudder broke in the process. The signal was received by NOAA's Satellite Operations

Canaveral Air Force Station, Florida. The launch is targeted for November 4, 2016, at 5:40 pm EST.

On August 25, 2016, the NBC Today Show aired a clip of an interview with NESDIS Assistant Administrator, Dr. Stephen Volz, that took place in the Astrotech clean room in Titusville, Florida, where GOES-R is being prepped for launch.



The TODAY show's Al Roker got an exclusive first look at NOAA's upgraded GOES-R weather satellite.

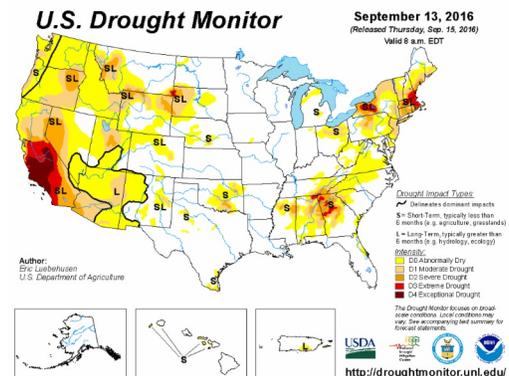
Please visit [here](#) to view the interview.

GOES-R is the first in a series of four satellites developed and acquired by NOAA in collaboration with NASA. NOAA is extremely excited about the advances that the GOES-R satellite will provide to the National Weather Service and the United States' weather enterprise.

GOES-R will deliver vivid images of severe weather as often as every 30 seconds, scanning the Earth five times faster, with four times greater image resolution, using triple the number of spectral channels compared with today's geostationary satellites. GOES-R will vastly improve weather forecasters' ability to monitor hazards such as hurricanes, aerosols, dust storms, volcanic eruptions, and forest fires. The satellite will also be used for space weather, oceanography, climate monitoring, *in situ* data collection, and search and rescue.

Satellite Data Help Monitor Effects of Drought

Droughts affect all agricultural areas and are among the nation's most costly weather related events. In 2016, [drought has already cost an estimated \\$4.5 billion](#), hitting the western states the hardest.



Farmers and livestock producers across the nation look to the U.S. Department of Agriculture, and in turn NOAA, to assist them in preparing for and responding to changing weather and climate conditions.

In the U.S. Northeast, meteorologists are calling the current drought the worst dry spell in more than a decade. Many parts of New England have received about half the normal amount of rainfall, and farmers report that crops and businesses are under stress. Several counties have been declared natural disaster zones, and at least one state - Massachusetts - has set up a "micro-loan" program to help farmers struggling with the drought.

On October 11, the [National Integrated Drought Information System \(NIDIS\)](#) and its partners, including the National Centers

Facility in Suitland, Maryland, and was sent to the Coast Guard District 5, who made radio contact with the vessel. The Coast Guard then launched a helicopter to the coordinates indicated by the SARSAT alert. The helicopter arrived on scene and hoisted three people and a dog from the F/V *Storm*.

2) On September 8, 2016, the signal from a personal locator beacon (PLB) was detected approximately 174 nautical miles northwest of Anchorage, Alaska. The PLB was manually activated when an individual was injured after a tree fell on him. The signal was received by NOAA's Satellite Operations Facility in Suitland, Maryland, and was sent to the Alaska Rescue Coordination Center (AKRCC), who contacted the Alaska State Troopers. The Alaska State Troopers requested that the AKRCC launch a helicopter to the position indicated by the SARSAT alert. The helicopter was dispatched along with a medical team to treat the injured person. The individual was located and transported to Fairbanks Memorial Hospital for further medical treatment.

Select Publications

1) A scientist from [NOAA's National Centers for Environmental Information](#) recently co-authored an article in the journal *Rangelands*, titled [Assessing drought vulnerability using a socioecological framework](#).

Drought is a persistent problem on rangelands and adjusting management to respond appropriately is critical to both preserving natural resources and to maintaining financial viability. The authors explore the value of using a structured assessment approach to determining both social and ecological vulnerability. This approach allows for the identification of vulnerable ecosystems and business operations at regional and local scales as a basis for developing effective policies and programs.

2) A scientist from [NOAA's Center for Satellite Applications and Research](#) recently co-authored an article in the journal *Remote Sensing*, titled [Comparison of Arctic sea ice thickness from satellites, aircraft, and PIOMAS data](#).

In this study, the authors examine the similarities and differences between 6 Arctic sea ice thickness products for the 2003 - 2013 period of overlap. Given the lack of in situ measurements, the accuracy of each product is not evaluated. Instead, the differences between the products are quantitatively assessed in order to provide insight to the strengths

for Environmental Information, will join Congressman Seth Moulton (MA-6) in hosting a [Northeast Drought and Climate Outlook Forum](#) to provide stakeholders with information on current drought conditions across the Northeast region; drought outlooks; and response, planning, and preparedness resources at the federal state, and local level.

Products derived from the polar satellite constellation can be of particular use to the agricultural community. For example, maps illustrating climatic conditions such as [drought, precipitation totals, soil moisture, snow depth, and temperature](#), provide critical information, especially in data-sparse areas.

Please read [here](#) to learn more about how satellite data are being used to inform the agricultural community.

Puerto Rico Power Outage Seen from Space



September 21 (above) and September 22 (below) images from Suomi NPP. Credit: NASA.

On September 21, 2016, the U.S. territory of Puerto Rico experienced a power outage that left an estimated 1.5 million people in the dark. A fire at the Aguirre Power Plant occurred after a power switch overheated, causing a 2,000 gallon mineral oil tank to explode and trigger a fire across a 3 acre area.

The extent of the outage was captured by images from the Visible Infrared Imaging Radiometer Suite (VIIRS) instrument aboard the NOAA/NASA Suomi NPP satellite.

The first image above, from September 21, shows a well-lit Puerto Rico. Meanwhile, the second image, from September 22, gives an indication of how much the power outage reduced anthropogenic light.

The VIIRS Day-Night Band allows the satellite to "see" at night using the reflection of moonlight and ambient nightglow -- a mix of light coming from auroras, starlight, zodiacal light (sunlight that is being scattered across the solar system by dust particles in

and weaknesses of each.

NESDIS in the NEWS

You can find the most recent editions of **NESDIS Newsletters** [here](#).

Aerospace Technology

[GOES-R Weather Satellite, United States of America](#)

Space Ref

[NASA offers media access to NOAA's GOES-R spacecraft](#)

The Washington Post - Capital Weather Gang

[Satellites are the backbone of weather forecasts. Congress must vote to support them](#)

[NOAA awards first-ever satellite data contracts to private industry](#)

Meri Talk

[NOAA awards first commercial weather data contracts](#)

Space News

[Two companies win first NOAA commercial weather contracts](#)

Scientific American

[The U.S. is about to get much better weather satellites](#)

Forbes

[World's longest distance and duration lightning flashes were just reported](#)

space), anthropogenic light and a variety of other sources. In doing so, VIIRS can help scientists keep tabs on everything from fishing vessels at sea and gas flares to nighttime clouds and fog and the movement of sea ice.

20th Meeting of the Advisory Committee on Commercial Remote Sensing

The [Advisory Committee on Commercial Remote Sensing \(ACCRES\)](#) is

tasked to provide information, advice, and recommendations to the Under Secretary of

Commerce for Oceans and Atmosphere NOAA on matters related to the U.S. commercial remote sensing space industry and NOAA's activities to carry out the responsibilities of the U.S. Department of Commerce set forth in the National and Commercial Space Programs Act of 2010.



On September 21, 2016, the ACCRES convened for its 20th meeting. The Committee welcomed 8 new members to join its 9 re-appointed members to make up a team of leaders in private industry, academia, think tanks, and others in the remote sensing arena.

The new Chair of the Committee is Mr. Herbert Satterlee, Chief Executive Officer for MacDonald, Dettwiler & Associates Information Systems. The Vice Chair is Dr. Scott Pace, Director of the Space Policy Institute, George Washington University.

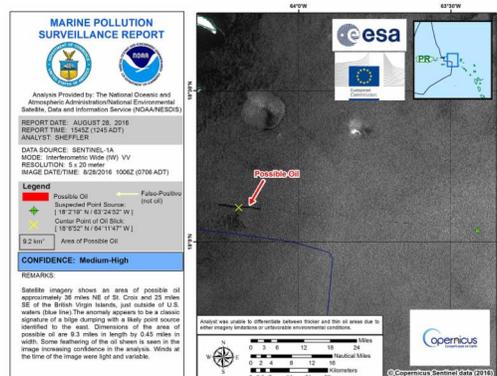
Meeting minutes and presentations will be posted on the [ACCRES website](#).

NESDIS Supports USCG in Detection of Oil Slick

On August 28, 2016, the [Office of Satellite and Product Operations](#)

provided support to the U.S. Coast Guard (USCG) in the detection of an oil slick.

A signature that was confidently identified to be oil on water was seen in synthetic aperture radar imagery from the [Sentinel-1A](#) satellite taken over eastern Puerto Rico and the Virgin Islands.



The oil slick was located approximately 35 miles northeast of St. Croix, just outside U.S. territorial waters in waters of the British Virgin Islands. Given the relatively fast acquisition of the satellite imagery, short distance of the potential slick from U.S. waters, and higher confidence given in the Marine Pollution Surveillance

Report (see image), an investigation was performed by a USCG Cutter that confirmed the presence of an oil sheen at the indicated location.

The USCG is now working with the British Coast Guard to take action against the vessel that is believed to have caused the oil sheen.'

NOAA receives Sentinel-1 data from our partners at the European Space Agency (ESA) on a full and open basis, pursuant to a U.S.-European Commission Agreement and a lower, technical implementation agreement between NOAA and ESA. The Sentinel-1 mission is a constellation of two satellites, Sentinel-1A and Sentinel-1B, that images the Earth every six days.

Message from Dr. Stephen Volz

Assistant Administrator for NESDIS

On September 15 NESDIS awarded contracts to GeoOptics, Inc. and Spire Global, Inc. as part of the Commercial Weather Data Pilot.



GeoOptics and Spire Global will each provide space-based radio occultation data to NOAA for the purpose of demonstrating data quality and potential value to NOAA's weather forecasts and warnings. Companies have until April 30, 2017 to complete the delivery of their data. NESDIS will conduct an assessment of the data through the end of FY 2017 and will produce its final report in early FY 2018.

NESDIS is excited to take this step, which will mark the first NOAA purchase of space-based commercial weather data for the purpose of data demonstration and an important implementation of the NOAA Commercial Space Policy.

Further information on the contract awards is available at fbo.gov. For more information on the CWDP and other NOAA commercial space efforts, please [visit](#).

I thank Congress for your continued support of our important work. Please contact Sierra Jones at 202.482.6140 or sierra.jones@noaa.gov if you have any questions regarding NOAA's [NESDIS](#), or would like to set up a meeting.

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