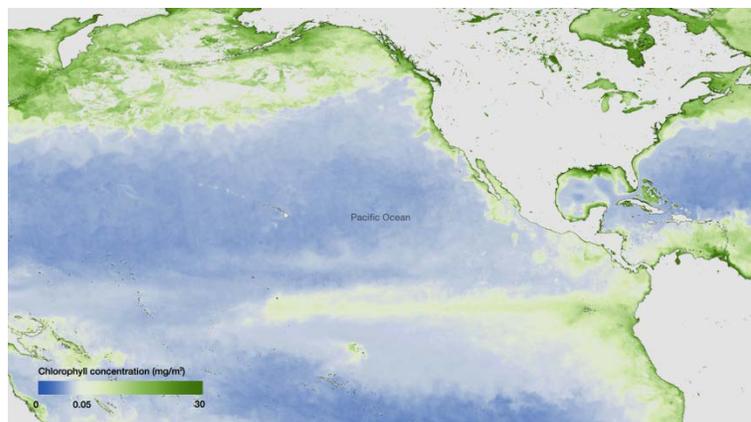


National Environmental Satellite, Data, and Information Service (NESDIS) August 2015 Newsletter



Operations – West Coast Algal Blooms

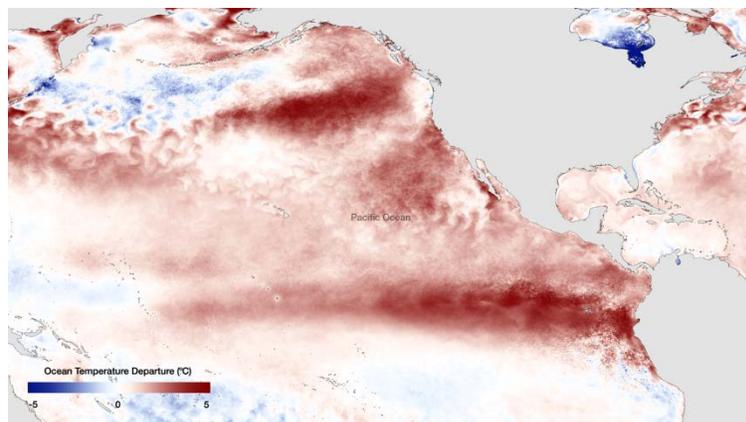
Harmful Algal Bloom is One for the Record Books



Coinciding with above average sea surface temperatures, a record breaking algal bloom continues to expand across the North Pacific, reaching as far north as the Aleutian islands and as far south as southern California. Average chlorophyll concentrations were determined using data from the Visible Infrared Imaging Radiometer Suite (VIIRS) on board the NOAA/NASA Suomi NPP satellite. The darkest green areas have the highest surface chlorophyll concentrations and the largest amounts of phytoplankton, including both toxic and harmless species. With its large size, the bloom has had an impact on marine life. Fishery closures have occurred in Washington, Oregon, and California, due to extremely high levels of an algal toxin called domoic acid produced by *Pseudo-nitzschia* phytoplankton.

Spotlight – Pacific Ocean Temperatures

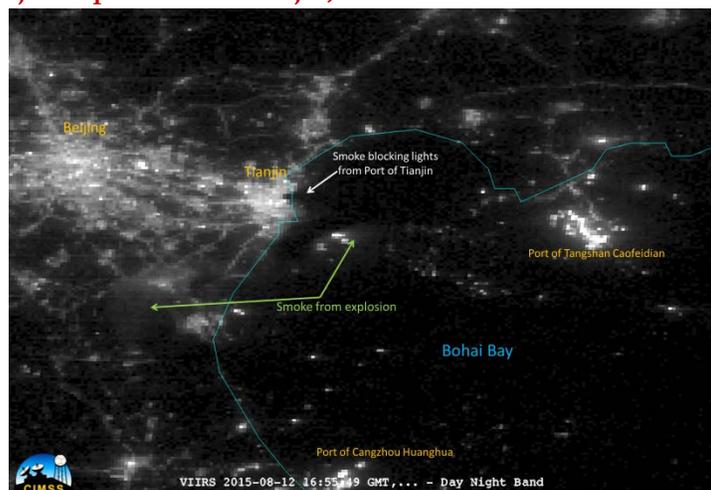
El Niño Predicted to Continue Through Spring 2016



NOAA's National Weather Service released an updated forecast on August 13, predicting a greater than 90% chance that El Niño will continue through the Northern Hemisphere winter, and around an 85% chance that it will last into early spring 2016. The above image displays the weekly sea surface temperature departure from the 1981-2010 average, from the week of August 10. Rising sea surface temperatures in the equatorial Pacific indicate that this year's El Niño could be the strongest ever recorded. Across the contiguous United States, temperature and precipitation impacts are expected to increase into the late fall and winter. El Niño will likely contribute to a below normal Atlantic hurricane season and above-normal central and eastern Pacific hurricane season.

Image of the Month

Major Explosions in Tianjin, China



The Suomi NPP satellite flew over Tianjin, China about 80 minutes after the major explosions occurred in the Port of Tianjin on August 12. The day/night band of the VIIRS instrument captured images that show the thick smoke from the fire obscuring the Port of Tianjin lights and bright spots associated with the fire. The above image was produced by the [Cooperative Institute for Meteorological Satellite Studies](#) at the University of Wisconsin, Madison.

Message from Dr. Stephen Volz

Assistant Administrator for NESDIS

This month marks the 10th anniversary of Hurricane Katrina, which made landfall on August 29, 2005, and was the costliest and third deadliest hurricane ever. To commemorate that event, on July 28, I joined NOAA Administrator Dr. Kathryn Sullivan and Assistant Administrators from NOAA's other line offices for a special briefing to mark a decade of science progress since the 2005 Atlantic hurricane season, which remains the most active on record. If you missed this special event, the audio file and presentation is available [here](#).

Nominations are now being accepted for the [NOAA-David Johnson Award](#). This award, presented by the National Space Club, is given to young professionals who have developed an innovative application of Earth observation satellite data that can be used for operational purposes to assess and/or predict atmospheric, oceanic, or terrestrial conditions. Please encourage gifted scientists to [apply](#) by the October 2 deadline.

I hope that you have had an enjoyable August recess and I welcome you back to D.C. Please contact Sierra Jones (sierra.jones@noaa.gov) if you have any questions regarding NOAA's satellite and information services.

Polar-orbiting Satellites and Alaska

Polar-orbiting satellites are considered the backbone of the global observing system. In Alaska and the polar regions, NOAA's polar-orbiting satellites are especially important, since these areas are not viewed effectively by geostationary satellites. They provide critical data for nearly all of the weather forecasting in this region. The Joint Polar Satellite System (JPSS) is the Nation's next generation of polar-orbiting environmental satellite constellation. The system includes Suomi-NPP, launched in 2011, and future launches in FY 2017 and 2021, to operate through 2028. NOAA is currently planning for the follow-on mission to JPSS, known as Polar Follow On (PFO), which will extend operations through 2038. Funding for PFO included in the FY 2016 President's Budget request is needed to begin implementation of this critical program to help ensure there are no gaps in observations from the polar orbit. PFO aims to achieve polar weather constellation robustness as early as FY 2023.

Wildfire Support:

Wildfires throughout the western U.S. remain very active due to hot and dry weather conditions. In Alaska, 5.1 million acres have burned so far in 2015. The Aggie Creek fire in Alaska is estimated to cover nearly 22,000 acres, and is monitored 24/7 by satellite by the NOAA [Office of Satellite and Product Operations](#). In addition, weather forecasters, using data from the Suomi-NPP satellite, are helping the Alaska Fire Service stay on top of weather conditions that trigger fires and track the resulting smoke drifting across the state.

The NOAA Fairbanks Command and Data Acquisition Station (FCDAS) is located in Gilmore Creek, Alaska. The primary purpose of the FCDAS is acquiring meteorological and environmental satellite data from polar-orbiting satellites. During wildfire season, however, the FCDAS has a secondary purpose – hosting the firefighting teams.

A Bureau of Land Management Forestry Incident Management Team established an incident command post and logistics center at the FCDAS. This team is responsible for managing the Aggie Creek fire.

The FCDAS offers space, infrastructure, and location for their needs, and provides assistance in areas of logistics, safety, and communications (and showers!).

The incident command post at the FCDAS will remain for the duration of the wildfire season.



Above images show the campsites of the firefighters at the FCDAS.

National Centers for Environmental Information (NCEI) Highlights

CrowdMag App:

In collaboration with the Cooperative Institute for Research in Environmental Sciences, NCEI is supporting the [CrowdMag app](#) to help scientists obtain data about Earth's magnetic field. The goal is to fill in geomagnetic data gaps in order to deliver more accurate and reliable directional information to navigation devices, such as smartphones, navigation systems, and GPS, so that users can get to where they want to go.

- Most smartphones have a magnetometer that allows your phone to function similar to a compass. The magnetometers measure Earth's magnetic field in three directions.
- After you install the CrowdMag app, your phone will send us the data collected by the magnetometer and accelerometer to help measure the strength of Earth's magnetic field at a specific point.
- The app is available on [Google Play](#) for Android devices and Apple's [iTunes store](#) for iOS devices.

Climate Data Records Workshop:

NCEI hosted the annual Climate Data Records (CDRs) Workshop August 4-6 in Asheville, North Carolina.

- Discussions highlighted the research-to-operations process, preservation practices, software rejuvenation and maintenance, as well as user engagement and applications of CDRs. NESDIS Assistant Administrator Dr. Steve Volz was the keynote speaker.
- The workshop was attended by many national and international participants who are experts in climate services, climate data records, satellite observing systems, and applications of CDRs.
- One major outcome is that NCEI will focus on the sustained production of Reference Environmental DRs from NOAA's and its partners' observing systems to meet the information needs identified through NOAA's regional engagement activities, international collaborations, and discussions with industry.
- Program's Principal Investigators were updated on innovative uses and applications of their data sets from NCEI's Regional Climate Services Directors, User Engagement, NASA DEVELOP Program interns at NCEI, and the CDR Program staff.

Activities in the Central Region:

NCEI is gearing up for Central Region early warning activities for the current El Niño.

- On July 30, NOAA, state climatologists, and the U.S. Army Corps of Engineers hosted an upper Missouri Basin climate webinar. Over 100 participants, from federal, tribal and local governments, the agriculture, energy, and insurance sectors, and academia, joined to share, deliver, and interpret key information to support decisions.
- NCEI is leading the development of three sub-regional executive summaries on El Niño impacts in the Missouri Basin (released on August 14), Great Lakes, and Midwest, in partnership with NOAA, Regional Climate Centers, state climate offices, and regional federal agencies.
- NESDIS tribal liaison and Central Regional Climate Services Director Doug Kluck continues to promote relevant climate and drought information to Tribal groups. He is working with the four Kansas tribes to create vulnerability assessments as well as monitoring their water resources using NCEI-derived data. Similar efforts are also underway with Nebraska and South Dakota tribes with the help of the High Plains Regional Climate Center, National Integrated Drought Information System (NIDIS), and NOAA Regional Collaboration.

For additional information, please contact Sierra Jones at (202) 482-6140, or at Sierra.Jones@noaa.gov