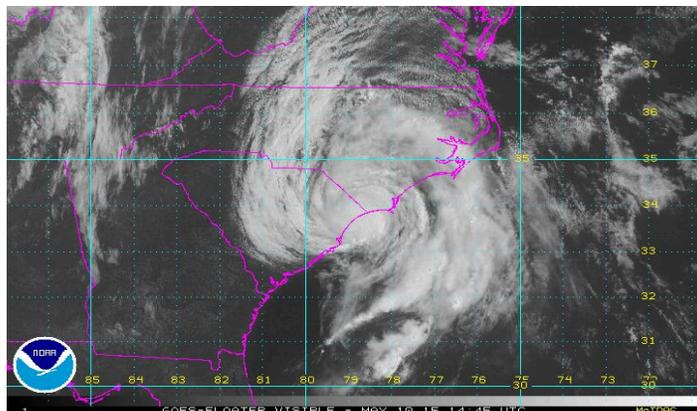


National Environmental Satellite, Data, and Information Service (NESDIS) May 2015 Newsletter



Operations – Tropical Storm Ana

GOES East Visible Channel

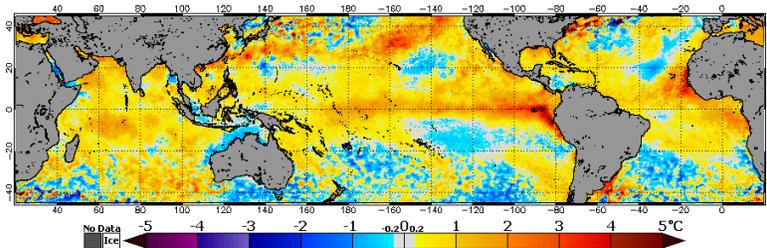


The above image was taken from NOAA's GOES-13 satellite on May 8, 2015 at 10:55 AM EST. It depicts Tropical Storm Ana at landfall along the South Carolina coast almost midway between Myrtle Beach and North Myrtle Beach. The image illustrates the utility of the GOES-13 Visible Channel in assisting National Weather Service forecasters to track the development and track of tropical systems. The Advanced Baseline Imager (ABI) on GOES-R will be able to view the Earth with 16 different spectral bands (compared to five on the 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, significantly improving weather forecasts. These advances will significantly improve tropical cyclone forecast warnings.

Image of the Month

El Niño Conditions Continue into the Summer

NOAA Coral Reef Watch Daily 5-km Geo-Polar Blended Night-Only SST Anomalies 20 May 2015



El Niño is a 3-5 year oscillation of the ocean-atmosphere system in the tropical Pacific having important consequences for weather around the globe. El Niño is characterized by unusually warm ocean temperatures in the equatorial Pacific, as opposed to La Niña, which is characterized by unusually cold ocean temperatures in the equatorial Pacific. The May 20, 2015 image above, derived from both NOAA's polar-orbiting and geostationary satellites, in addition to other datasets, suggests El Niño conditions at the present time. The image shows anomalies of sea surface temperature with a clear warmer (red) than normal signal along the equatorial Pacific. NOAA Climate Prediction Center's most [recent outlook](#) on May 14 suggested there is an approximately 90 percent chance that El Niño will continue through Northern Hemisphere summer 2015, and a greater than 80 percent chance it will last through 2015.

Spotlight – Storm Surge

Jason Sea Altimeter Measurement



Coastal communities are increasingly vulnerable to storm surge. Data from Jason-2's satellite altimeter (launched in 2008) are used by researchers and forecasters at NOAA's National Weather Service (NWS) to better model and predict storm surge from approaching tropical and extratropical cyclones. The Jason-2 satellite observed sea level height is an important input to better understanding the potential impacts of land falling hurricanes. Jason-3 will continue these important measurements and is scheduled to launch in summer 2015 on a SpaceX Falcon-9 launch vehicle from Vandenberg Air Force Base in California. Jason-3, as is Jason-2, is a partnership among NOAA, NASA, French Space Agency (CNES), and EUMETSAT.

Message from Dr. Stephen Volz

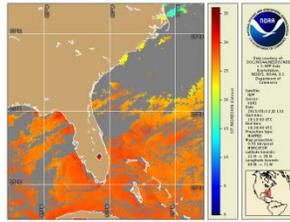
Assistant Administrator for NESDIS

The 2015 Hurricane season officially begins on June 1st and World Oceans Day will occur on June 8th. This newsletter provides a few ocean related activities that rely on NOAA satellites as well as examples of their support for hurricane detection and monitoring. In addition to having your NOAA Weather Radio nearby, I would like to remind you to register your emergency beacons which will shorten the time to rescue if you are in distress. Emergency Position Indicating Radio Beacon (EPIRB), Emergency Locator Transmitter (ELT), and Personal Locator Beacons (PLBs) are all key to ensuring your safety when in distress. As an integral part of worldwide search and rescue, NOAA operates the Search and Rescue Satellite Aided Tracking (SARSAT) System to detect and locate mariners, aviators, and recreational enthusiasts in distress almost anywhere in the world at anytime and in almost any condition.

I have had several meetings with you these past few months and look forward to engaging more in the future. Please welcome Sierra Jones back this month and thanks to Josh Jankot for covering the NESDIS portfolio over the past months. Please contact [Sierra](#) to schedule a meeting where we can discuss NOAA Satellite programs in detail. We wish you a safe and happy summer!

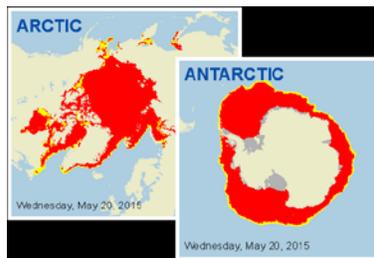
NOAA Satellite Support for Ocean Applications

Hurricanes draw energy from the warm oceans. The NESDIS 5 kilometer (km) [Blended Sea Surface Temperature \(SST\) Analysis](#) is used to generate Oceanic Heat Content (OHC) products used by the National Weather Service for hurricane intensification predictions.



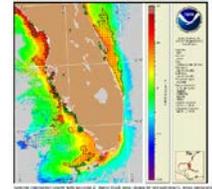
The higher resolution instruments of GOES-R Advanced Baseline Imager (~ 2 kilometers) and JPSS-1 Visible Infrared Imaging Radiometer Suite (VIIRS) (375 meters) will enable more frequent and higher resolution SST estimates. The upcoming Jason-3 mission will continue and improve the estimation of OHC, which will enhance NOAA's capability to monitor and forecast tropical cyclone location, structure, and intensity and to provide SST and OHC information for other applications.

The remoteness of the Polar Regions limits the amount of direct observation of sea ice. Hence, more than 95 percent of the data used in sea ice analyses are derived from the remote sensors on polar-orbiting satellites. Sea ice analyses and forecasts are primarily prepared

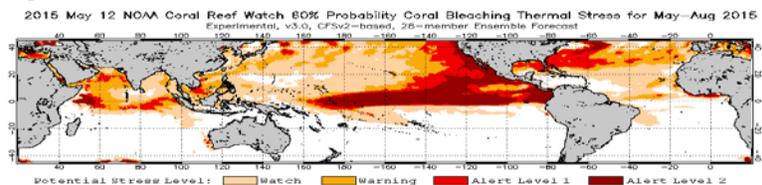


using satellite imagery and ice reconnaissance. The interagency [National Ice Center](#) (NIC) provides worldwide operational sea ice analyses and forecasts. NIC produces these analyses and forecasts of Arctic, Antarctic, Great Lakes, and Chesapeake Bay ice conditions to support customers with global, regional, and tactical scale interests. The NIC is a multi-agency operational center operated by the U.S. Navy, NOAA, and the U.S. Coast Guard. The NIC mission is to provide the highest quality, timely, accurate, and relevant snow and ice products and services that meet the operational, strategic, and tactical needs of the United States interests across the globe.

[CoastWatch/OceanWatch](#) has been providing satellite ocean color data for NOAA Harmful Algal Bloom forecasting since 2004, and is now working with the National Ocean Service to facilitate use of VIIRS data to support its programs. CoastWatch is also providing other satellite ocean data products to support NOAA fisheries users, e.g., satellite derived-SST data are used for deciding when to plant juvenile oysters for oyster restoration projects in the Chesapeake Bay. OceanWatch is also providing global VIIRS ocean color data to users worldwide who then develop a number of products and services to monitor the biological health of the oceans.



The [NOAA Coral Reef Watch \(CRW\)](#) program uses SSTs blended from geostationary and polar-orbiting satellite data. These products provide current reef environmental conditions to marine resource managers that show areas where coral reefs are at risk for coral bleaching; that is, where corals lose the symbiotic algae that give them their distinctive colors. If a coral is severely bleached, disease and partial mortality become likely, and the entire colony may die. When bleaching conditions occur, these tools can be used to trigger bleaching response plans and support appropriate management responses.



[Coral Reef Watch](#) recently released a new product using VIIRS and GOES data that now allows prediction of coral bleaching in near-real-time at 5 km resolution while application of the latest National Centers for Environmental Prediction Climate Forecast System model allows Coral Reef Watch to provide outlooks of potential bleaching four months in the future.

National Centers for Environmental Information (NCEI) Highlights

Weather and Climate:

NCEI will be releasing version 4 of its [Extended Reconstructed Sea Surface Temperature](#) (ERSST) dataset.

- ERSST is a global monthly sea surface temperature analysis derived from the International Comprehensive Ocean-Atmosphere Dataset.
- This new version contains several enhancements over the previous version 3b, which has been in operation since 2008.
- Among the many enhancements are improved coverage in high-latitude ice-free oceans, updated sea-ice data, and improved ship bias corrections.
- With this release, ERSST version 4 also becomes the sea surface temperature component of NCEI's global surface temperature analysis called [NOAAGlobalTemp](#).

Coasts, Oceans, and Geophysics:

NCEI's [Coastal Water Temperature Guide](#) provides near real-time *in situ* water temperatures and averages from NOAA's National Ocean Service and National Data Buoy Center.

- Average water temperatures are computed from records ranging from several years to several decades depending on the station.
- Inputs from river runoff, upwelling, air temperature changes, and storm activity resulting in cooler beach temperatures versus offshore waters can be observed in real time.
- Data from over 220 stations are accessed by a wide range of users including scientists, teachers, scuba divers, fishermen, boaters, and media.

Regional Update:

NCEI has added National Protected Areas in Cuba and Federal Protected Areas in Mexico to the [Gulf of Mexico Data Atlas](#).

- The Gulf of Mexico Data Atlas is an interactive map that visually depicts physical, biotic, living marine resources, economic activity, environmental quality, and jurisdiction data.
- These new map plates for Cuba and Mexico depict protected areas including managed resources, national parks and monuments, ecological reserves, managed flora reserves, and wildlife refuges.

Gulf of Mexico Data Atlas is a study area that encompasses Gulf of Mexico coastal counties of the USA, as defined by the Federal Coastal Zone Management Act, and Mexican municipal districts bordering on Gulf of Mexico waters. The seaward boundaries of the study area extend to the Yucatan Channel and the Straits of Florida.

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