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 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.
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.

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

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.

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.

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.

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