



Pacific Climate Update Coral Bleaching Thermal Stress Analysis and Seasonal Guidance through August 2014

(Released May 6, 2014)

While the warm seasons have progressed into the tropics and northern hemisphere, a potential major El Niño event is in the making based on various climate prediction models (http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/ensodisc.html). NOAA Coral Reef Watch's near-real-time satellite monitoring now shows the development of positive sea surface temperature (SST) anomalies throughout the equatorial region, with the highest anomalies concentrated along the equator from Gilbert Islands / Kiribati in the central Pacific to Galapagos and the coast of South America – bearing the signature of a developing El Niño event (Fig. 1). Gilbert Islands and Howland and Baker Islands have been encircled by a pool of positive SST anomaly (>1 °C) continuously for more than two months since late February, resembling a pattern of Modoki El Niño (Central Pacific El Niño) which usually has negative SST anomaly in the eastern equatorial Pacific Ocean. Well-formed positive SST anomaly in the eastern equatorial Pacific and along the South America coast showing a pattern of a regular El Niño event appear in late April. The 1997 major El Niño event began in about the same time (March-April) of the year and appeared as a well-developed El Niño pattern in May 1997 and lasted until May 1998 before dissipating. The tropical western Pacific and Southeast Asia, including the Coral Triangle, have been experiencing fast elevation of SST (Fig. 3), leading to the accumulation of coral bleaching thermal stress to the Bleaching Warning level in some areas (Fig. 4).

Coral Reef Watch's Seasonal Coral Bleaching Thermal Stress Outlook projects a well-developed El Niño pattern for May-August, with the potential for further elevation of coral bleaching levels of thermal stress (Fig. 4). Gilbert Islands, Howland and Baker Islands, and southern Line Islands are most likely to be within the highest thermal stress patch with Alert Level 2 expected in late May and through June. There is a potential for thermal stress to reach Alert Level 1 around the Coral Triangle and Southeast Asia during the same timeframe.

To monitor the intensity and location of the thermal stress, please follow Coral Reef Watch's satellite monitoring and outlook closely in the coming weeks:

<http://coralreefwatch.noaa.gov/satellite/index.php> and

http://coralreefwatch.noaa.gov/satellite/bleachingoutlook_cfs/outlook_cfs.php.

NOAA/NESDIS SST Anomaly (degrees C), 5/5/2014

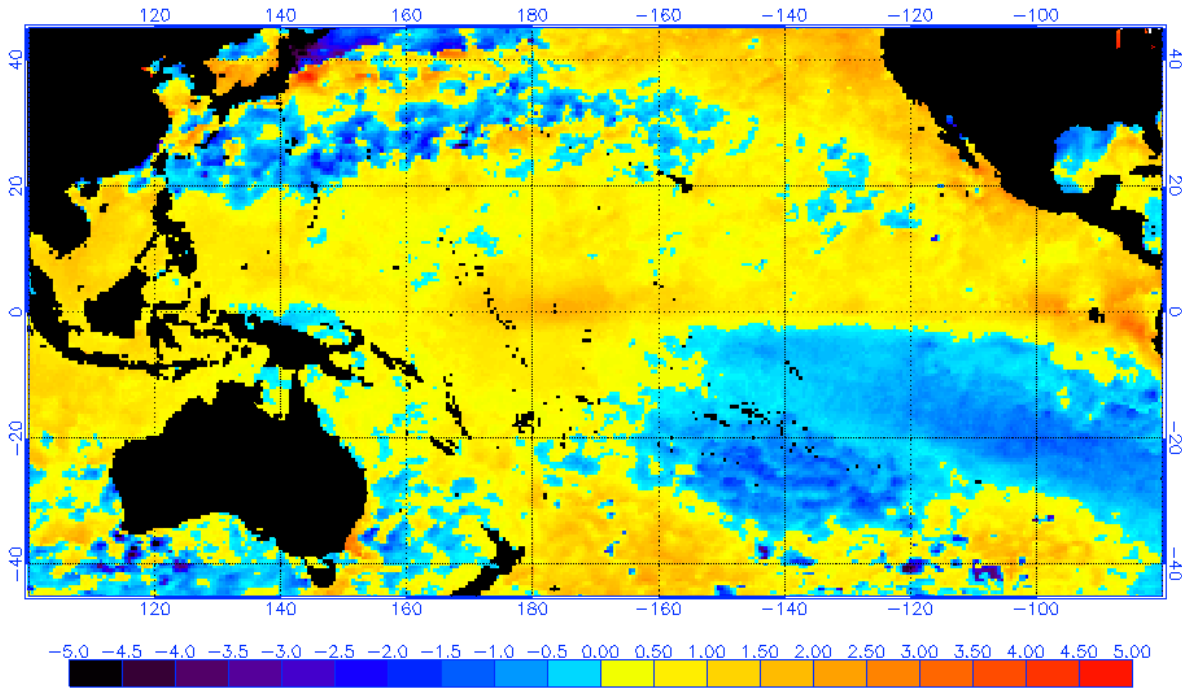


Figure 1: Satellite Sea Surface Temperature (SST) Anomaly

NOAA Satellite 50km Sea Surface Temperature Trend over the Past 21 Days
Experimental product, 05 May 2014

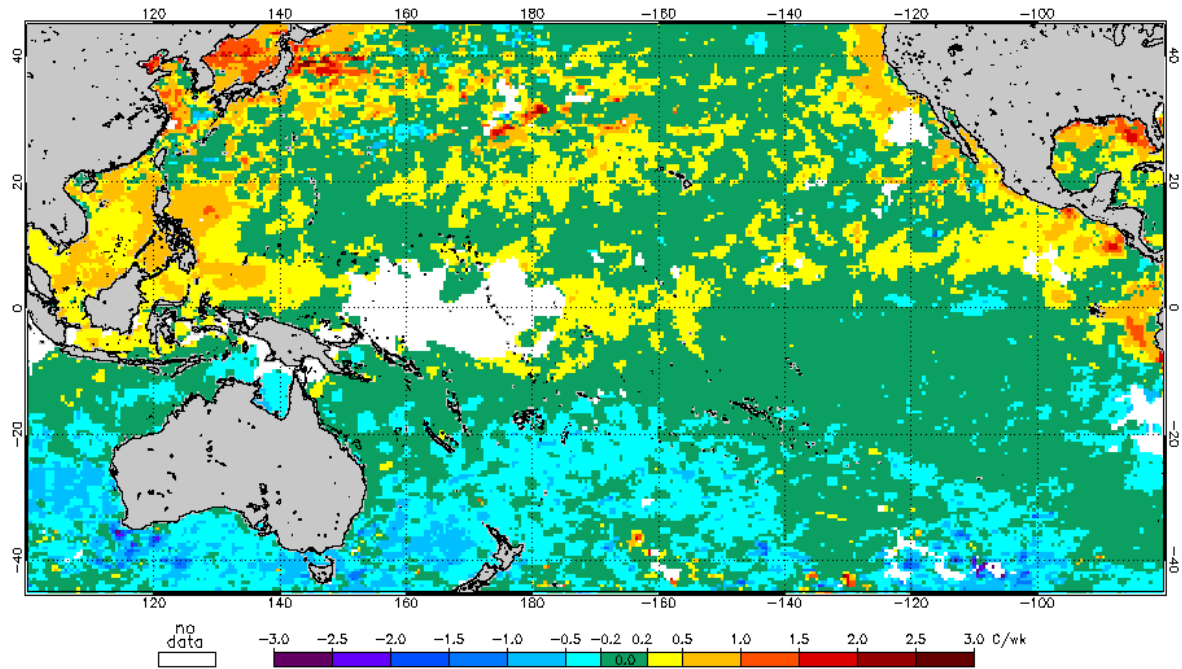


Figure 2: Satellite SST Trend over the Past 21 Days

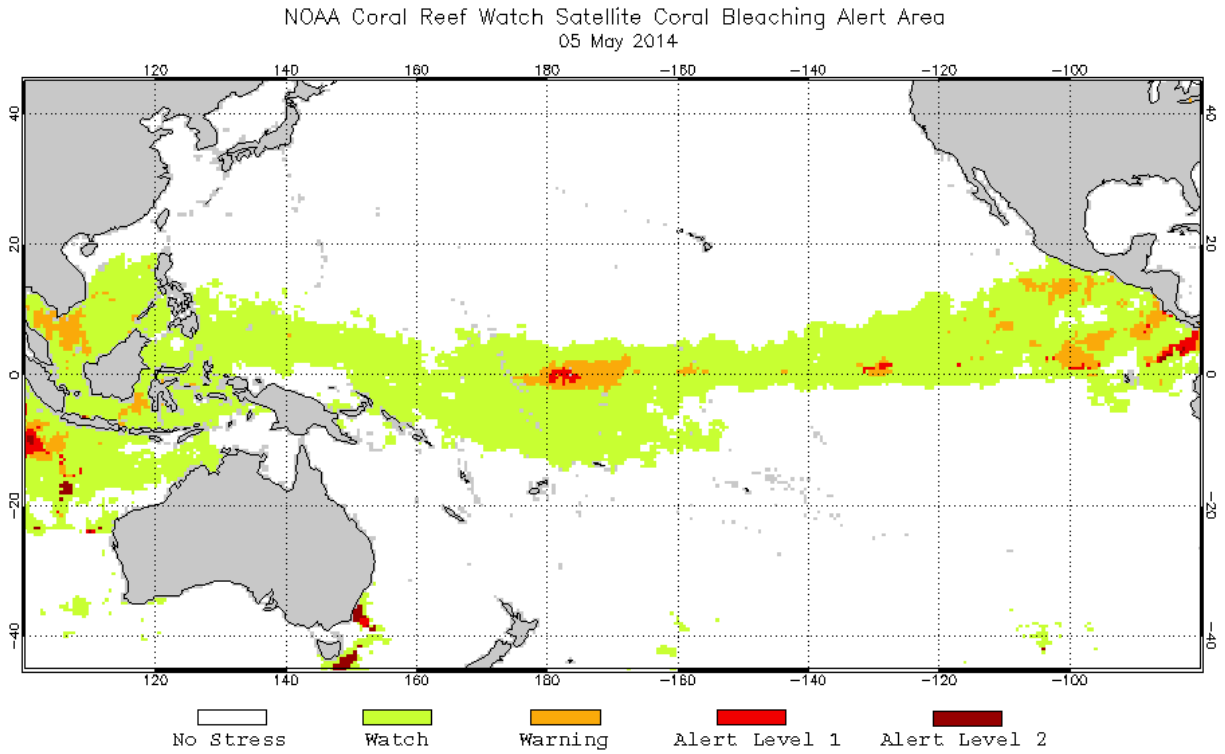


Figure 3: Satellite Coral Bleaching Alert Area

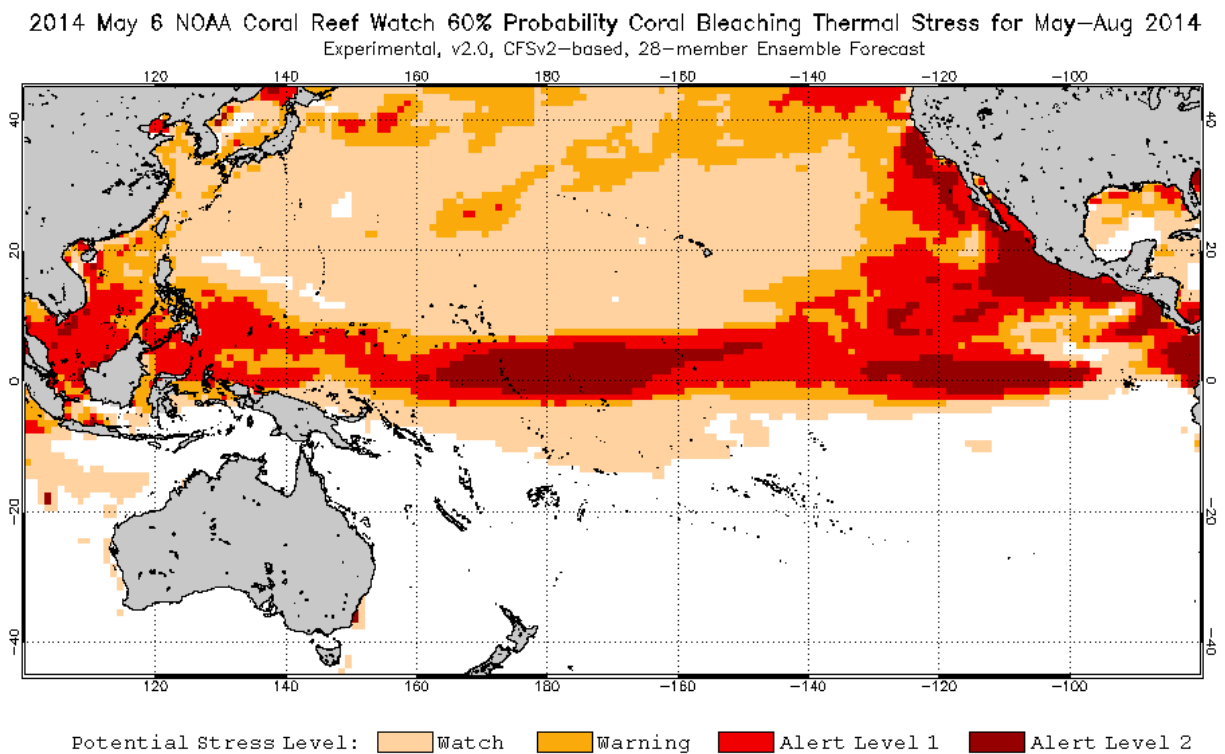


Figure 4: Seasonal Coral Bleaching Thermal Stress Outlook

Program Partners:

