

Pacific Climate Update

Coral Bleaching Heat Stress Analysis and Seasonal Guidance through June 2020

(Released March 3, 2020)

Current conditions:

NOAA Coral Reef Watch's (CRW) [near real-time satellite monitoring](#) shows the sea surface temperature (SST) as alternating between below- and above-average along the equator in the eastern and central equatorial Pacific; as being below-average in the southeast and northeast Pacific; and as being above-average throughout the remainder of the ocean basin (Figure 1). El Niño Southern Oscillation (ENSO)-neutral conditions remain. Over recent months, warm anomalies (>1°C) have surrounded Tuvalu, the Solomon Islands, and the Great Barrier Reef (GBR), Australia. ENSO-neutral is expected to continue through Northern Hemisphere spring (60% chance) and into summer 2020 (50% chance).

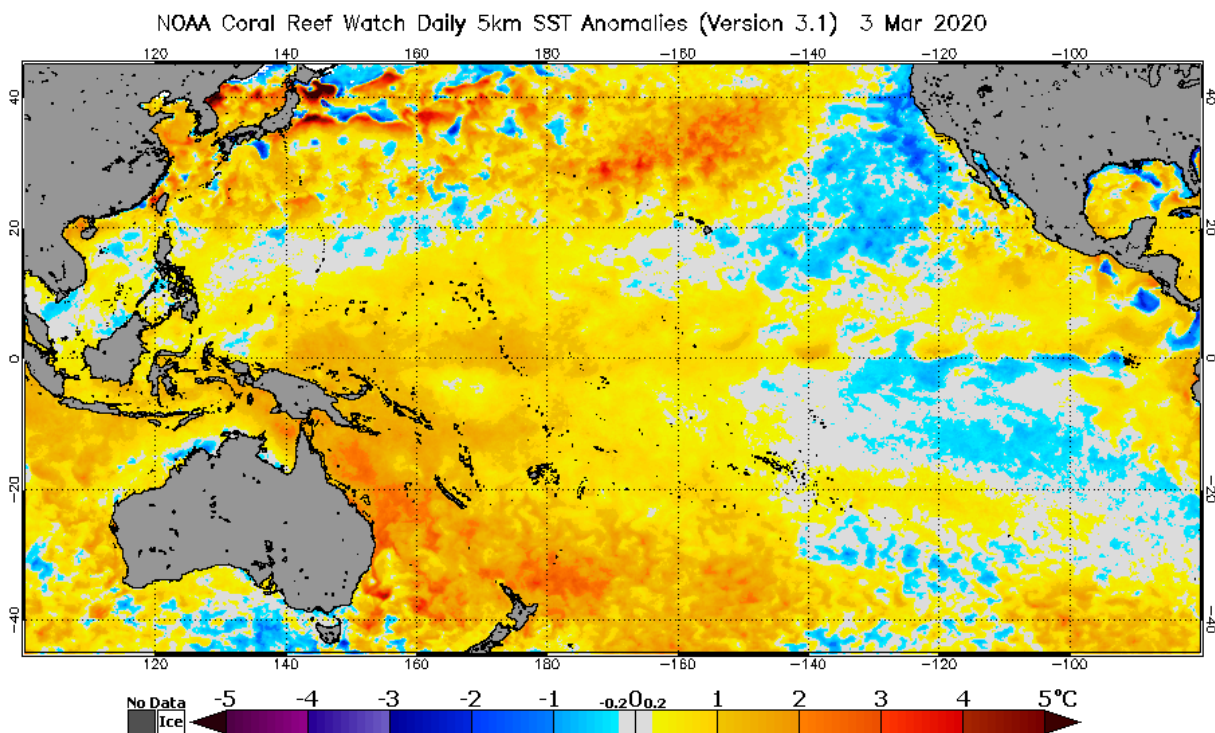


Figure 1. NOAA Coral Reef Watch's Satellite Sea Surface Temperature Anomaly product for the Pacific region.

Currently, the highest HotSpots ($\geq 1^{\circ}\text{C}$) are concentrated around Vanuatu, New Caledonia, and the GBR (Figure 2). Bleaching Alert Level 2 conditions (associated with severe, widespread bleaching and significant coral mortality) ramped up over much of the southern portion of the GBR in February and are expected to reach a peak this month (Figure 3). This mass bleaching event on the GBR will be the third of its kind in just five years, and is predicted to be the most widespread ever.

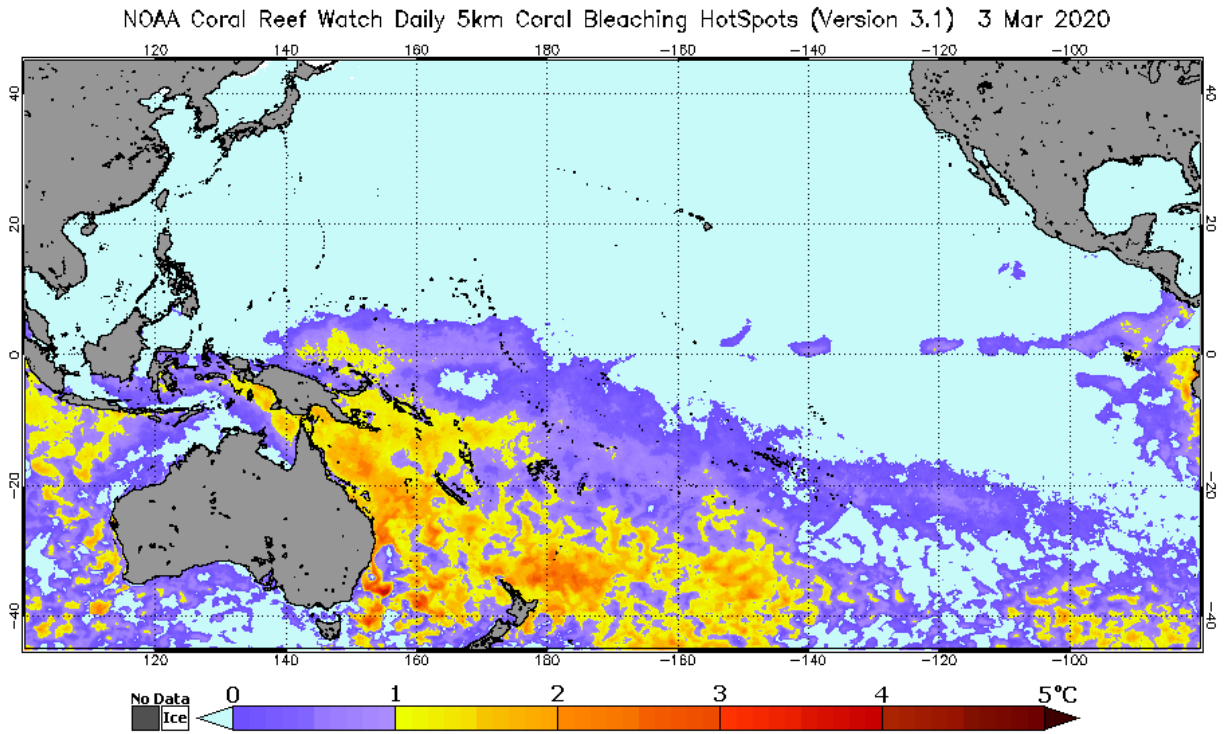


Figure 2. NOAA Coral Reef Watch's Satellite Coral Bleaching HotSpot product for the Pacific region.

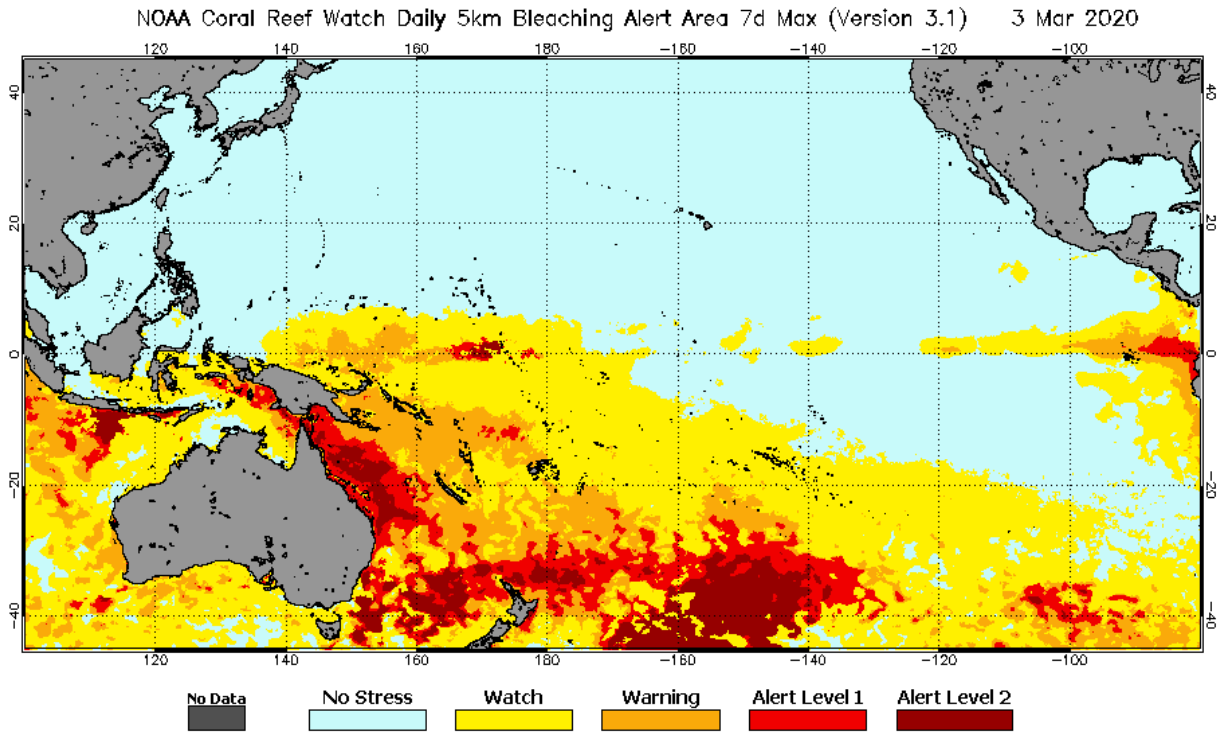


Figure 3. NOAA Coral Reef Watch's Satellite Bleaching Alert Area (7-day maximum) product for the Pacific region.

CRW's most recent [Four-Month Coral Bleaching Outlook](#) (Figure 4) projects heat stress (Bleaching Alert Level 2) will continue on the GBR until early April, then dissipate and expand northward and eastward (at Alert Level 1) toward Tuvalu, American Samoa, and French Polynesia in May. By June 2020, the majority of the heat stress will be near the equator and western equatorial Pacific.

2020 Mar 3 NOAA Coral Reef Watch 60% Probability Coral Bleaching Heat Stress for Mar–Jun 2020
 Experimental, v5.0, CFSv2–based, 28 to 112 Ensemble Members

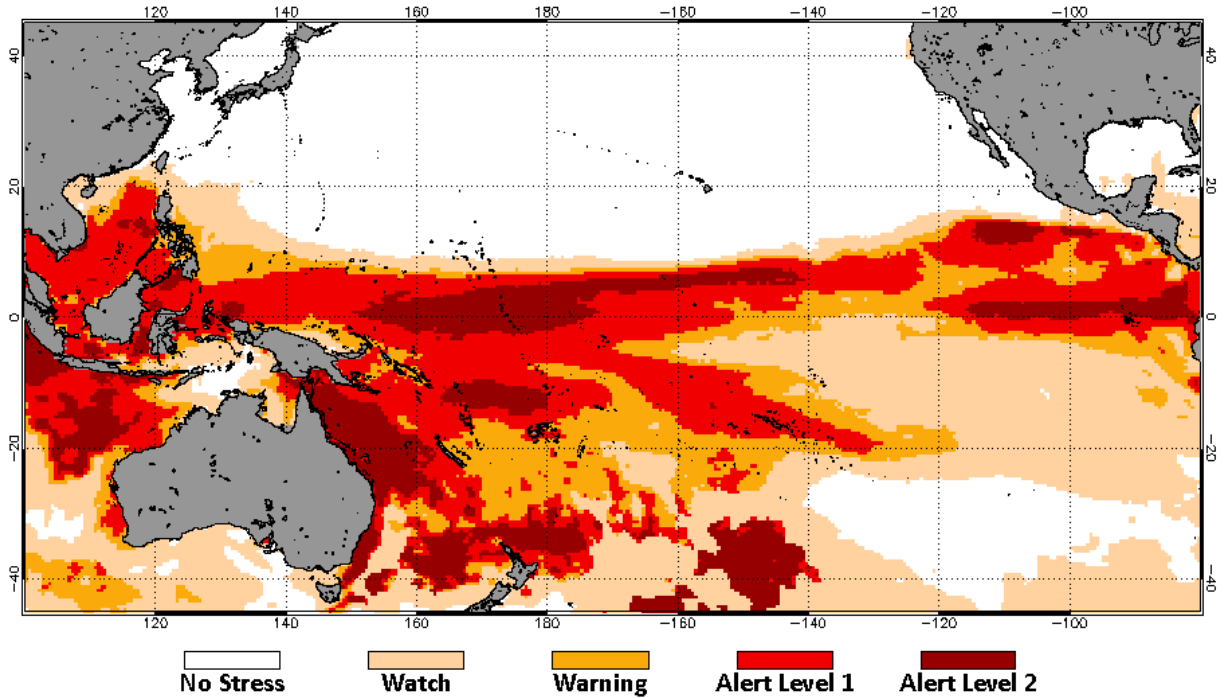


Figure 4. NOAA Coral Reef Watch's Four-Month Coral Bleaching Heat Stress Outlook of March 3, 2020 for the period March-June 2020 for the Pacific region.

*****NOTE: This report incorporates NOAA Coral Reef Watch's Version 3.1 (or v3.1) [5km satellite-based coral bleaching heat stress products](#) and v5 [Four-Month Coral Bleaching Heat Stress Outlook](#).*****

To monitor the intensity and location of bleaching heat stress in your coral reef region of interest, please follow NOAA Coral Reef Watch's satellite monitoring and outlooks closely in the coming weeks: <https://coralreefwatch.noaa.gov/product/5km/index.php> and https://coralreefwatch.noaa.gov/satellite/bleachingoutlook_cfs/outlook_cfs.php.

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