

Pacific Climate Update

Coral Bleaching Heat Stress Analysis and Seasonal Guidance through December 2020

(Released August 28, 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, but predominantly below-average, along the equator in the eastern and central equatorial Pacific; as being below-average in the southeast Pacific; and as being above-average throughout the remainder of the ocean basin (Figure 1). Anomalies remained between one and two degrees above normal for most of June, July and August 2020 around Hawaii, Fiji, American Samoa and Guam. The [El Niño Southern Oscillation \(ENSO\) Alert System](#) status (as of August 13, 2020) is: La Niña Watch. La Niña conditions are slightly favored over ENSO-neutral conditions for August-October 2020.

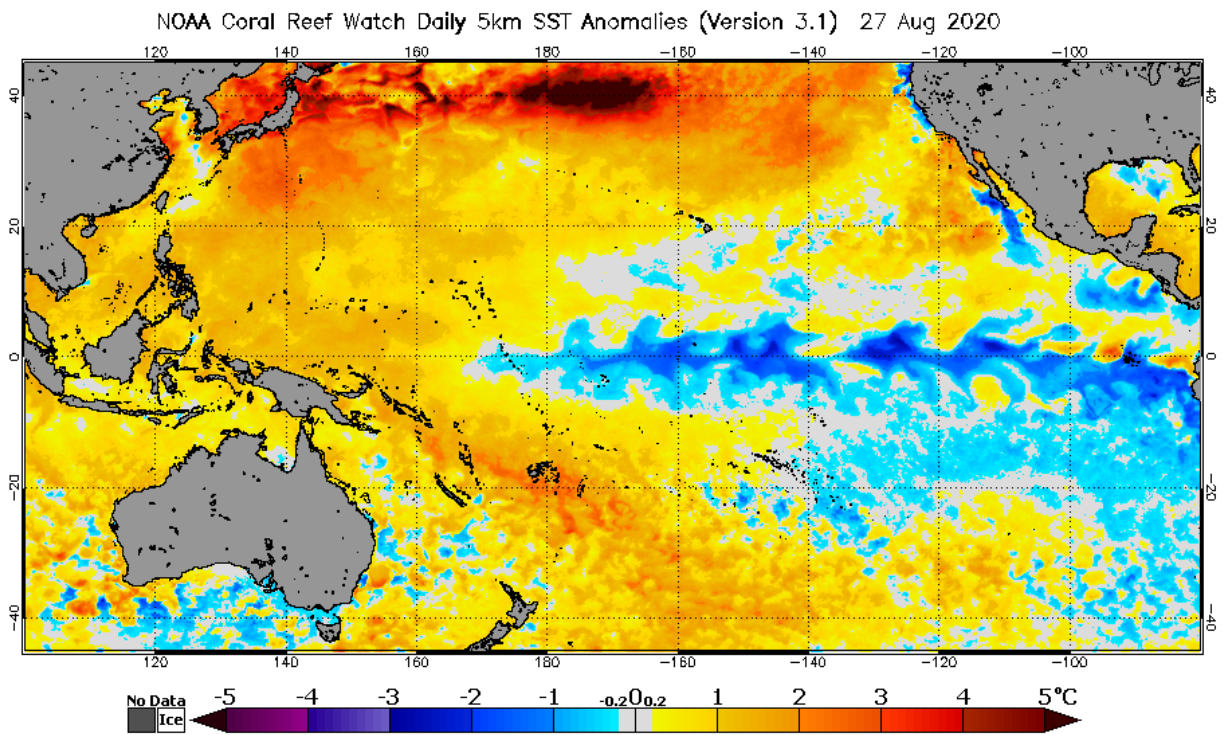


Figure 1. NOAA Coral Reef Watch's Satellite Sea Surface Temperature Anomaly product for the Pacific region.

Coral Bleaching HotSpots remained consistently low ($<1\text{ }^{\circ}\text{C}$) throughout the Pacific these last few months. Only recently, in August, did they elevate above $1\text{ }^{\circ}\text{C}$ around Guam and the Commonwealth of the Northern Mariana Islands (CNMI) (Figure 2). Bleaching Alert Level 1 and 2 conditions (conducive to significant bleaching, and severe bleaching and significant coral mortality, respectively) diminished around American Samoa in early June, and the majority of the Pacific remained under a Bleaching Watch in June and July (Figure 3). Guam and the CNMI have been under a Bleaching Warning since August. The highest alerts (Alert Level 2) have been concentrated around Taiwan and Japan in the northwest Pacific Ocean, as well as the South China Sea, with Taiwan reporting its most severe bleaching event on record.

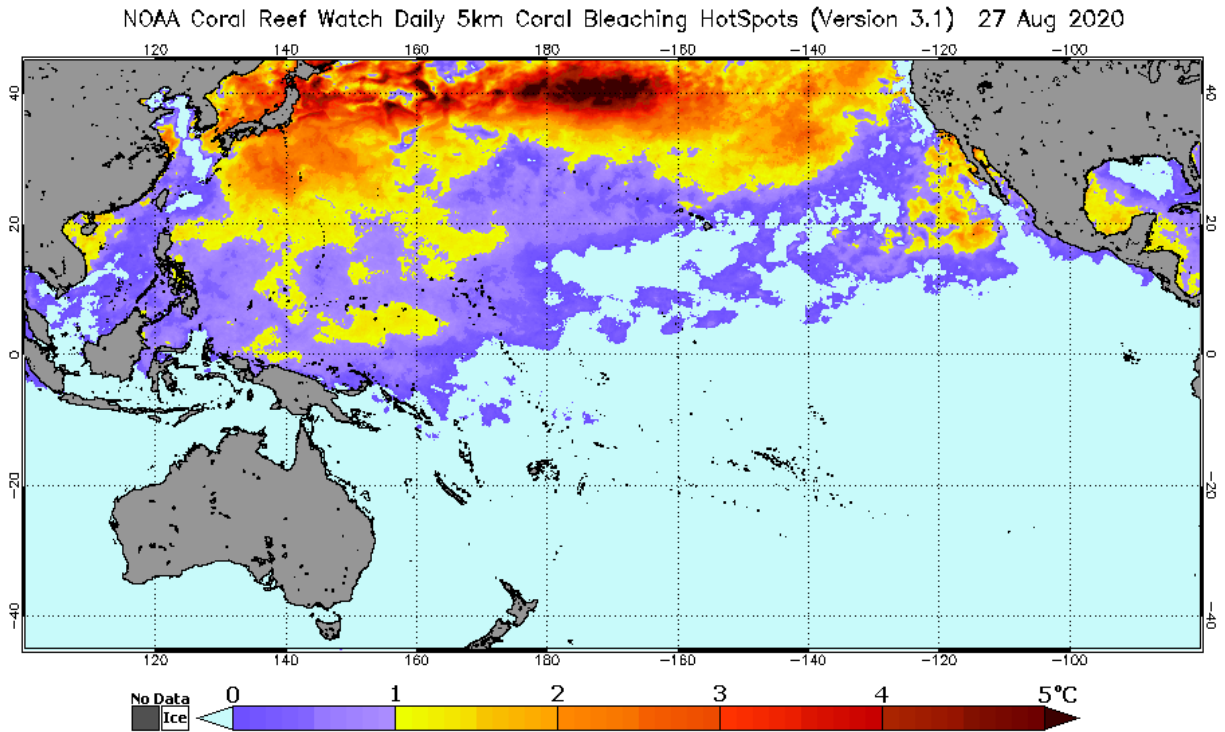


Figure 2. NOAA Coral Reef Watch's Satellite Coral Bleaching HotSpot product for the Pacific region.

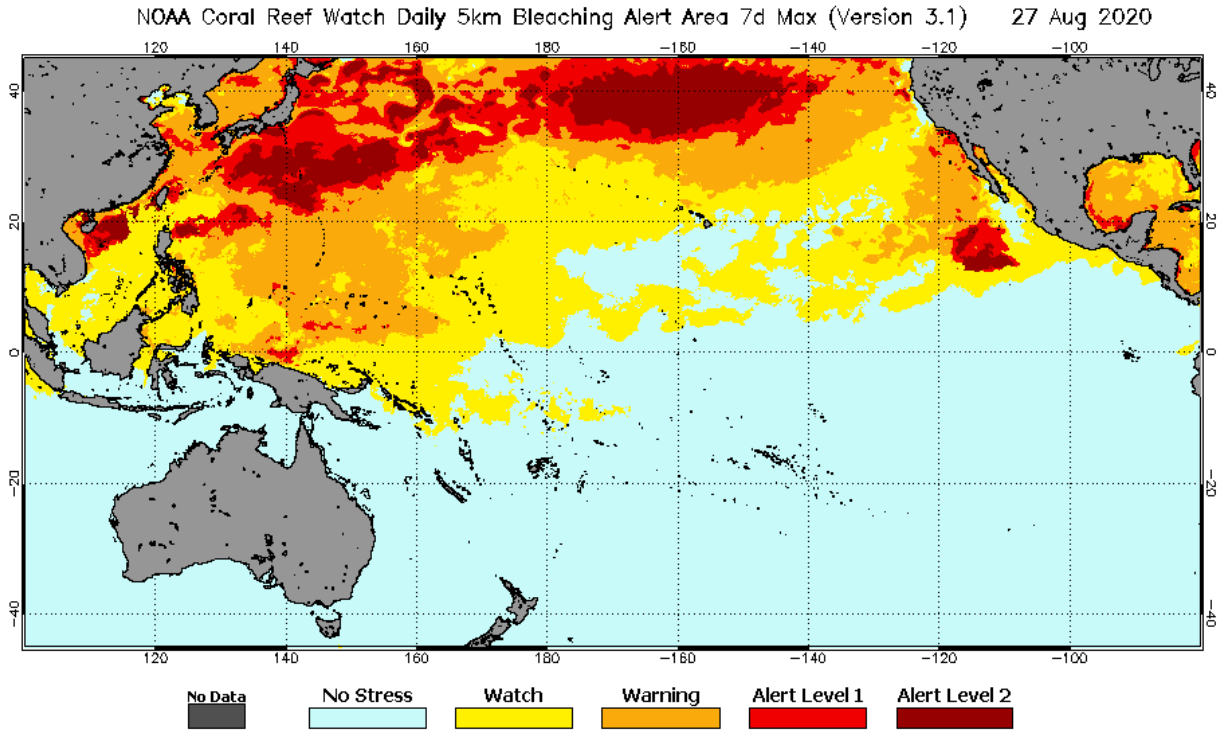


Figure 3. NOAA Coral Reef Watch's Satellite Bleaching Alert Area (7-day maximum) product for the Pacific region.

CRW's most recent [Four-Month Coral Bleaching Outlook](#) (Figure 4) projects heat stress will elevate to Alert Level 2 around Guam and the Federated States of Micronesia by the end of September and likely remain through November. The Hawaiian Islands are expected to be in a Bleaching Warning through most of October and November 2020, with the highest stress happening farther north of the islands around 30 °N latitude.

2020 Aug 25 NOAA Coral Reef Watch 60% Probability Coral Bleaching Heat Stress for Sep–Dec 2020
 Experimental, v5.0, CFSv2–based, 28 to 112 Ensemble Members

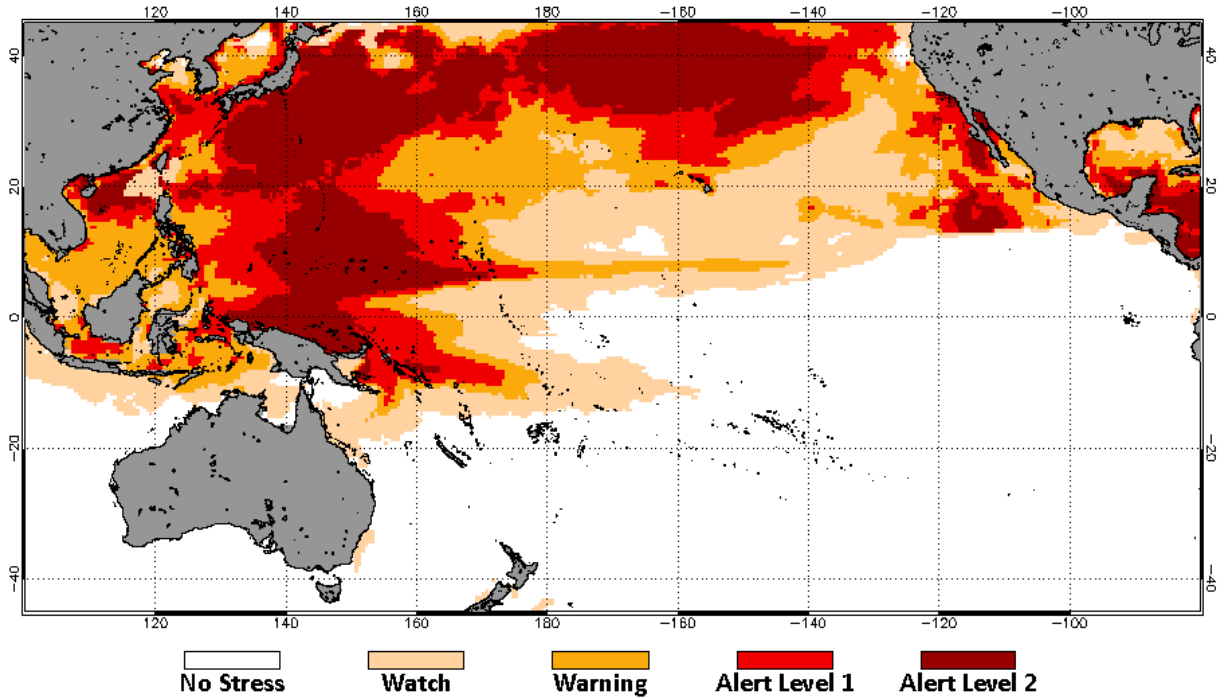


Figure 4. NOAA Coral Reef Watch's Four-Month Coral Bleaching Outlook of August 25, 2020 for the period September–December 2020 for the Pacific region.

*****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 heat stress in your coral reef region of interest, please follow NOAA Coral Reef Watch's satellite monitoring and modeled 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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