

Pacific Climate Update Coral Bleaching Heat Stress Analysis and Seasonal Guidance through March 2021

(Released December 1, 2020)

Current conditions:

NOAA Coral Reef Watch's (CRW) [near real-time satellite monitoring](#) shows the sea surface temperature (SST) 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 September, October, and November 2020 around Hawaii, Fiji, American Samoa and Guam. The [El Niño-Southern Oscillation \(ENSO\) Alert System](#) status (as of November 12, 2020) is La Niña Advisory. La Niña conditions are expected to persist through Northern Hemisphere winter 2020-21 (~95% chance for January-March) and spring 2021 (~65% chance for March-May).

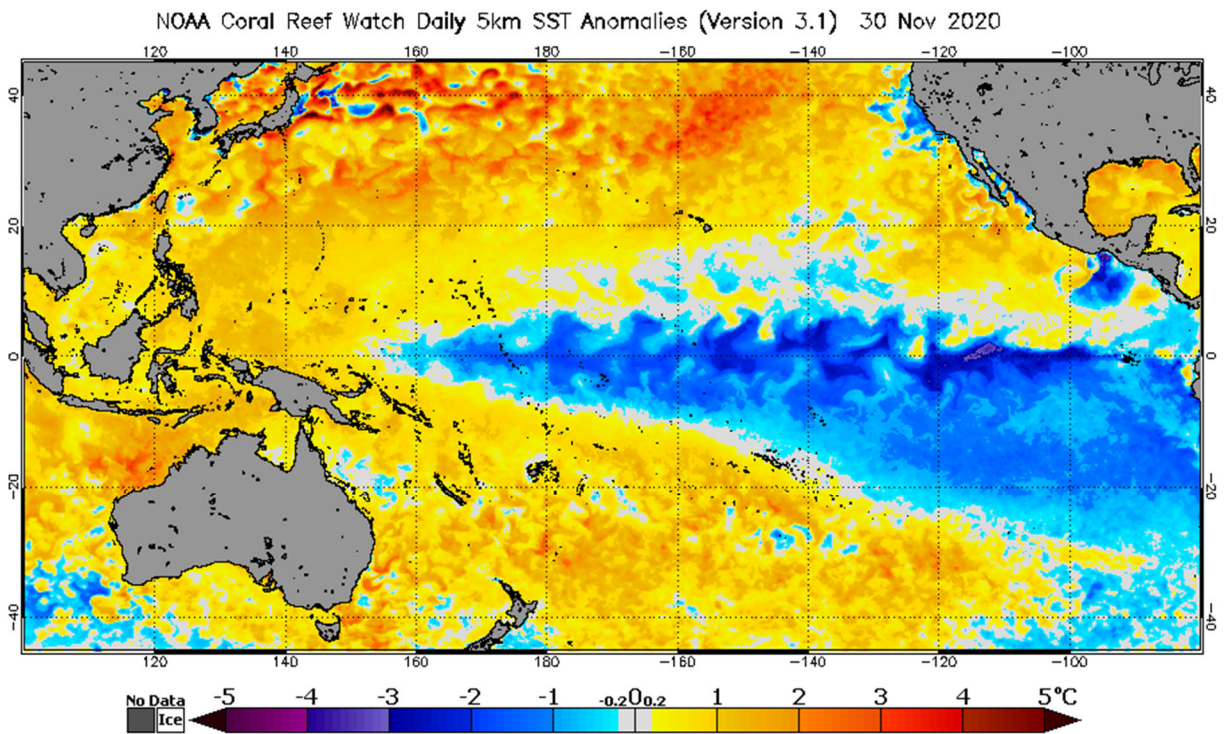


Figure 1. NOAA Coral Reef Watch's Satellite Sea Surface Temperature Anomaly product for the Pacific region.

Coral Bleaching HotSpots reached $\sim 1^{\circ}\text{C}$ around Hawaii, Guam, and the Federated States of Micronesia and decreased in all three locations throughout November (Figure 2). Hawaii reached Bleaching Warning conditions in early October with some locations reaching Alert Level 1, but decreased to a Bleaching Watch in November (Figure 3). CRW received limited reports of coral bleaching in various locations around Hawaii over the period September-November 2020. Guam and the Commonwealth of the Northern Mariana Islands (CNMI) reached Alert Level 1 in late September, but diminished to a Bleaching Watch in November. The highest alerts (Alert Level 2) have been concentrated around the western Federated States of Micronesia.

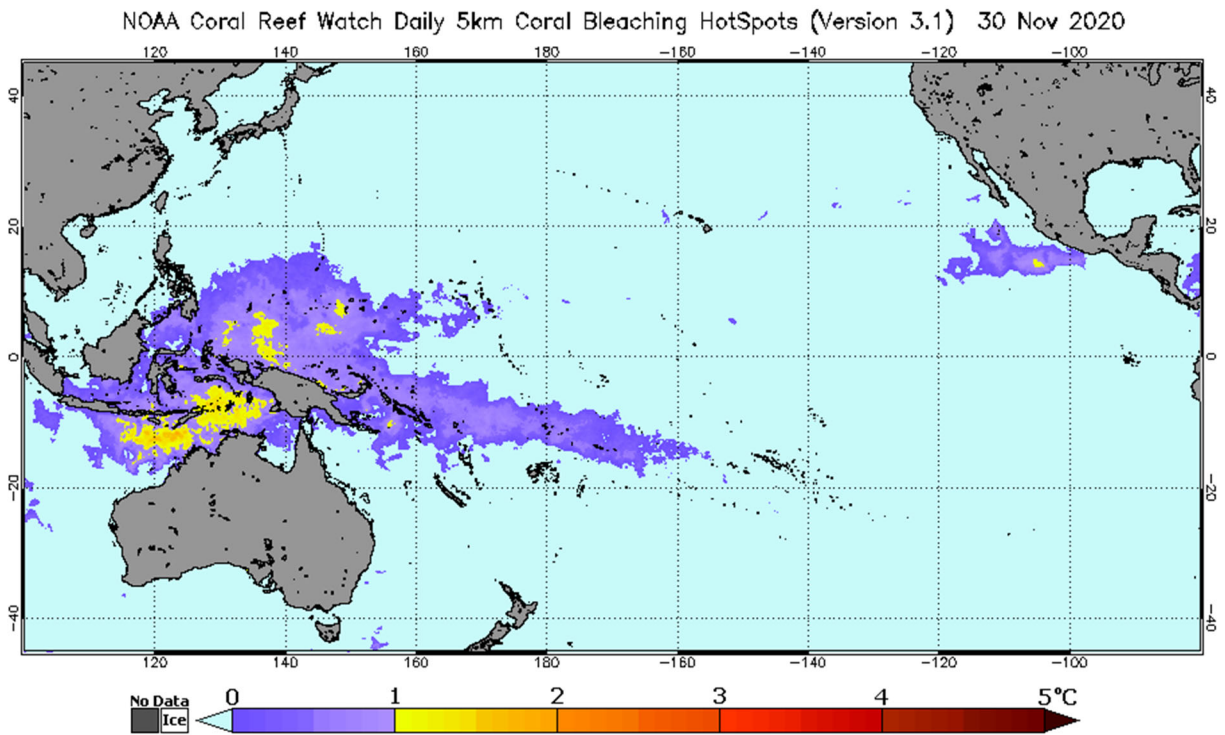


Figure 2. NOAA Coral Reef Watch's Satellite Coral Bleaching HotSpot product for the Pacific region.

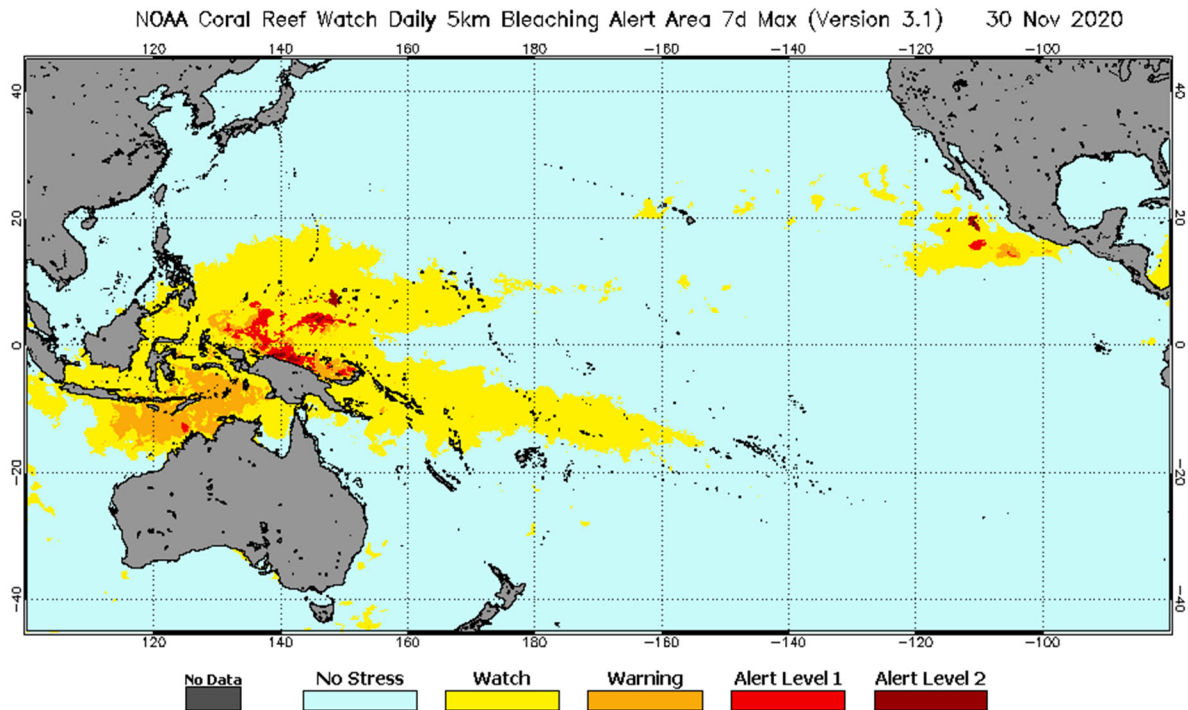


Figure 3. NOAA Coral Reef Watch's Satellite Bleaching Alert Area (7-day maximum) product for the Pacific region.

CRW's most recent [Four-Month Coral Bleaching Outlook](#) (Figure 4) projects heat stress will elevate to Alert Level 2 around Papua New Guinea and extend southeastward to Fiji and New Caledonia by March 2021. American Samoa is expected to reach Alert Level 1 by the end of January 2021.

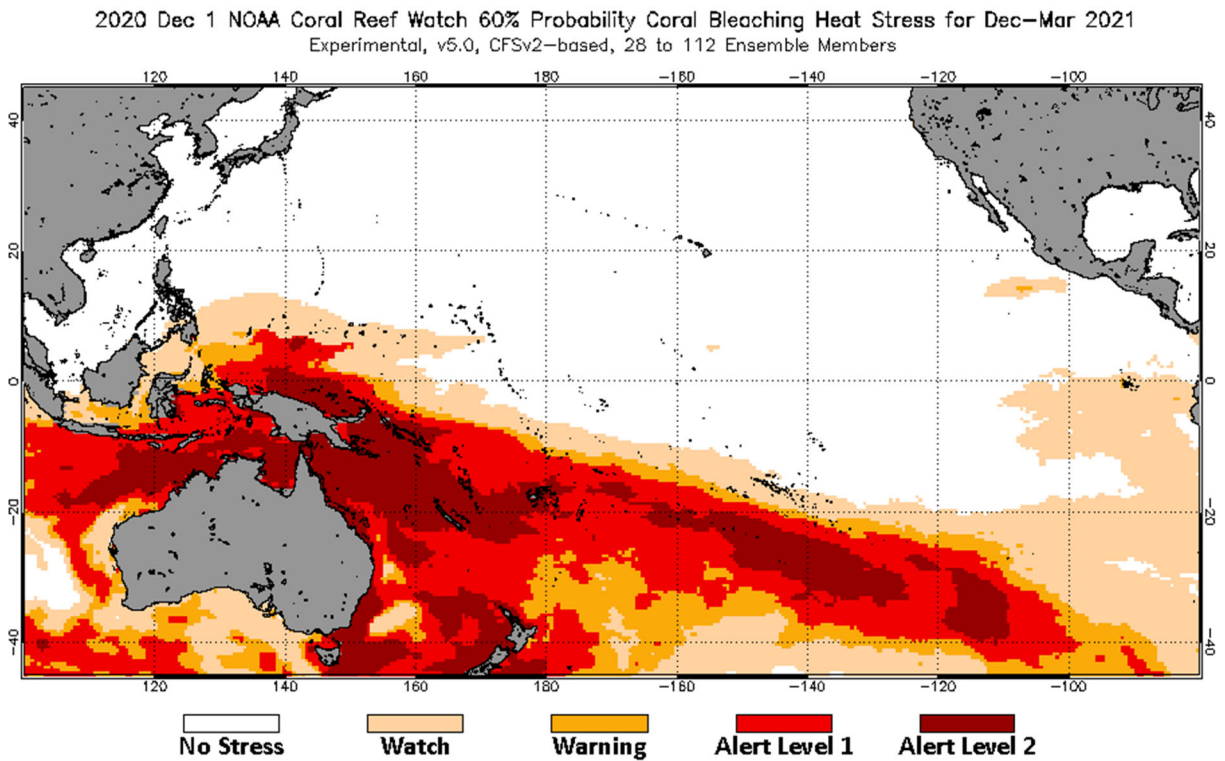


Figure 4. NOAA Coral Reef Watch's Four-Month Coral Bleaching Outlook of December 1, 2020 for the period December 2020–March 2021 for the Pacific region.

*****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 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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