

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

(Released August 31, 2021)

Current conditions:

NOAA Coral Reef Watch's (CRW) [near real-time satellite monitoring](#) shows the sea surface temperature (SST) as being predominantly positive, except for in the central equatorial Pacific Ocean (east of Kiribati) and in the majority of the eastern Pacific. Centered in the eastern portion of the far north Pacific, anomalously high and long-lasting SST anomalies have been a concern for a few months now (Figure 1). This marine heatwave (a return of the “Blob”?) may significantly impact ecosystems in the region. As of August 12, 2021, the NOAA National Centers for Environmental Prediction's (NCEP) [El Niño-Southern Oscillation \(ENSO\) Alert System](#) status remains at a La Niña Watch. ENSO-neutral is favored for the remainder of summer 2021 (~60% chance in the July-September season), with La Niña possibly emerging during the August-October season and lasting through winter 2021-22 (~70% chance during November-January).

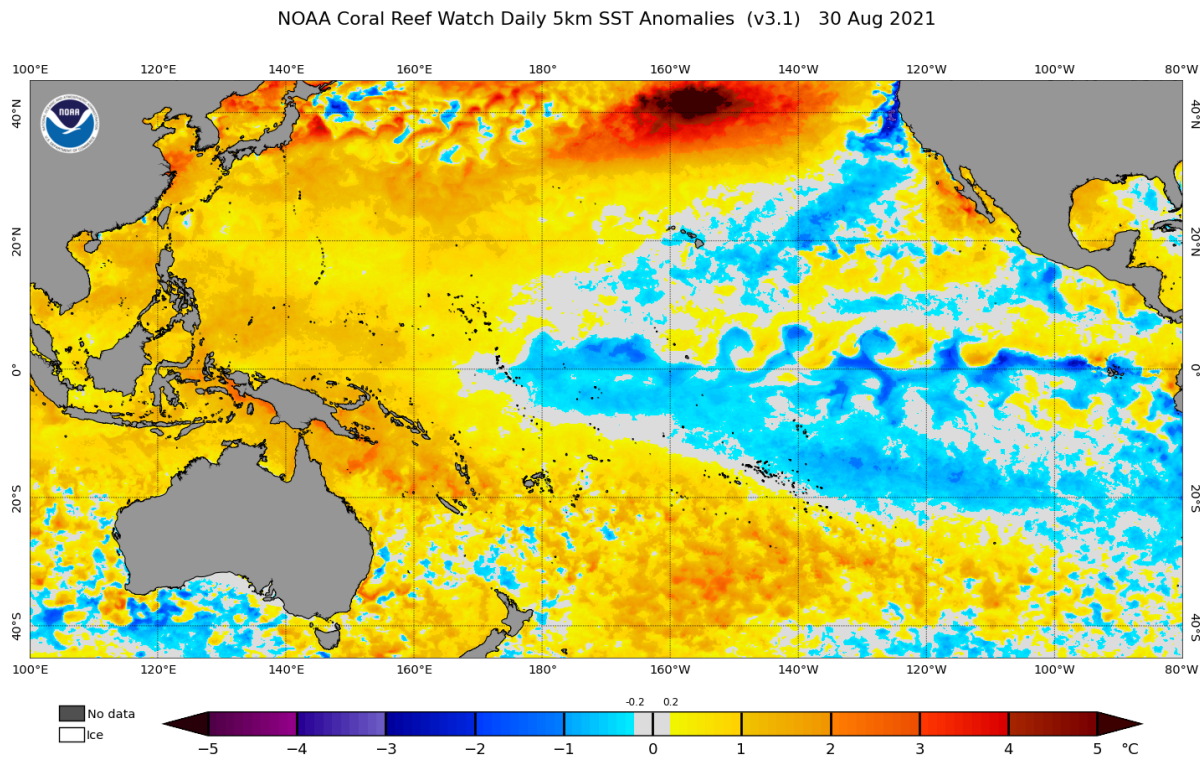


Figure 1. NOAA Coral Reef Watch's Satellite Sea Surface Temperature (SST) Anomaly product for the Pacific region.

Coral Bleaching HotSpots remained $<1^{\circ}\text{C}$ throughout the majority of the Pacific, from June-August 2021 (Figure 2), resulting in CRW issuing a Bleaching Watch for most areas (Figure 3). Near the end of August, CRW issued a Bleaching Warning for the Federated States of Micronesia (FSM) and Wake Atoll (Figure 3).

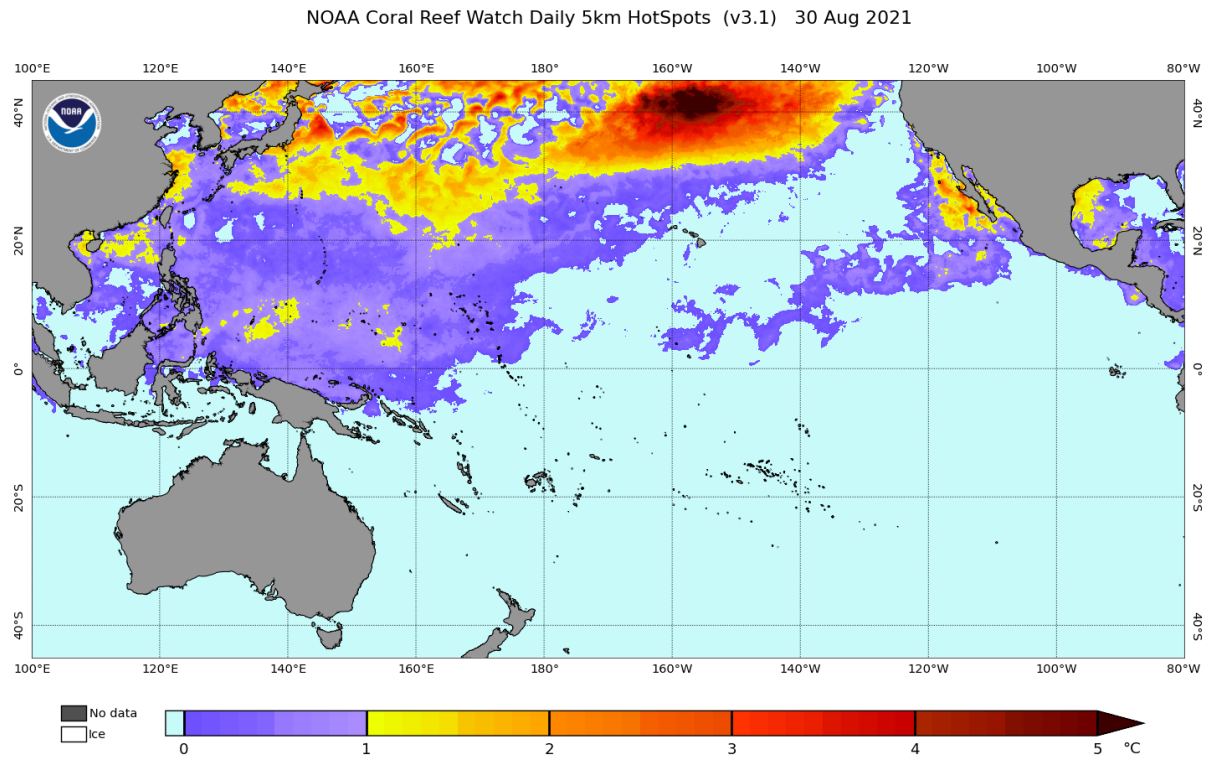


Figure 2. NOAA Coral Reef Watch's Satellite Coral Bleaching HotSpot product for the Pacific region.

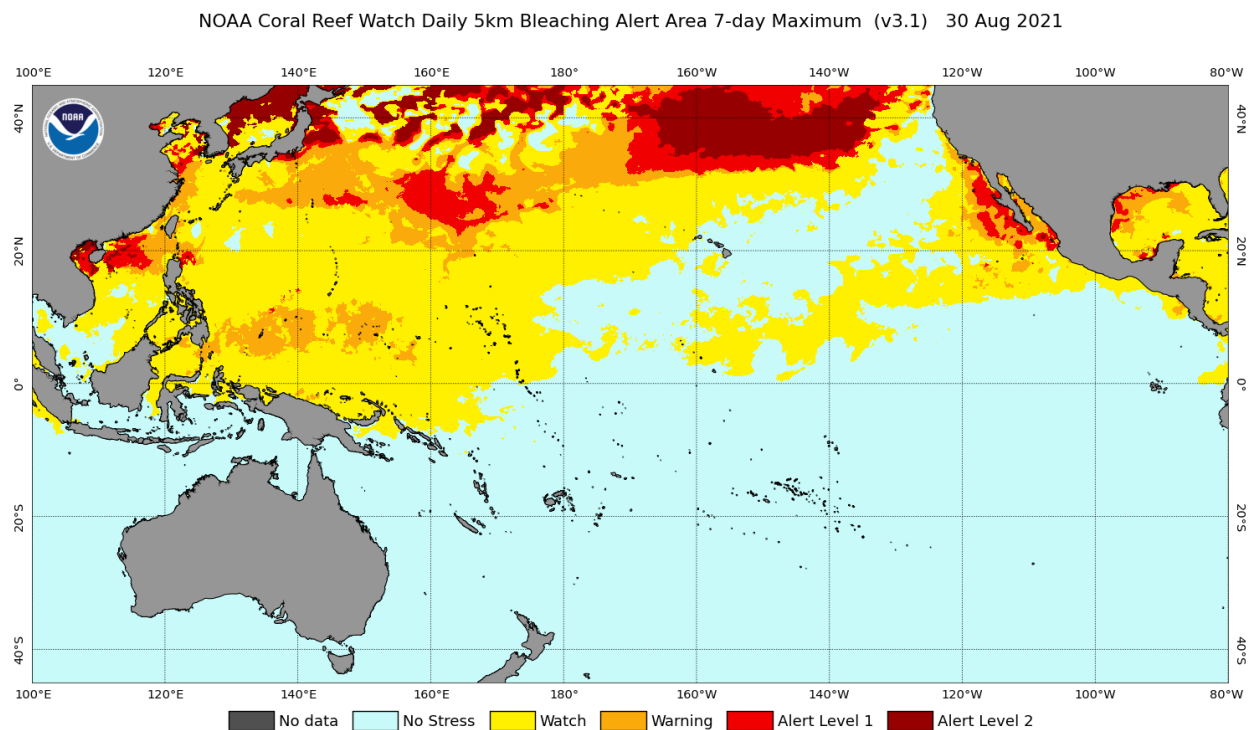


Figure 3. NOAA Coral Reef Watch's Satellite Bleaching Alert Area (7-day maximum) product for the Pacific region.

CRW's most recent [Four-Month Coral Bleaching Outlook](#) (Figure 4) projects heat stress will elevate to Alert Level 2 around the FSM and Alert Level 1 in Guam by November 2021.

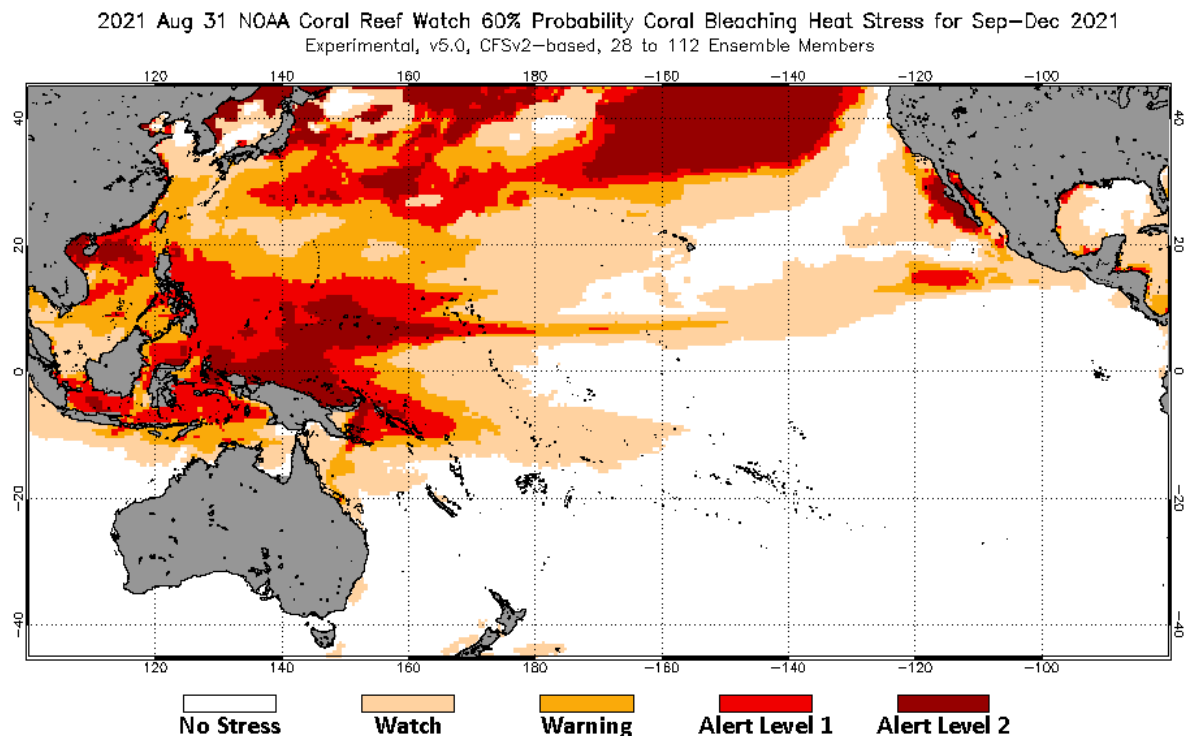


Figure 4. NOAA Coral Reef Watch's Four-Month Coral Bleaching Outlook of August 31, 2021 for the period September-December 2021 for the Pacific region.

*****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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