

Pacific Climate Update

Coral Bleaching Heat Stress Analysis and Seasonal Guidance through February 2018

(Released November 9, 2017)

Current conditions:

NOAA Coral Reef Watch's (CRW) near-real-time satellite monitoring shows above-average sea surface temperature (SST) in the western Pacific Ocean in both hemispheres as the warm season advances from the northern to southern hemisphere. Warm anomalies have concentrated around the eastern Federated States of Micronesia (FSM), the Marshall Islands, and Vanuatu/New Caledonia/Fiji, and have extended to the Samoas (Figure 1). As of November 9, 2017, the NOAA National Centers for Environmental Prediction's El Niño-Southern Oscillation (ENSO) Alert System is at "[La Niña Advisory](#)" status. Throughout the last month, SSTs were below-average across much of the central and eastern equatorial Pacific Ocean, indicating the presence of weak La Niña conditions.

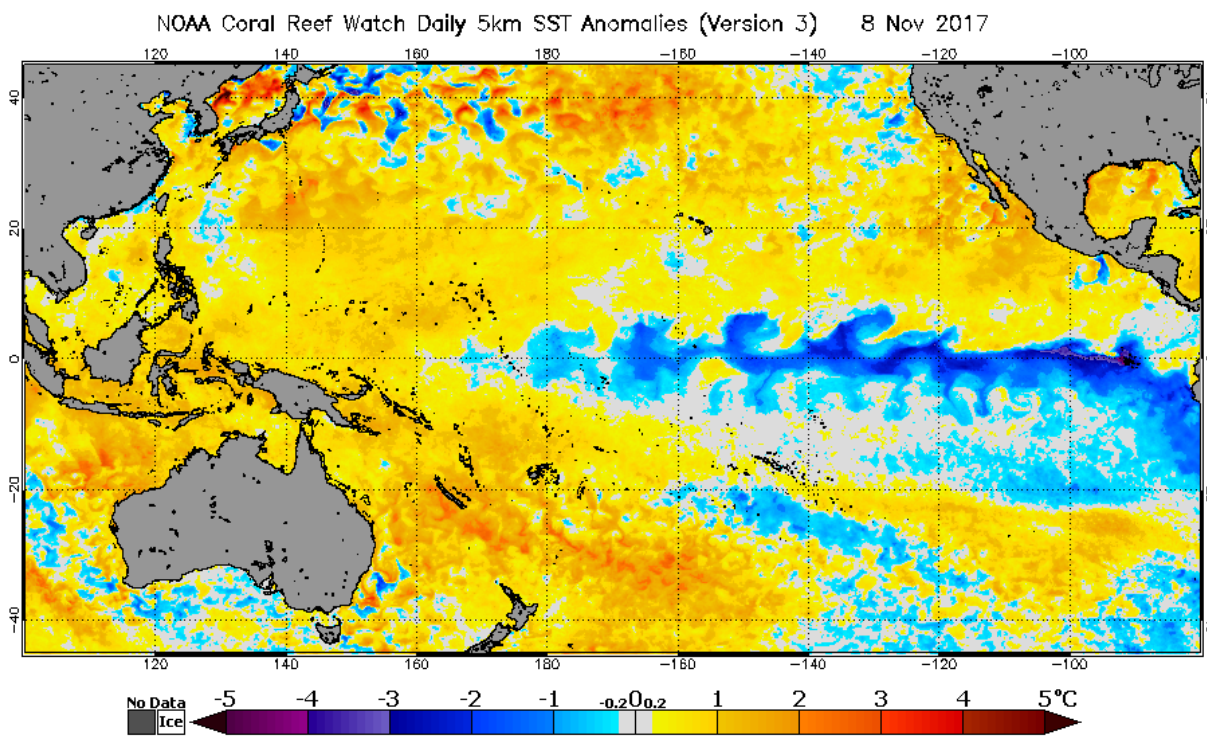


Figure 1. NOAA Coral Reef Watch's Satellite Sea Surface Temperature Anomaly product for the Pacific region.

HotSpots around Guam and the Commonwealth of the Northern Mariana Islands (CNMI) peaked in August, persisted in September, and diminished in October (Figure 2). In the eastern FSM and western Marshall Islands, HotSpots were present throughout the past three months and continue, with each region reaching Bleaching Alert Level 2 status (Figure 3). This is the fifth consecutive year Guam and the CNMI have reached such high bleaching alert levels and that Guam has reported widespread bleaching in the field. Guam and the CNMI have returned to a Bleaching Watch as the northern hemisphere winter approaches (Figure 3). The FSM remains at Alert Level 2; however, relief in the form of a Bleaching Watch is expected in the coming months.

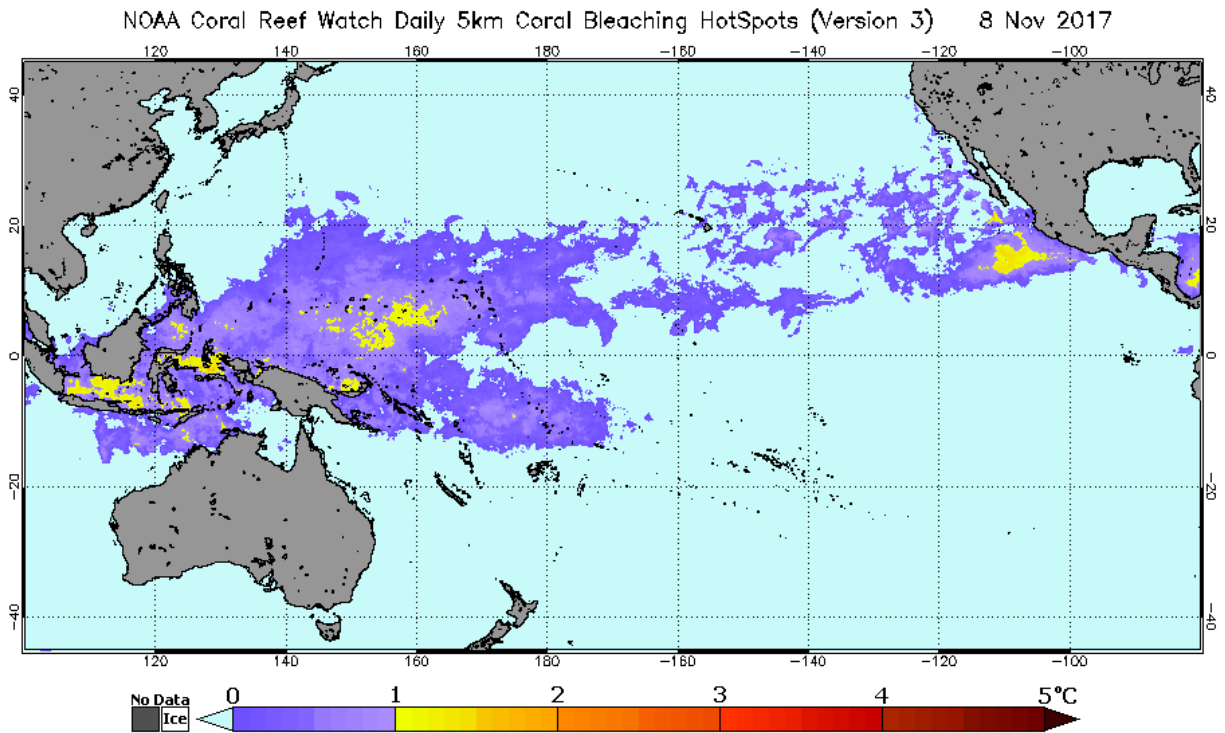


Figure 2. NOAA Coral Reef Watch's Satellite Coral Bleaching HotSpot product for the Pacific region.

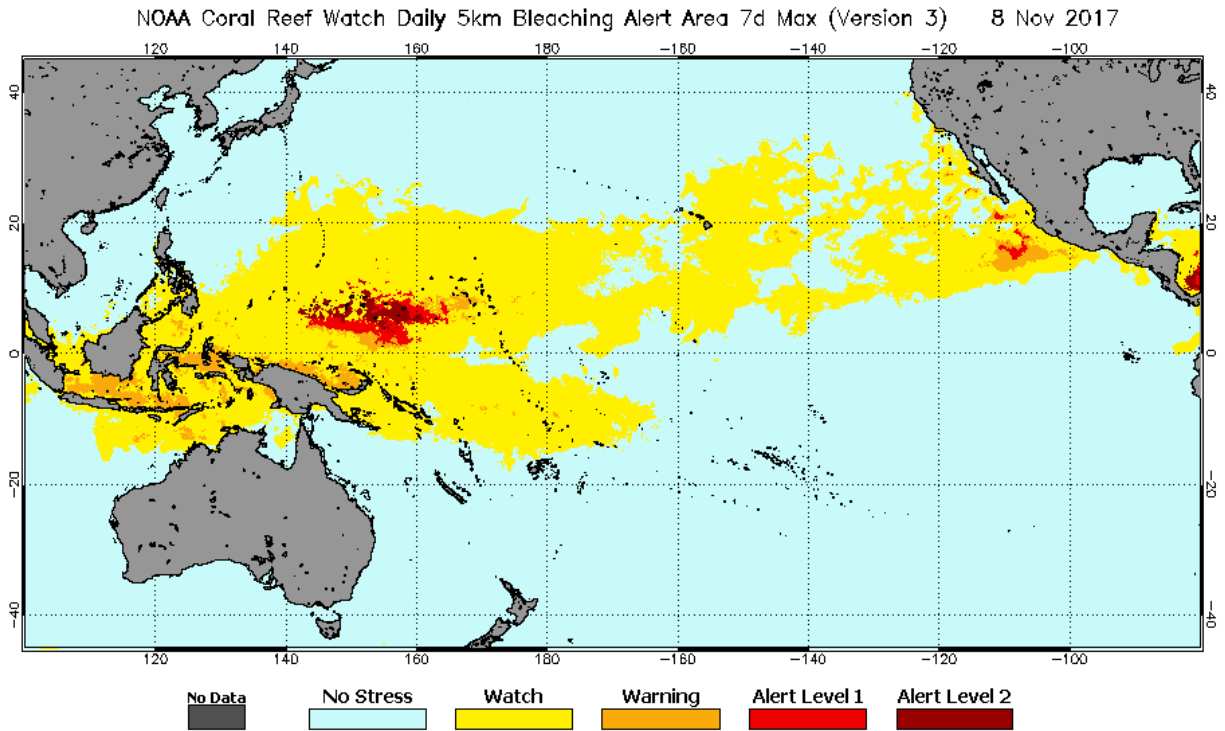


Figure 3. NOAA Coral Reef Watch's Satellite Bleaching Alert Area (7-day maximum) product for the Pacific region.

CRW's most recent Four-Month Coral Bleaching Outlook (Figure 4) projects heat stress will diminish in the FSM and Marshall Islands in November. Waters around Papua New Guinea and the Solomon Islands are heating up; both regions are expected to reach Alert Level 1 by December 2017 and Alert Level 2 by mid-January 2018. North of Fiji, around Tuvalu and Wallis and Futuna, is expected to reach Alert Level 1 by mid-January 2018. Bleaching heat stress is anticipated to elevate to Alert Level 1 in the Samoas as well again. Due to the development of the weak La Niña, Howland Island, Baker Island, Kingman Reef, Palmyra Atoll, and Jarvis Island, situated along the central equatorial Pacific, are expected to escape bleaching heat stress in the coming months.

2017 Nov 7 NOAA Coral Reef Watch 60% Probability Coral Bleaching Thermal Stress for Nov–Feb 2018
Experimental, v4.0, CFSv2–based, 28 to 112 Ensemble Members

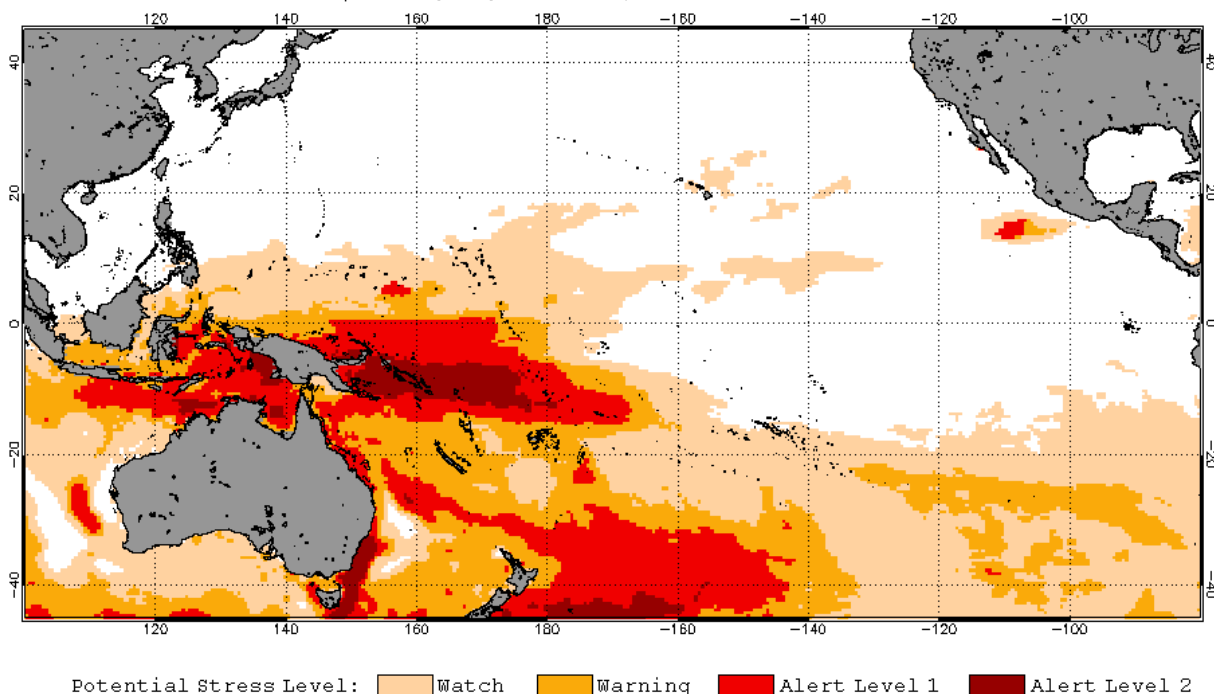


Figure 4. NOAA Coral Reef Watch's Four-Month Coral Bleaching Heat Stress Outlook of November 7, 2017 for the period November 2017-February 2018 for the Pacific region.

NOTE: This report focuses on NOAA Coral Reef Watch's new Version 3.0 (or v3) 5km satellite-based coral bleaching heat stress products and v4 Four-Month Coral Bleaching Heat Stress Outlook. The 5km satellite products presented here use CRW's new color scales, which are implemented in the images posted on the CRW website.

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/satellite/bleaching5km/index.php> and https://coralreefwatch.noaa.gov/satellite/bleachingoutlook_cfs/outlook_cfs.php.

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