

Pacific Climate Update Coral Bleaching Heat Stress Analysis and Seasonal Guidance through June 2019

(Released March 6, 2019)

Current conditions:

NOAA Coral Reef Watch's (CRW) [near real-time satellite monitoring](#) shows above-average sea surface temperatures (SSTs) in much of the equatorial Pacific Ocean, with the highest anomalies (between 1 and 2°C, with some areas exceeding 2°C) surrounding Fiji, the Southern Cook Islands, and the Pitcairn Islands (Figure 1). Additionally, over recent months, warm anomalies have surrounded American Samoa and the Austral Islands. In the central and eastern equatorial Pacific, SSTs remain above average and are associated with a weak El Niño that formed during January 2019. As of February 14, 2019, the NOAA National Centers for Environmental Prediction's El Niño Southern Oscillation (ENSO) Alert System has been elevated to [El Niño Advisory](#) status. Weak El Niño conditions are expected to continue through Northern Hemisphere spring 2019 (55% chance).

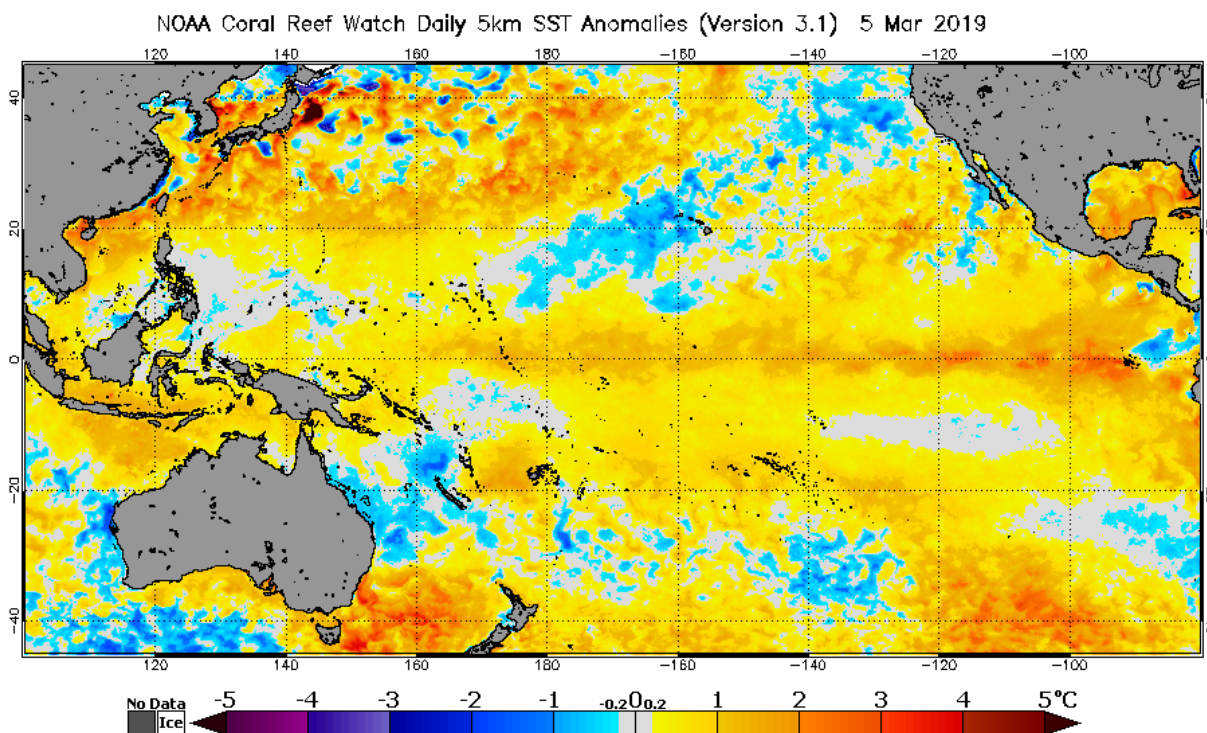


Figure 1. NOAA Coral Reef Watch's Satellite Sea Surface Temperature Anomaly product for the Pacific region.

In recent months, HotSpots diminished from the Gilbert Islands, Kiribati and migrated south to Fiji, American Samoa, and portions of French Polynesia. In the eastern Pacific Ocean the Galapagos Islands are occasionally experiencing HotSpots exceeding 2°C (Figure 2). As a result, the current bleaching status for Fiji, American Samoa, the Southern Cook Islands, Pitcairn Islands, and the Galapagos Islands is Alert Level 1 (Figure 3). Coral bleaching has been reported in some locations in Fiji. Vanuatu, the Austral Islands, and Isla del Coco, Costa Rica have reached Bleaching Warning status. The majority of remaining coral reef areas in the equatorial and Southern Pacific Ocean are at a Bleaching Watch. Further heat stress is expected as El Niño conditions continue throughout Northern Hemisphere spring.

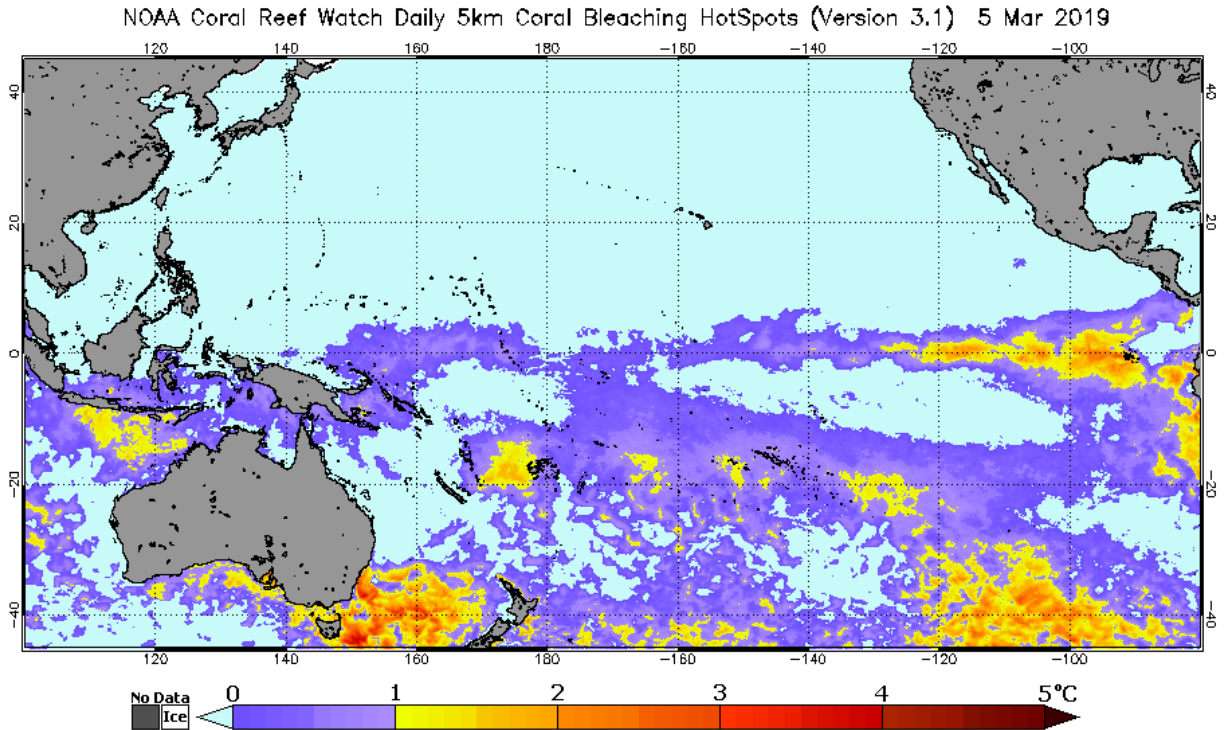


Figure 2. NOAA Coral Reef Watch's Satellite Coral Bleaching HotSpot product for the Pacific region.

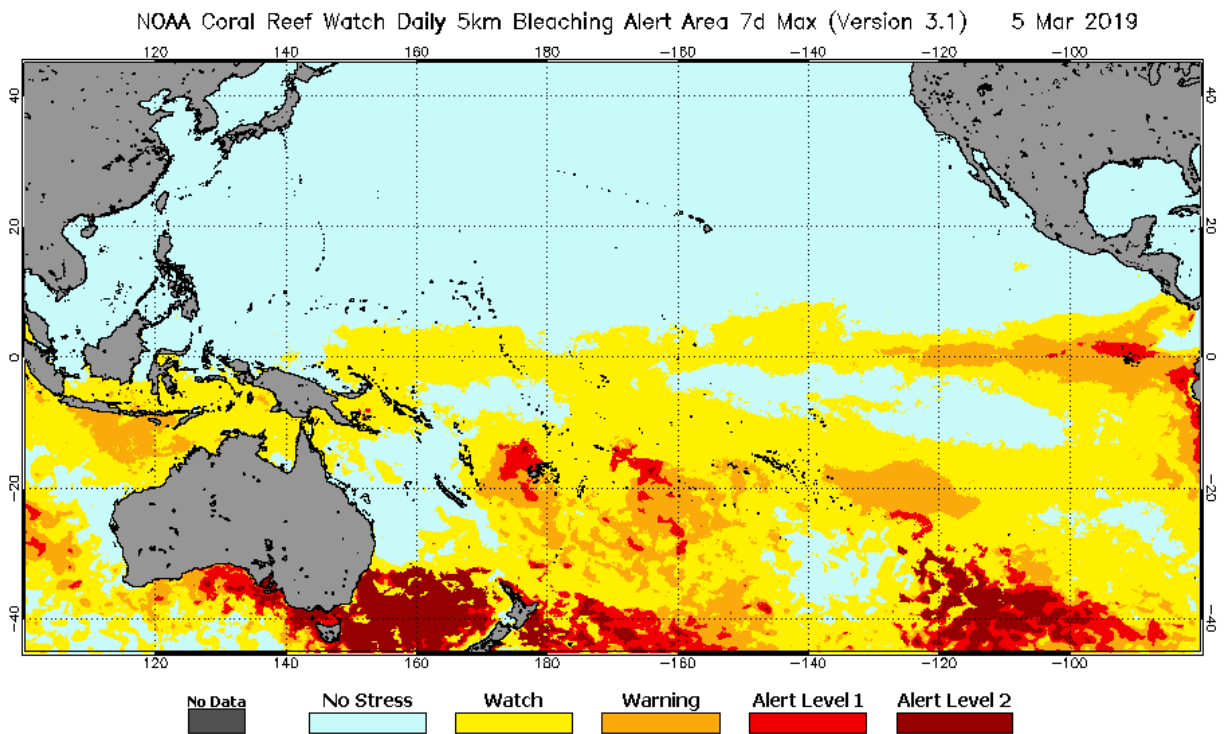


Figure 3. NOAA Coral Reef Watch's Satellite Bleaching Alert Area (7-day maximum) product for the Pacific region.

CRW's most recent [Four-Month Coral Bleaching Outlook](#) (Figure 4) projects heating in the eastern and equatorial Pacific Ocean to increase (Alert Levels 1 and 2) and expand through April and May 2019. Waters surrounding American Samoa and the Cook Islands are expected to remain at Alert Level 1 and possibly reach Alert Level 2 by April. Similarly, waters surrounding French Polynesia are expected to remain at Alert Level 1 through May, but should begin to cool down by June 2019. The Galapagos Islands, which experience highly dynamic SSTs, are expected to fluctuate between Alert Levels 1 and 2 through North American summer 2019. Bleaching heat stress is predicted to return to the Kiribati region in the coming months, as the season changes and the El Niño continues.

2019 Mar 5 NOAA Coral Reef Watch 60% Probability Coral Bleaching Heat Stress for Mar–Jun 2019
Experimental, v5.0, CFSv2–based, 28 to 112 Ensemble Members

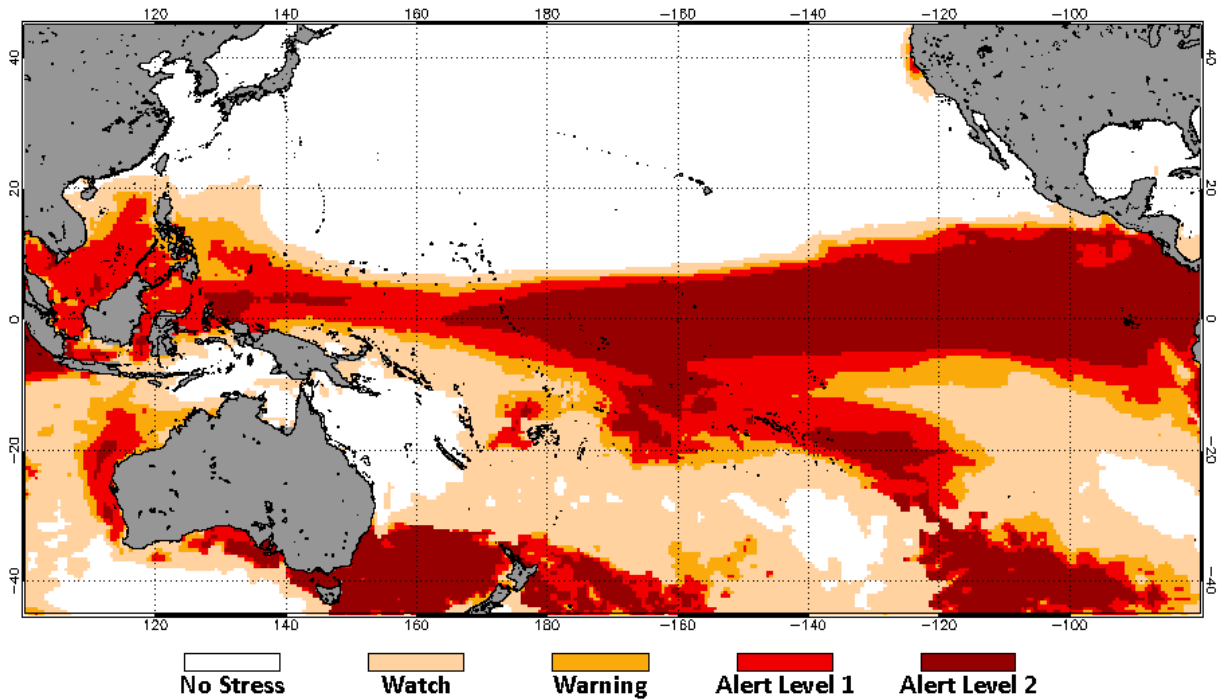


Figure 4. NOAA Coral Reef Watch's Four-Month Coral Bleaching Heat Stress Outlook of March 5, 2019 for the period March–June 2019 for the Pacific region.

*****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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