

Status of Bleaching Heat Stress on the Great Barrier Reef, Australia – 2020

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NOAA Coral Reef Watch’s (CRW) [daily global 5km satellite Coral Bleaching HotSpot](#) product (Figure 1) indicates that with the exception of a few outer barrier reefs north of Wilson Reef and south of Raine Island, the entire Great Barrier Reef (GBR) in Australia has dropped below the heat stress threshold and is no longer accumulating heat stress. When coupled with CRW’s [Four-Month Coral Bleaching Outlook](#) prediction (Figure 2), this suggests that the marine heatwave (severe, prolonged heat stress), which has been driving the mass coral bleaching event on the GBR, is almost at an end.

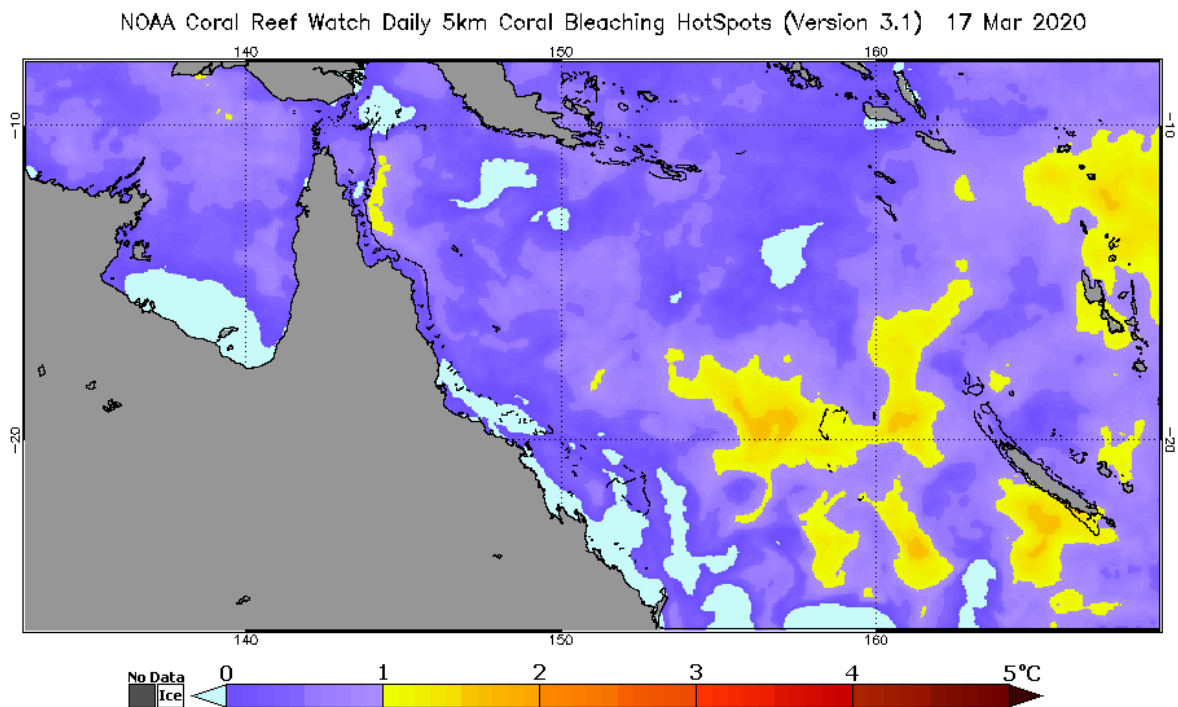


Figure 1. NOAA CRW’s [daily global 5km satellite Coral Bleaching HotSpot](#) product for the GBR. Only a few outer barrier reefs in the far northern section of the GBR are continuing to accumulate heat stress, as indicated by the yellow coloring in the image.

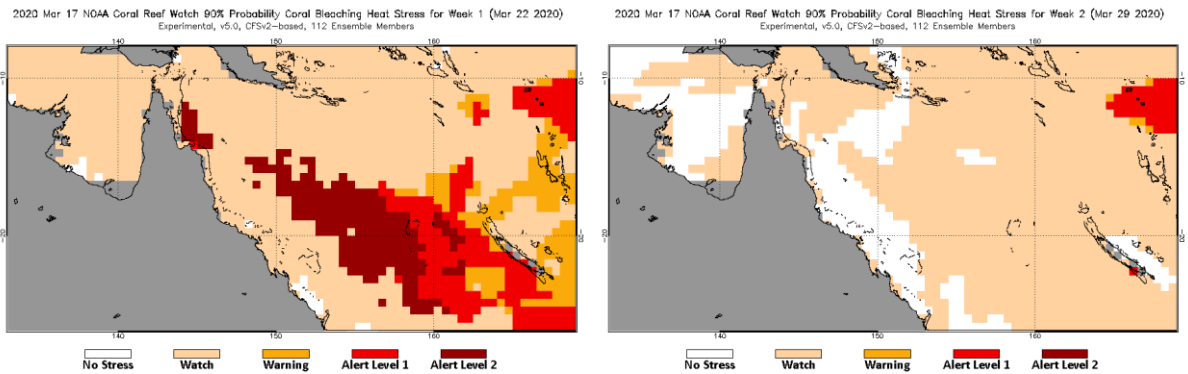


Figure 2. NOAA CRW's [Four Month Coral Bleaching Outlook](#), issued March 17, 2020, for the weeks beginning March 22 (left) and March 29 (right).

CRW's [daily global 5km satellite coral bleaching Degree Heating Week \(DHW\)](#) product (Figure 3) suggests that most reefs along the GBR, as well as all Coral Sea reefs (those offshore from the GBR, both east and south), should have significant coral bleaching, due to the high levels of accumulated heat stress these past weeks. Based on CRW's recent analysis of past bleaching events along the GBR, combined with in-water reports of bleaching received from the Great Barrier Reef Marine Park Authority, Australian Institute of Marine Science, and the University of Queensland, we expect that a $DHW \geq 2.5$ is a relatively conservative threshold for mapping significant coral bleaching along the reef tract.

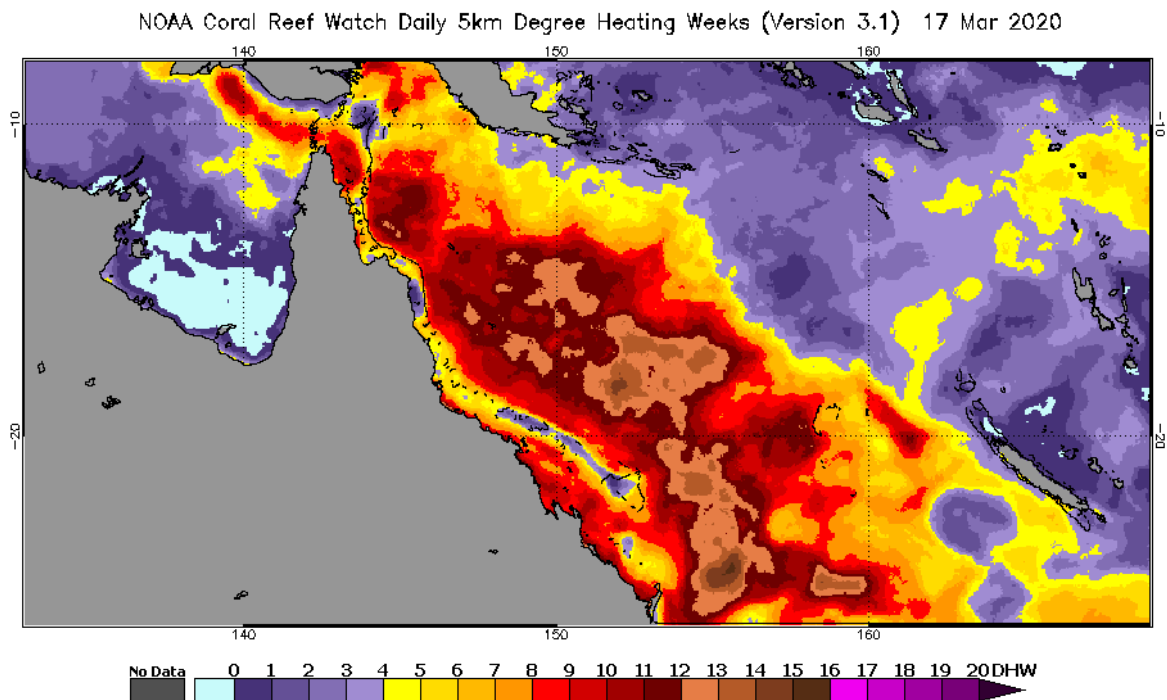


Figure 3. NOAA CRW's [daily global 5km satellite coral bleaching DHW](#) product for the GBR.

CRW looks forward to receiving additional in-water data from field partners, to confirm whether mortality is low from this mass bleaching event, since it is not likely to be severe until about $DHW \geq 8$. With that said, southern reefs of the GBR are relatively naïve to heat stress, as compared with those in the far north. Therefore, there may be more mortality observed at lower DHW levels in the south. Additionally, coral reefs within 500km of the GBR have experienced significant heat stress during this marine heatwave, such that it is reasonable to expect that they have significant mortality.