



Updated August 16, 2018

Summary: Based on climate predictions, current conditions, and field observations, the threat for mass coral bleaching within the FKNMS remains **MODERATE**.

NOAA Coral Reef Watch Current and 60% Probability Coral Bleaching Alert Outlook August 15, 2018 (experimental)

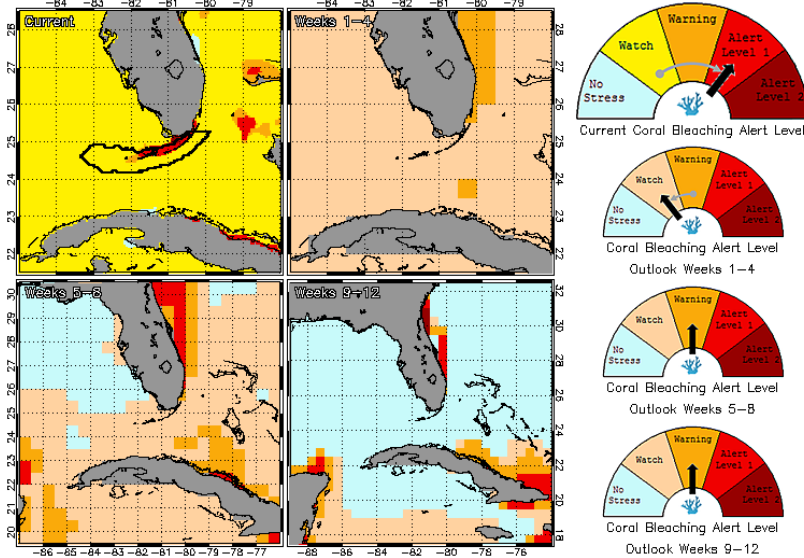


Figure 1. NOAA's 5 km Experimental Current and 60% Probability Coral Bleaching Alert Outlook Areas through November, 2018. Updated August 15, 2018. coralreefwatch.noaa.gov/vs/gauges/florida_keys.php

Weather and Sea Temperatures

According to the newly released NOAA Coral Reef Watch (CRW) experimental 5 kilometer (km) Satellite Current and 60% Probability Coral Bleaching Alert Area, most areas of the Florida Keys National Marine Sanctuary are under a bleaching Watch or Warning, with some areas on the Gulf side in an Alert Level 1, which means bleaching is likely and potential for more bleaching warnings and alerts if sea temperatures continue to increase in the next few weeks (Fig. 1).

Recent remote sensing analysis by NOAA's CRW program indicates that most of the Florida Keys region is currently experiencing thermal stress. NOAA's new experimental 5 km Coral Bleaching HotSpot Map (Fig. 2), which illustrates current sea surface temperatures compared to the average temperature for the warmest month, shows elevated temperatures for the Florida Keys. Similarly, NOAA's experimental 5 km Degree Heating Weeks (DHW) map, which illustrates how much heat stress has built up over the past 12 weeks (Fig.3), indicates accumulating temperature stress currently evident in the Florida Keys region. NOAA's Integrated Coral Observing Network (ICON) monitoring stations, which provide near real time in-situ sea temperature data along the outer reef tract throughout the Florida Keys, confirms that temperatures have been at or slightly below 30°C over the past few weeks (Fig. 4), likely due in part to moderate to high wind conditions (Fig. 5). In-situ sea temperature data is currently only available at Fowey Rocks and intermittently at Molasses Reef. Sand Key is not recording wind data at this time. Mote Marine Laboratory will continue to monitor the NOAA HotSpot maps, DHW maps, and ICON sea temperature data from NOAA monitoring stations on a weekly basis for the remainder of the bleaching season.

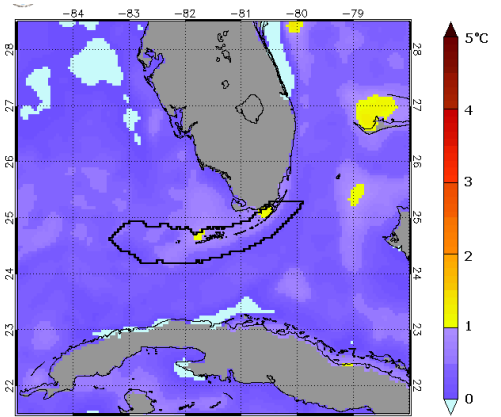


Figure 2. NOAA's Experimental 5km Coral Bleaching HotSpot Map for Florida August 15, 2018. coralreefwatch.noaa.gov/vs/gauges/florida_keys.php

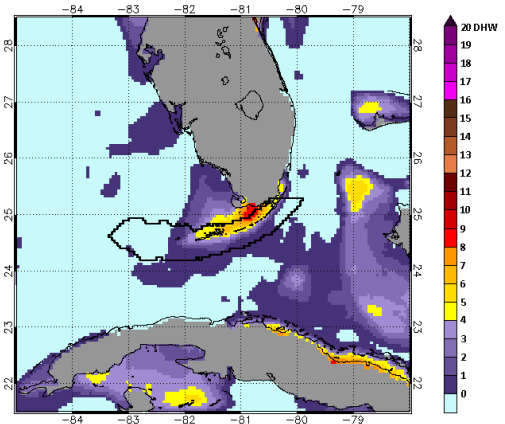


Figure 3. NOAA's Experimental 5km Degree Heating Weeks Map for Florida August 15, 2018. coralreefwatch.noaa.gov/vs/gauges/florida_keys.php

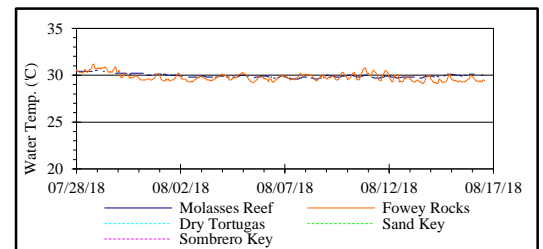


Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (July 28-August 16, 2018).

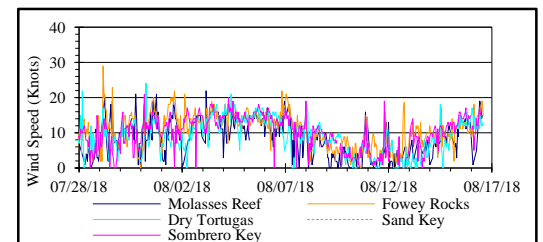


Figure 5. Wind speed data from NOAA/ICON monitoring stations (July 28-August 16, 2018).



Current Coral Conditions

A total of 60 BleachWatch Observer reports were received during the past 3 weeks (Fig. 6), with 55 reports indicating isolated colonies exhibiting signs of paling or partial bleaching, 2 reports with mostly bleaching, 2 reports with mostly



Figure 7. Paling/Partially bleached *C. natans* at Cheeca Rocks on 8/11/18.

isolated colonies exhibiting signs of paling or partial bleaching (Fig. 7) and the remaining 3 reports indicated no significant signs of coral bleaching or paling observed. At those sites where paling was noted, the overall percentage of corals exhibiting signs of thermal stress was mostly 1-10%, however several reef sites noted over 50% of corals affected. The majority of paling/partial bleaching observations consisted of isolated colonies of Encrusting/Mound/Boulder corals;



Figure 8. Bleached encrusting gorgonian *Erythropodium caribaeorum* 8/10/18 east of Newfound Harbor SPA.

Siderastrea siderea, *Stephanocoenia intersepta*, *Montastraea cavernosa*, *Orbicella faveolata*, *Orbicella annularis*, *Porites astreoides*, *Dichocoenia stokesii*, *Undaria agaricitis* and *Siderastrea radicans*, Brain corals; *Colpohyllia natans*, *Meandrina meandrites*, *Pseudodiploria clivosa* and *Pseudodiploria strigosa*. Branching Corals; *Porites porites* and *Oculina spp.*, and Flower Corals; *Eusmilia fastigiata*. Other observations included paling/bleaching of *Palythoa spp.*, Gorgonians (Fig. 8) and Fire Coral as well as numerous reports of coral disease. Due to increase in coral disease observations in the Middle and Lower Keys area, observers are encouraged to report if disease is both present or absent at their sites.

These isolated observations of paling and partial bleaching do not necessarily indicate that the onset of a mass bleaching event is currently underway; however, continued field observations are needed as more widespread coral bleaching could potentially develop if environmental conditions continue to favorable.

BleachWatch Reports for July 28 - August 16, 2018

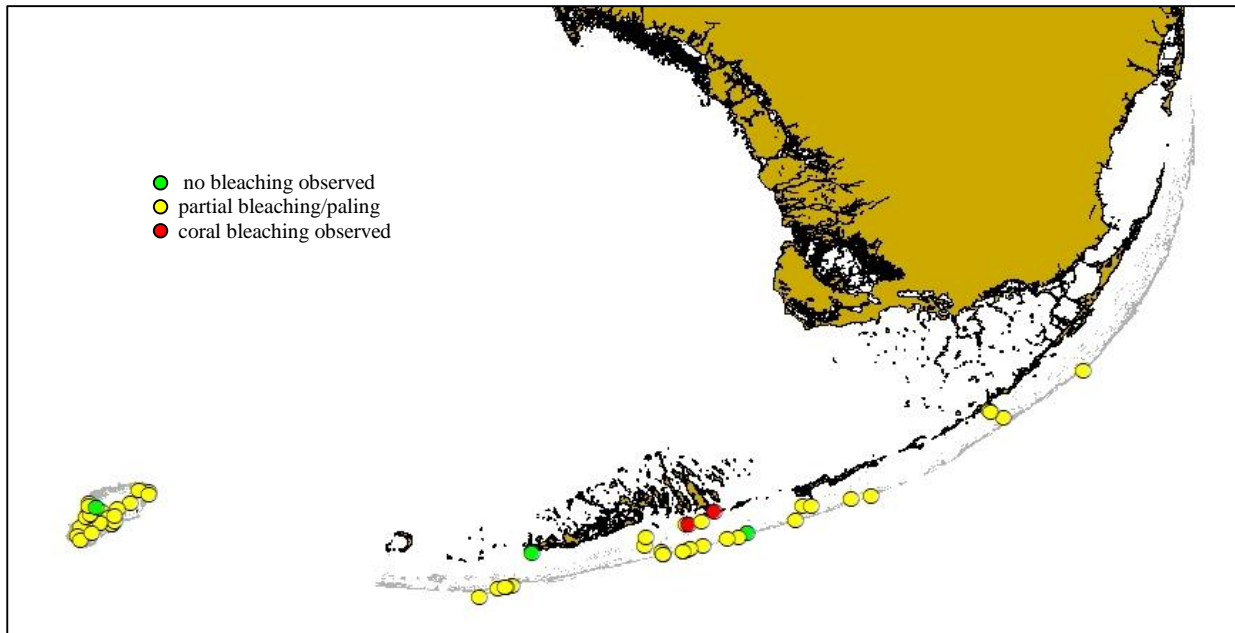


Figure 6. Overview of BleachWatch observer reports submitted from July 28 – August 16, 2018



For more information about the Bleach Watch program, or to submit a bleaching observation, contact:

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