



Mote Marine Laboratory / Florida Keys National Marine Sanctuary
Coral Bleaching Early Warning Network
Current Conditions Report #20160715



Updated July 15, 2016

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

NOAA Coral Reef Watch Current and 60% Probability Coral Bleaching Alert Outlook July 13, 2016 (experimental)

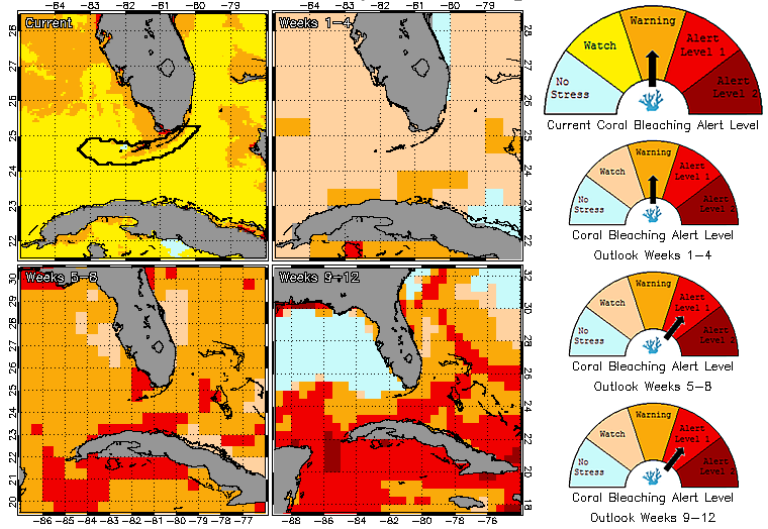


Figure 1. NOAA's 5 km Experimental Current and 60% Probability Coral Bleaching Alert Outlook Areas through September 2016. Updated July 13, 2016.
http://coralreefwatch.noaa.gov/vs/gauges/florida_keys.php

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, there is currently a bleaching watch and warning for the Florida Keys National Marine Sanctuary, with the potential for more bleaching warnings and alerts if sea temperatures continue to increase in the next few months (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 only slightly exceeding 30°C over the past two weeks (Fig.4), likely due in part to moderate wind conditions observed during the past two weeks (Fig. 5). *In-situ* sea temperature data is currently only available at Fowey Rocks and intermittently at Molasses Reef. Sombbrero is not recording 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.

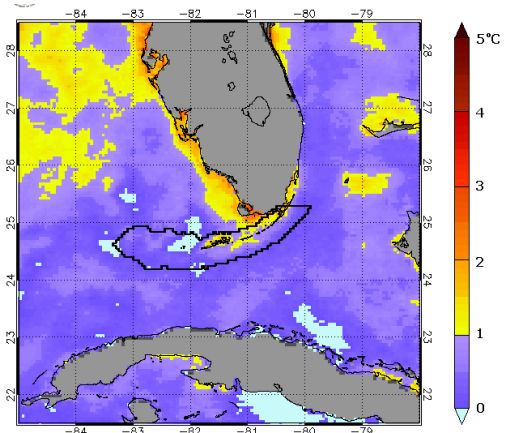


Figure 2. NOAA's Experimental 5km Coral Bleaching HotSpot Map for Florida July 13, 2016.
<http://coralreefwatch.noaa.gov/regions/florida.php>

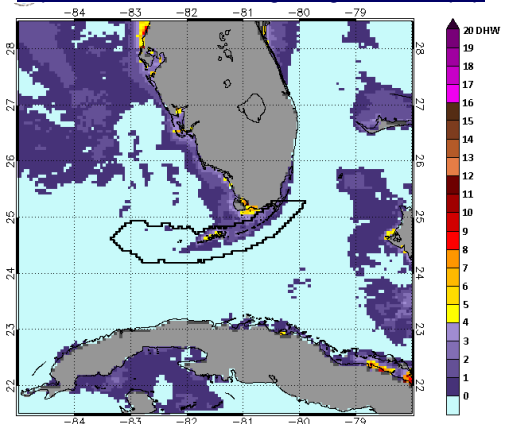


Figure 3. NOAA's Experimental 5km Degree Heating Weeks Map for Florida July 13, 2016.
<http://coralreefwatch.noaa.gov/regions/florida.php>

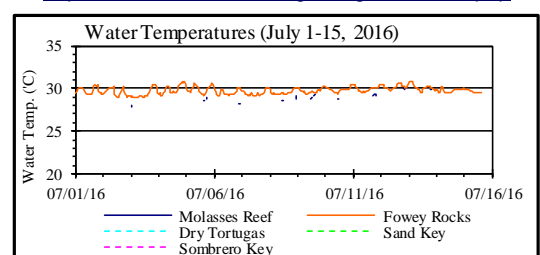


Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (July 1-15, 2016).

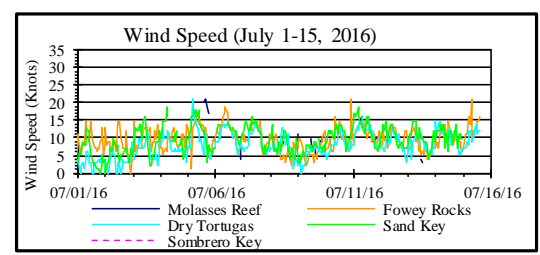


Figure 5. Wind speed data from NOAA/ICON monitoring stations (July 1-15, 2016).



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Current Coral Conditions



Figure 7. Healthy *Porites astreoides* and paling *Palythoa* spp. at Big Pine Ledge reef on 7/14/16.

A total of 35 BleachWatch Observer reports were received during the past two weeks (Fig. 6), with 11 reports indicating isolated colonies exhibiting signs of paling. The remaining 24 reports indicated that no significant signs of coral bleaching were observed (Fig. 7). At those sites where paling was noted, the overall percentage of corals exhibiting signs of thermal stress was mostly 1-10%, however a few inshore sites noted up to 30% of corals affected. The majority of paling observations consisted of isolated colonies of Encrusting/Mound/Boulder corals; *Siderastrea sidereal*, *Stephanocoenia intersepta* and *S. radians* and Brain corals; *Colpohyllia natans*, *Pseudodiploria clivosa* and *P. strigosa*. Other observations included paling of



Figure 8. Paling Fire Coral at Big Pine Ledge on 7/14/16.

Palythoa spp. (Fig. 7), and Fire Coral (Fig. 8) as well as several reports of potential coral disease. Due to two years of elevated thermal stress on the corals, observers are encouraged to report disease or no disease.

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 change.

BleachWatch Reports for July 1-15, 2016

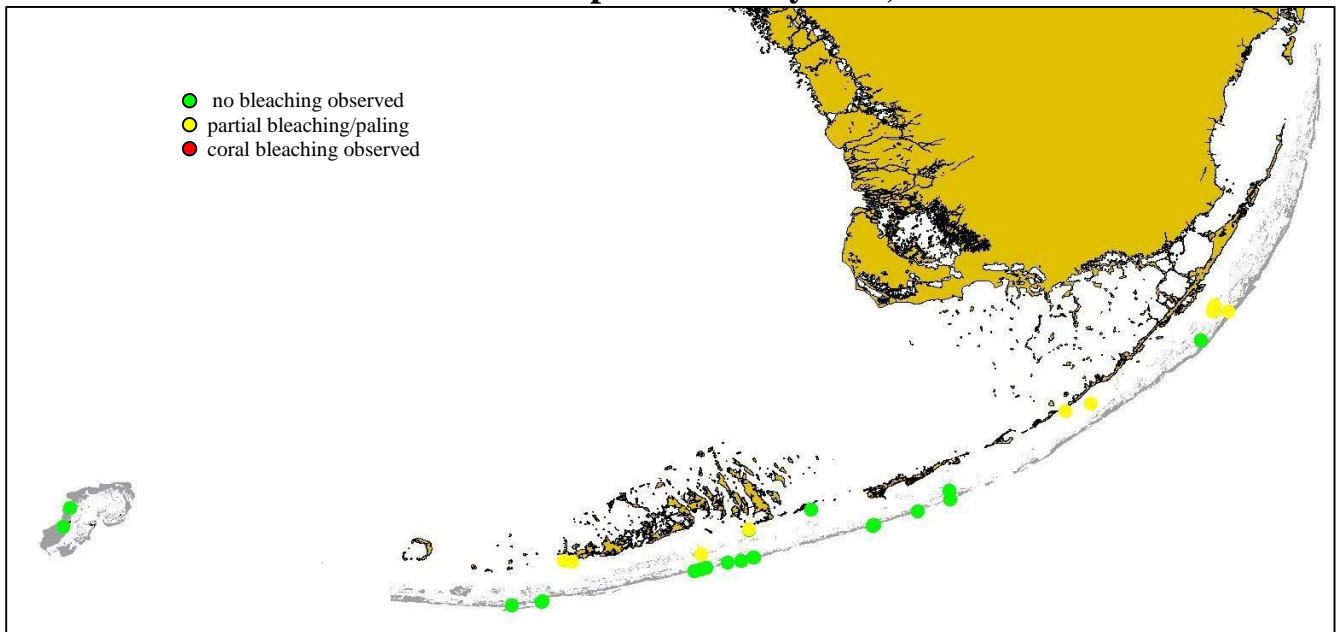


Figure 6. Overview of BleachWatch observer reports submitted from July 1-15, 2016

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



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