



Mote Marine Laboratory / Florida Keys National Marine Sanctuary
Coral Bleaching Early Warning Network
Current Conditions Report #20150803



Updated August 3, 2015

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

NOAA Coral Reef Watch Current and 60% Probability Coral Bleaching Alert Outlook August 2, 2015 (experimental)

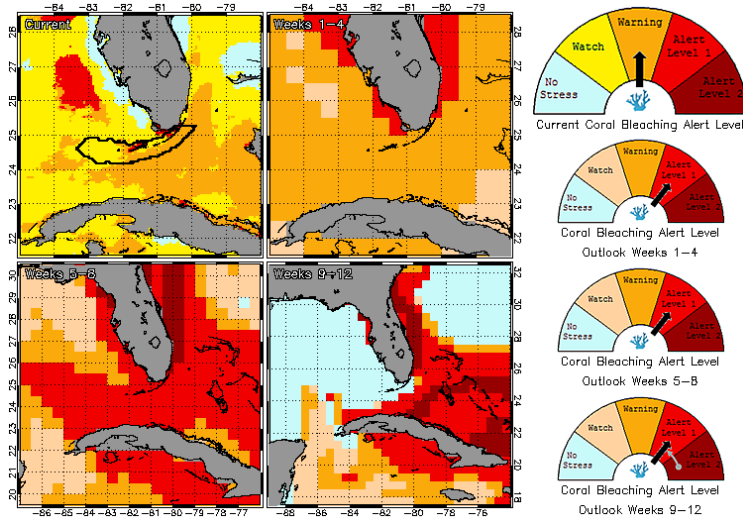


Figure 1. NOAA's 5 km Experimental Current and 60% Probability Coral Bleaching Alert Outlook Areas through October 2015 (Updated August 2, 2015).
http://coralreefwatch.noaa.gov/vs/gauges/florida_keys.php

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, Warning and some areas with an Alert Level 1 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 the entire 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 over the last 4 weeks. 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 continued accumulating temperature stress 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 exceeding 30°C (Fig.4) along with prolonged periods of light winds observed during the past two weeks (Fig 5). *In-situ* sea temperature data is currently only available at Molasses Reef. Fowey Rocks is not recording any 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.

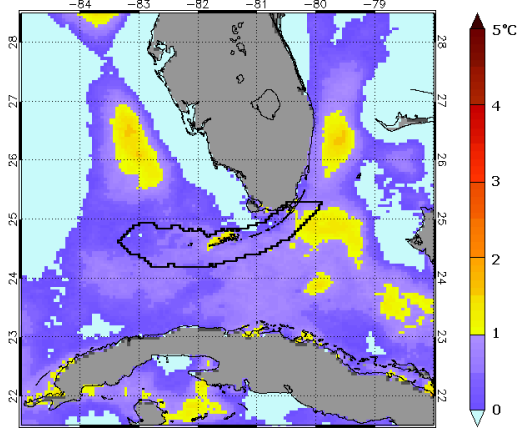


Figure 2. NOAA's Experimental 5km Coral Bleaching HotSpot Map for Florida August 2, 2015.
<http://coralreefwatch.noaa.gov/regions/florida.php>

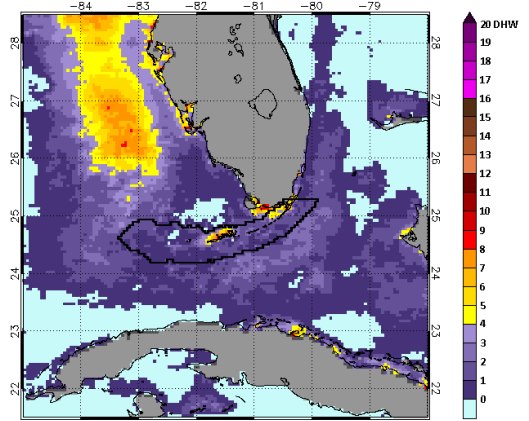


Figure 3. NOAA's Experimental 5km Degree Heating Weeks Map for Florida August 2, 2015.
<http://coralreefwatch.noaa.gov/regions/florida.php>

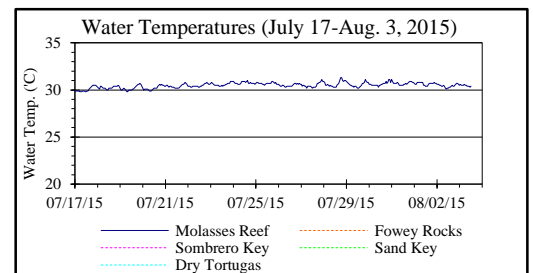


Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (July 17-August 3, 2015).

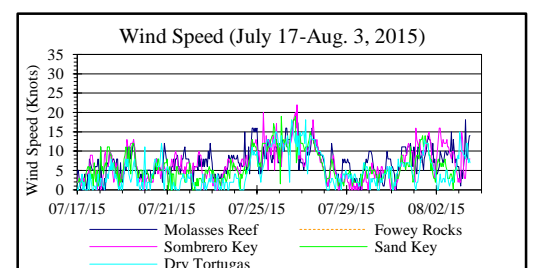


Figure 5. Wind speed data from NOAA/ICON monitoring stations (July 17 - August 3, 2015).



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Current Coral Conditions

A total of 21 BleachWatch Observer reports were received during the last two weeks (Fig. 6), with 18 reports indicating isolated colonies exhibiting signs of paling (Fig. 7). The remaining 2 reports indicated that no significant signs of coral bleaching were observed. At those



Photo: Jessica Dockery, MarineLab
 Figure 7. Paling *M. meandrites* at Molasses Reef on 7/22/15.

sites where paling was noted, the overall percentage of corals exhibiting signs of thermal stress was mostly 1-10%, however one Lower Keys shallow inshore site noted 50-75% of corals affected. The majority of paling observations consisted of isolated colonies of Encrusting/Mound/Boulder corals; *Siderastrea siderea*, *S. radians*, *Stephanocoenia intersepta*, *Porites astreoides*, and *Solenastrea bournoni*, Brain corals; *Colpophyllia natans*, *Meandrina meandrites*, and *Pseudodiploria strigosa*, Flower Corals; *Eusmilia fastigiata* and Branching

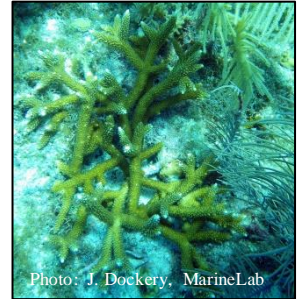


Photo: J. Dockery, MarineLab
 Figure 8. A healthy *A. cervicornis* at Molasses Reef on 7/22/15.

corals; *Acropora cervicornis* and *P. porites*. Other observations included paling of *Palythoa spp.*, Fire Coral and Gorgonians as well as several reports of coral disease and observations of inverted thermoclines. 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.

BleachWatch Reports for July 17-August 3, 2015

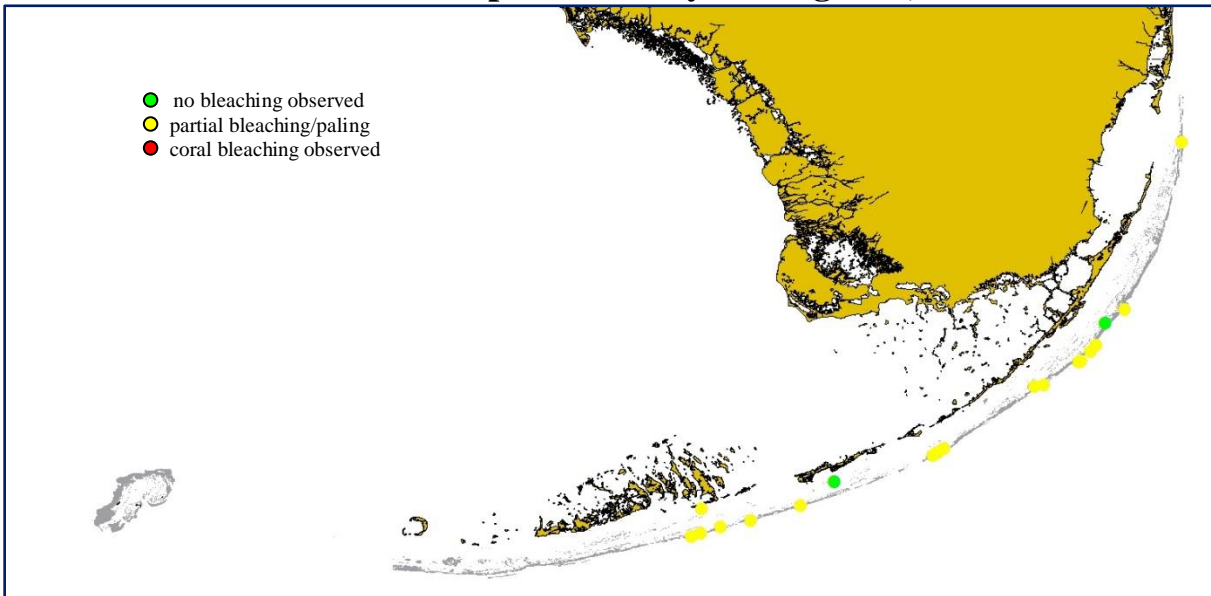


Figure 6. Overview of BleachWatch observer reports submitted from July 17-August 3, 2015

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

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FUNDING THANKS TO....

