



Mote Marine Laboratory / Florida Keys National Marine Sanctuary  
**Coral Bleaching Early Warning Network**  
**Current Conditions Report #20150701**



Updated July 1, 2015

**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 June 29, 2015 (experimental)**

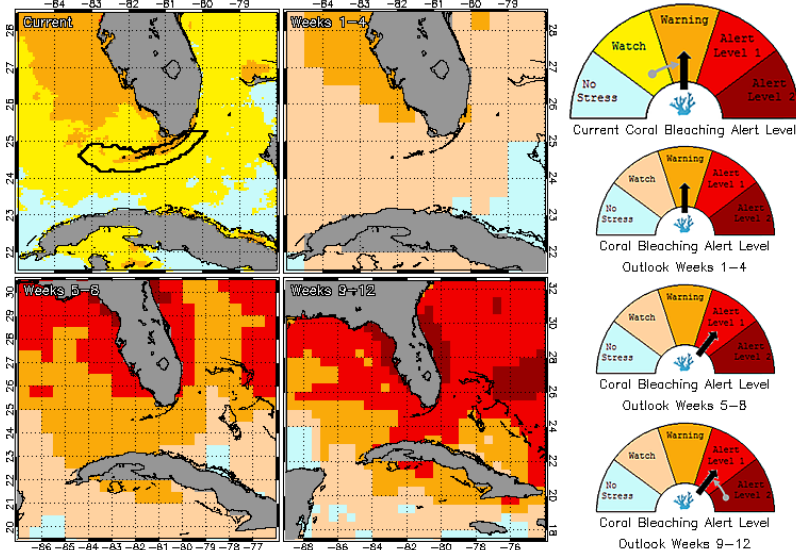


Figure 1. NOAA's 5 km Experimental Current and 60% Probability Coral Bleaching Alert Outlook Areas through September 2015. Updated June 29, 2015.  
[http://coralreefwatch.noaa.gov/vs/gauges/florida\\_keys.php](http://coralreefwatch.noaa.gov/vs/gauges/florida_keys.php)

**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 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 the onset of 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 steadily increasing for the past month and are at or just below 30°C (Fig.4); perhaps due in part to mostly lighter wind conditions observed during the same period (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.

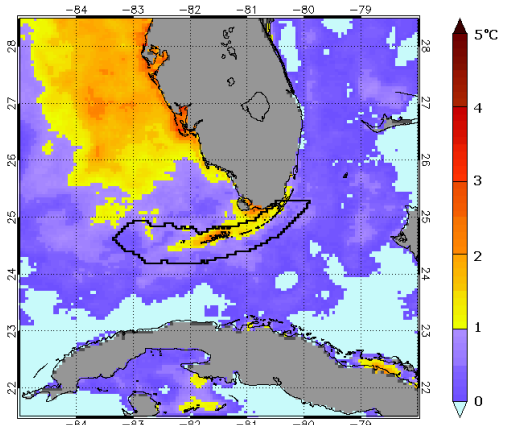


Figure 2. NOAA's Experimental 5km Coral Bleaching HotSpot Map for Florida June 29, 2015.  
<http://coralreefwatch.noaa.gov/regions/florida.php>

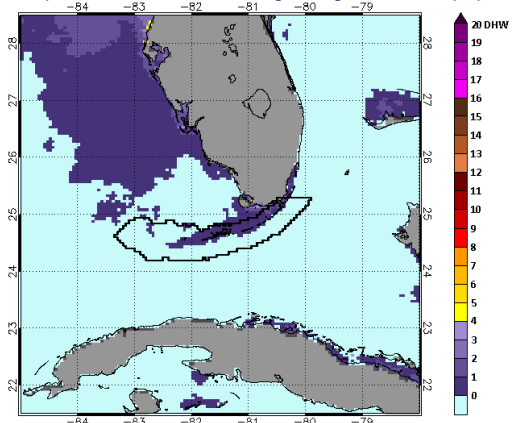


Figure 3. NOAA's Experimental 5km Degree Heating Weeks Map for Florida June 29, 2015.  
<http://coralreefwatch.noaa.gov/regions/florida.php>

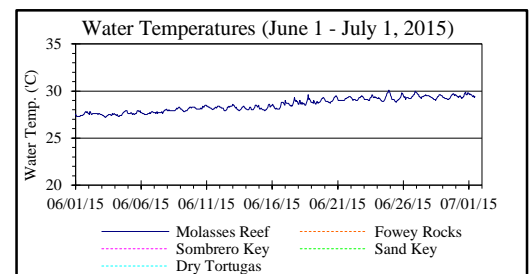


Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (June 1-July 1, 2015).

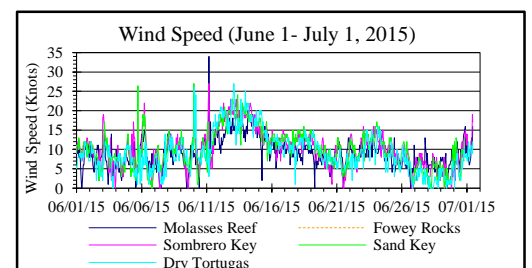


Figure 5. Wind speed data from NOAA/ICON monitoring stations (June 1-July 1, 2015).



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**Current Coral Conditions**



Photo: Cindy Lewis, Keys Marine Lab

Figure 7. Healthy *Pseudodiploria clivosa* on a Middle Keys reef 6/19/15.

A total of 49 BleachWatch Observer reports were received during the month of June (Fig. 6), with 39 reports indicating isolated colonies exhibiting signs of paling. The remaining 10 reports indicated that no significant signs of coral bleaching were observed (Fig. 7 & 8). At those sites where paling was noted, the overall percentage of corals exhibiting signs of thermal stress was mostly 1-10%, however a few sites noted up to 50% of corals affected. The majority of paling observations consisted of isolated colonies of Encrusting/Mound/Boulder corals; *Siderastrea siderea* and *S. radicans*, Brain corals; *Colpohyllia natans*, *Meandrina meandrites*, and *Pseudodiploria strigosa*, and Branching corals; *Acropora cervicornis* and *Porites porites*. Other observations included paling of *Palythoa* spp., and Gorgonians as well as several reports of coral disease.



Photo: MML

Figure 8. Healthy *Montastraea cavernosa* at the Maze Reef, Dry Tortugas NP 6/18/15.

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 June 1-30, 2015**

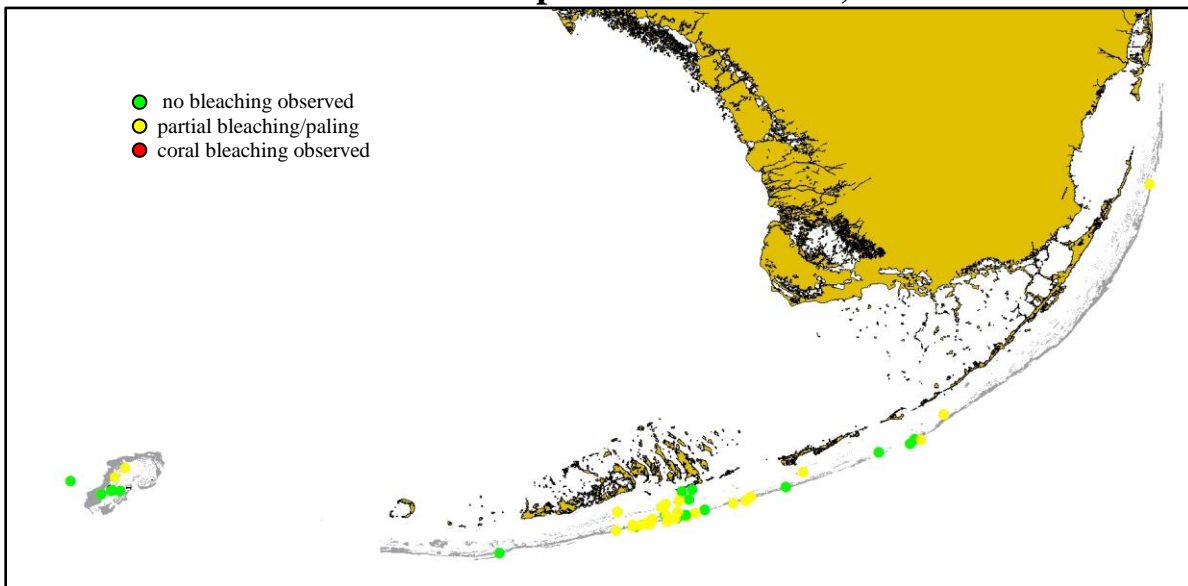


Figure 6. Overview of BleachWatch observer reports submitted from June 1-30, 2015

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

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**FUNDING THANKS TO....**

