



Mote Marine Laboratory / Florida Keys National Marine Sanctuary  
**Coral Bleaching Early Warning Network**  
**Current Conditions Report #20130731**



Updated July 31, 2013

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

NOAA Coral Reef Watch Coral Bleaching Alert Area  
 July 29, 2013 (experimental)

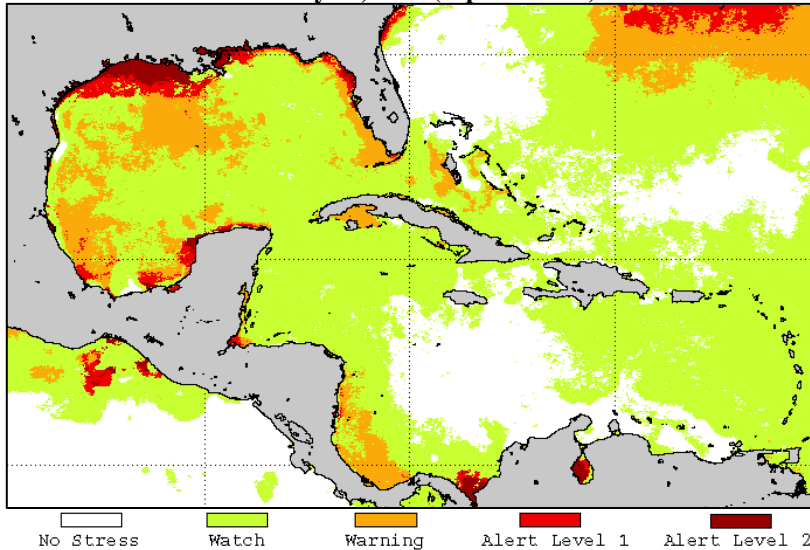


Figure 1. . NOAA's 5 km Experimental Coral Bleaching Alert Areas for July 29, 2013.  
<http://coralreefwatch.noaa.gov/satellite/bleaching5km>

**Weather and Sea Temperatures**

According to the latest NOAA Coral Reef Watch (CRW) experimental 5 kilometer (km) Satellite Coral Bleaching Alert Area, there are currently no bleaching alerts throughout the Florida Keys; however, there is potential for coral bleaching watches or warnings if current conditions worsen (Fig. 1).

Current remote sensing analysis by NOAA's CRW program indicates that the Florida Keys region is still experiencing limited thermal stress. NOAA's recent 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 only slightly elevated temperatures for the Florida Keys over the last 4 weeks. Similarly, NOAA's latest experimental 5 km Degree Heating Weeks (DHW) map, which indicates how much heat stress has built up over the past 12 weeks (Fig.3), shows minimal accumulated temperature stress in the Florida Keys region. Finally, NOAA's Integrated Coral Observing Network (ICON) monitoring stations confirms that sea temperatures throughout the Florida Keys, at least along the outer reef tract, are just recently beginning to rise to 30°C (Fig.4); perhaps due in part to lighter wind conditions observed during the past month (Fig 5). *In-situ* sea temperature data is currently not available for Sand Key or Sombrero Reef. Similarly Dry Tortugas station 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.

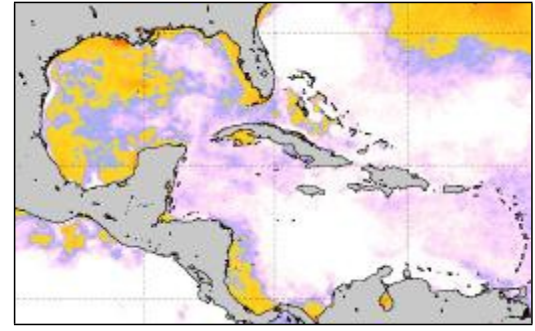


Figure 2. NOAA's Experimental 5km Coral Bleaching HotSpot Map for July 29, 2013.  
<http://coralreefwatch.noaa.gov/satellite/bleaching5km>

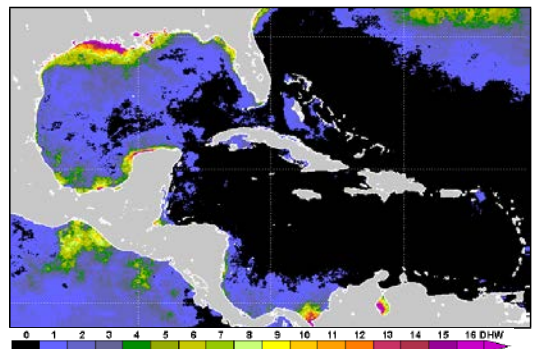


Figure 3. NOAA's Experimental 5km Degree Heating Weeks Map for July 29, 2013.  
<http://coralreefwatch.noaa.gov/satellite/bleaching5km>

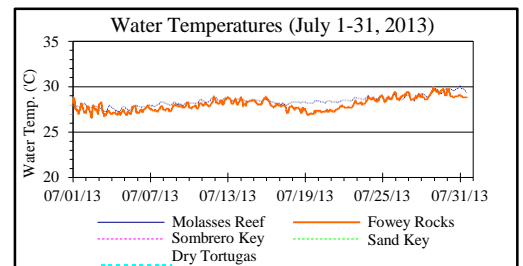


Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (July 1-31, 2013).

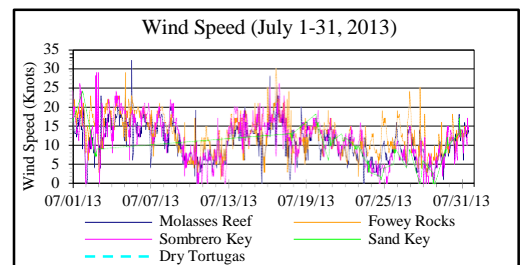


Figure 5. Wind speed data from NOAA/ICON



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**Conditions of Corals**



Figure 7. Healthy *Siderastrea siderea* at Looe Key Reef on July 24, 2013.

A total of 32 BleachWatch Observer reports were received during the month of July (Fig. 6), with 10 reports indicating isolated colonies exhibiting signs of paling. The remaining 22 reports indicated that no significant signs of coral bleaching were observed. At those sites where partial bleaching or paling was noted (Fig. 7), the overall percentage of corals exhibiting signs of thermal stress was only 1-10% of corals at each site. The majority of isolated paling observations consisted of Encrusting/Mound/Boulder corals; *Siderastrea siderea* and *Montastraea cavernosa* and Brain corals. Other observations included paling of *Palythoa spp.* and several reports of coral and sea fan disease.

These isolated observations of paling and partial bleaching indicate that the onset of a mass bleaching event is unlikely at this time; however, continued field observations are needed as more widespread coral bleaching could develop if environmental conditions change

**BleachWatch Reports for July 1-31, 2013**

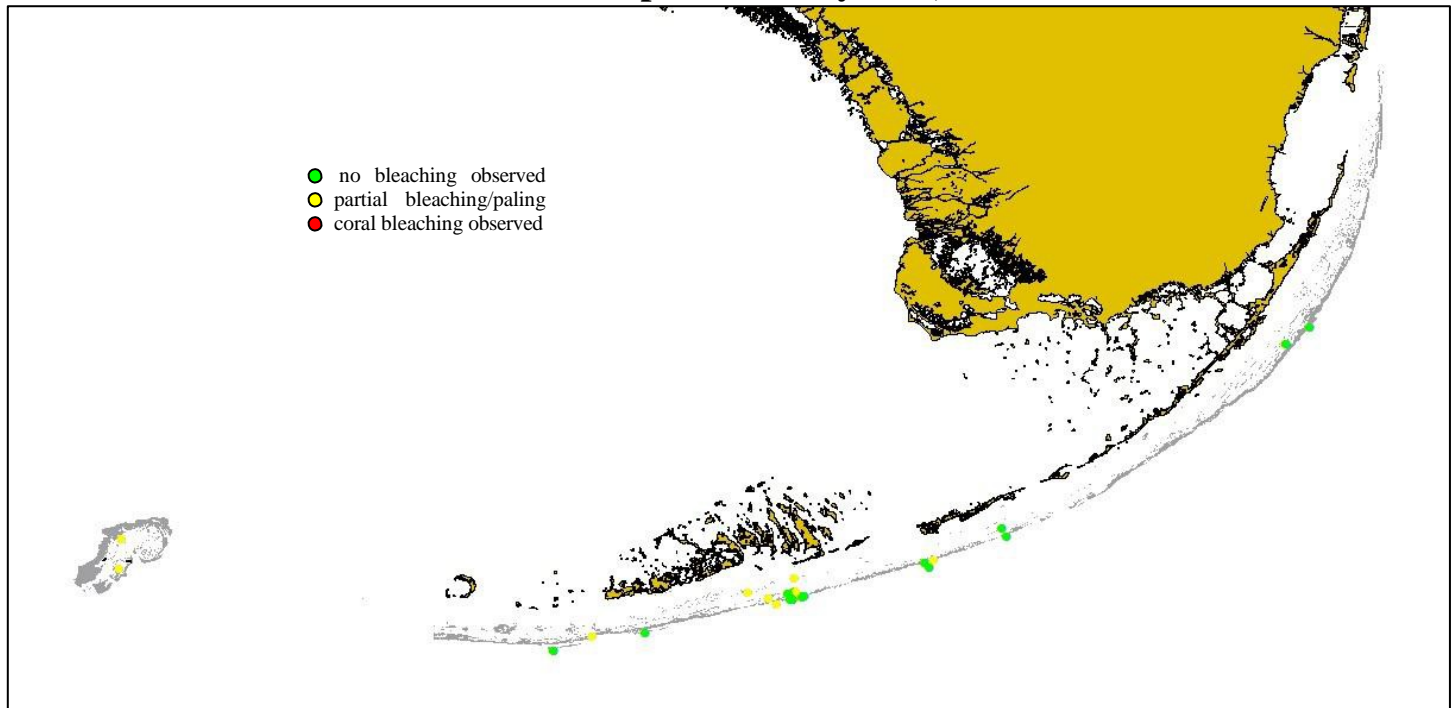


Figure 6. Overview of BleachWatch observer reports submitted from July 1-31, 2013.

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

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<http://www.mote.org/Keys/research/bleaching.phtml>

**FUNDING THANKS TO....**

