



Mote Marine Laboratory / Florida Keys National Marine Sanctuary
Coral Bleaching Early Warning Network
Current Conditions Report #20130903



Updated September 3, 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
 September 1, 2013 (experimental)

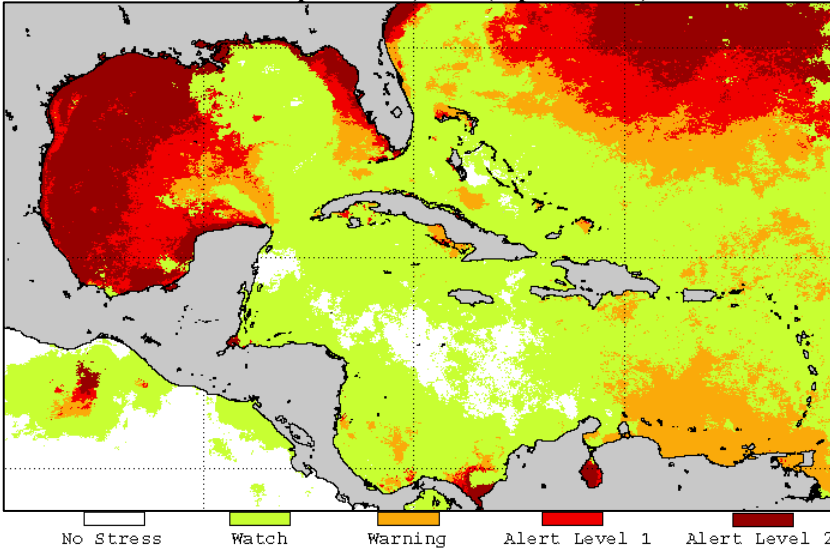


Figure 1. NOAA's 5 km Experimental Coral Bleaching Alert Areas for September 1, 2013.
<http://coralreefwatch.noaa.gov/satellite/bleaching5km>

Weather and Sea Temperatures

According to the latest NOAA Coral Reef Watch (CRW) experimental 5 kilometer (km) Satellite Coral Bleaching Alert Area, there is currently a bleaching watch for the Atlantic side of the Florida Keys, with the potential for bleaching warnings and alerts if temperatures in the Gulf continue to increase (Fig. 1).

Current remote sensing analysis by NOAA's CRW program indicates that most of 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 continuing to stay just below or at 30°C (Fig.4); perhaps due in part to mostly breezy conditions observed during most of 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.

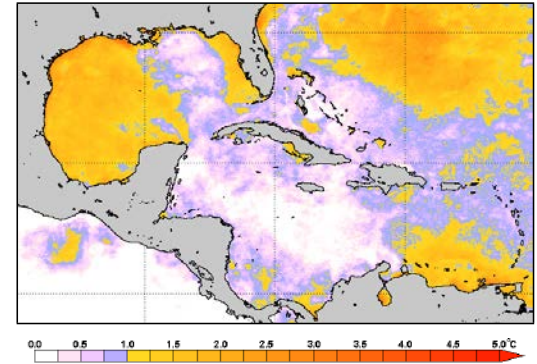


Figure 2. NOAA's Experimental 5km Coral Bleaching HotSpot Map for September 1, 2013.
<http://coralreefwatch.noaa.gov/satellite/bleaching5km>

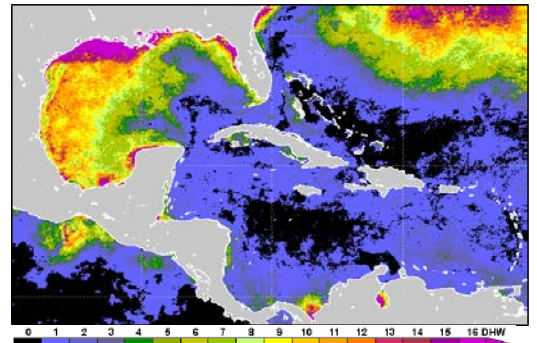


Figure 3. NOAA's Experimental 5km Degree Heating Weeks Map for September 1, 2013.
<http://coralreefwatch.noaa.gov/satellite/bleaching5km>

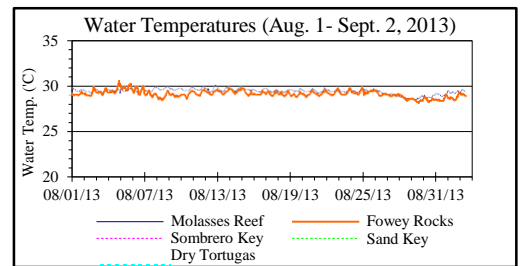


Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (Aug. 1- Sept. 2, 2013).

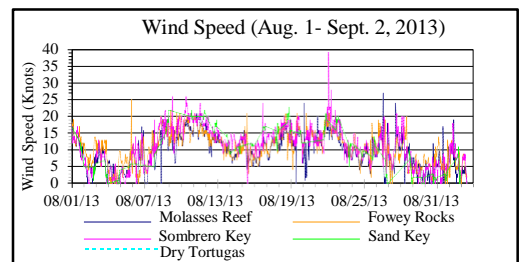


Figure 5. Wind speed data from NOAA/ICON monitoring stations (Aug. 1- Sept. 2, 2013).

BleachWatch Reports for August 1-September 2, 2013



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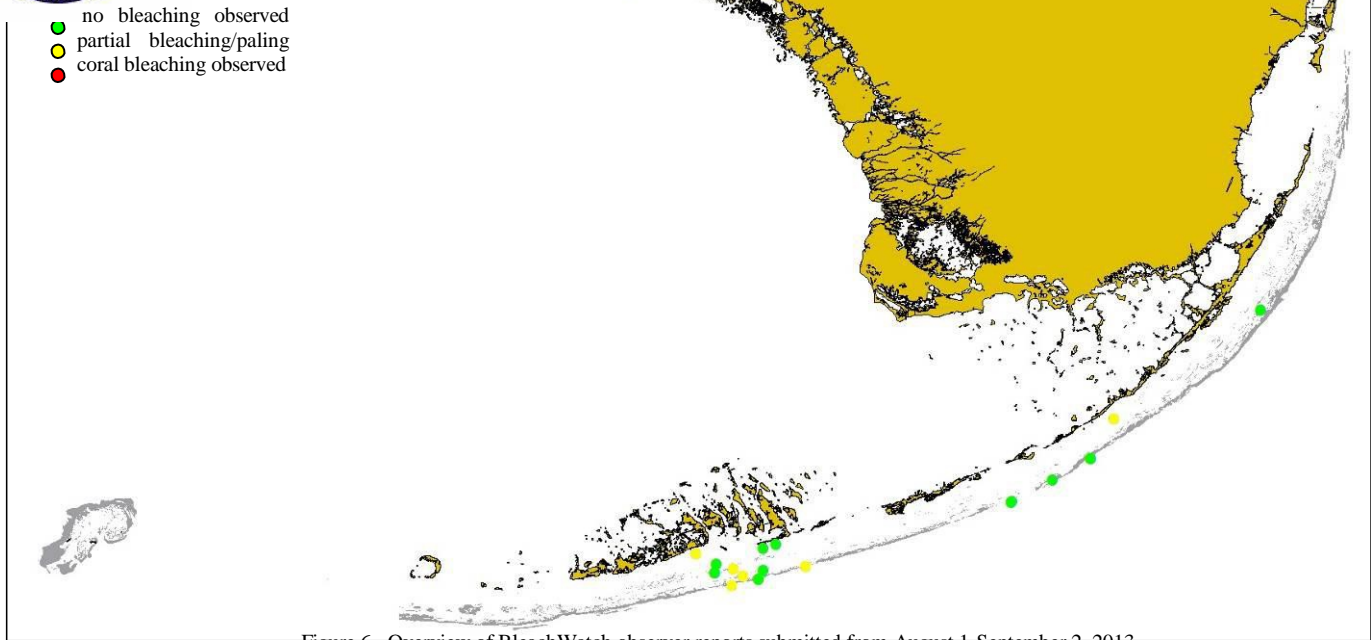


Figure 6. Overview of BleachWatch observer reports submitted from August 1-September 2, 2013.

Conditions of Corals



Figure 7. Healthy *D. strigosa* at Horseshoe Reef on August 14, 2013.
 Photo: Jessica Pulfer

A total of 22 BleachWatch Observer reports were received during the month of August (Fig. 6), with 7 reports indicating isolated colonies exhibiting signs of paling. The remaining 15 reports indicated that no significant signs of coral bleaching (Fig. 7) were observed. At those sites where partial bleaching or paling was noted, the overall percentage of corals exhibiting signs of thermal stress was only 1-10% of corals at each site. The majority of paling observations consisted of isolated colonies of Encrusting/Mound/Boulder corals; *Siderastrea sidereal*, *Montastraea cavernosa*, *M. faveolata* and Brain corals;



Figure 8. *M. faveolata* with yellow band disease at Cheeca Rocks on August 5, 2013.
 Photo: Cindy Lewis

Diploria strigosa and *D. clivosa*. Other observations included paling of *Palythoa spp.* and several reports of coral and sea fan disease (Fig. 8).

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.

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....

