



Updated August 17, 2012

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 Coral Bleaching Alert Area
August 15, 2012 (experimental)

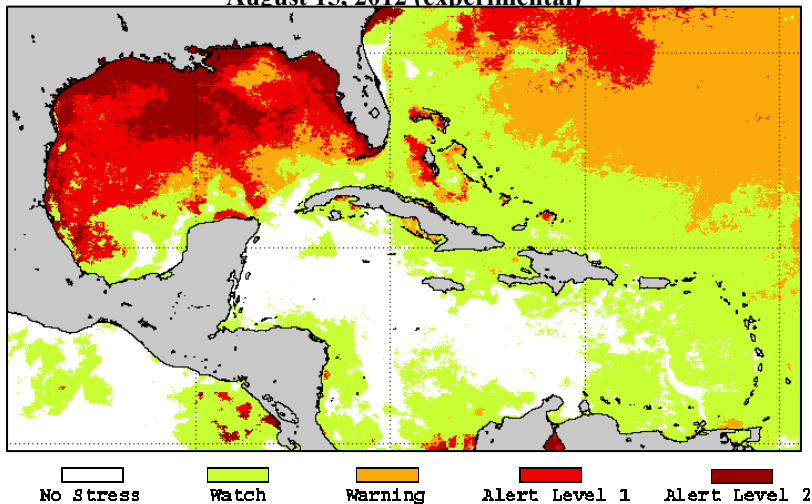


Figure 1. NOAA's 5 km Experimental Coral Bleaching Alert Areas for August 15, 2012.
<http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.html>

Weather and Sea Temperatures

According to the newly released NOAA Coral Reef Watch (CRW) experimental 5 kilometer (km) Satellite Coral Bleaching Alert Area, there is a moderate level of thermal stress throughout the Florida Keys and the potential for coral bleaching if current conditions continue (Fig. 1).

Recent remote sensing analysis by NOAA's CRW program indicates that the Florida Keys region is presently experiencing increasing 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 that sea surface temperatures are elevated for this time of year in the Florida Keys. Similarly, NOAA's new 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 that a low level of temperature stress has accumulated 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, confirm that temperatures have continued to be near or above 30°C over the past two weeks (Fig.4), likely due in part to decreased wind speeds observed over the past week (Fig. 5). *In-situ* sea temperature data is currently not available for Sand Key or Sombrero. Dry Tortugas 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 monitoring stations on a weekly basis for the remainder of the bleaching season.

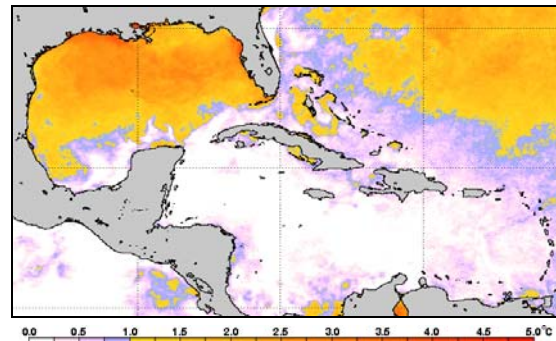


Figure 2. NOAA's Experimental 5 km Coral Bleaching HotSpot Map for August 15, 2012.
<http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.html>

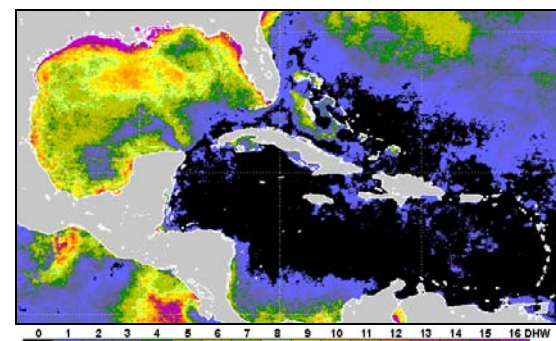


Figure 3. NOAA's Experimental 5 km Degree Heating Weeks Map for August 15, 2012.
<http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.html>

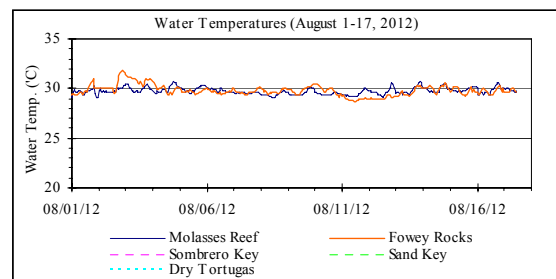


Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (August 1-17, 2012).

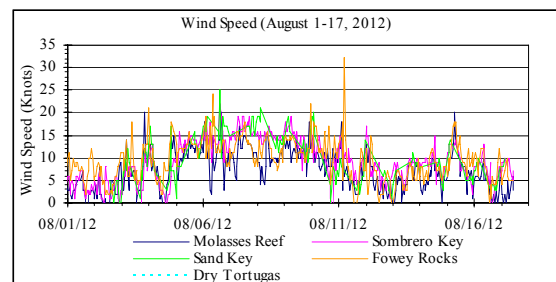


Figure 5. Wind speed data from NOAA/ICON monitoring stations (August 1-17, 2012).



Conditions of Corals

A total of 14 BleachWatch Observer reports were received during the last two weeks (Fig. 6), with 6 reports indicating isolated colonies exhibiting signs of paling or surface bleaching (Fig. 7). The remaining 8 reports indicated that no significant signs of coral bleaching 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.



Figure 7. Paling *Siderastrea siderea* at a reef offshore of Duck Key on August 10, 2012. Photo: Danielle Morley, FWRI

The majority of isolated paling observations consisted of Encrusting/Mound/Boulder corals (*Montastraea spp.* and *Siderastrea spp.*) and Brain Corals (*Diploria spp.*, *Colpophyllia natans*, and *Meandrina meandrites*). Other observations included paling of *Palythoa spp.* and Fire Coral, as well as several reports of coral diseases (Fig. 8) throughout Upper, Middle, and Lower Keys and the Dry Tortugas National Park.



Figure 8. Diseased *Siderastrea siderea* at Little Africa in Dry Tortugas on August 11, 2012. Photo: Kelly Montenero, NPS

These isolated observations of paling and partial bleaching do not necessarily indicate the onset of a mass bleaching event; however, continued field observations are needed as more widespread coral bleaching could develop if environmental conditions continue to be favorable.

BleachWatch Reports for August 1-16, 2012

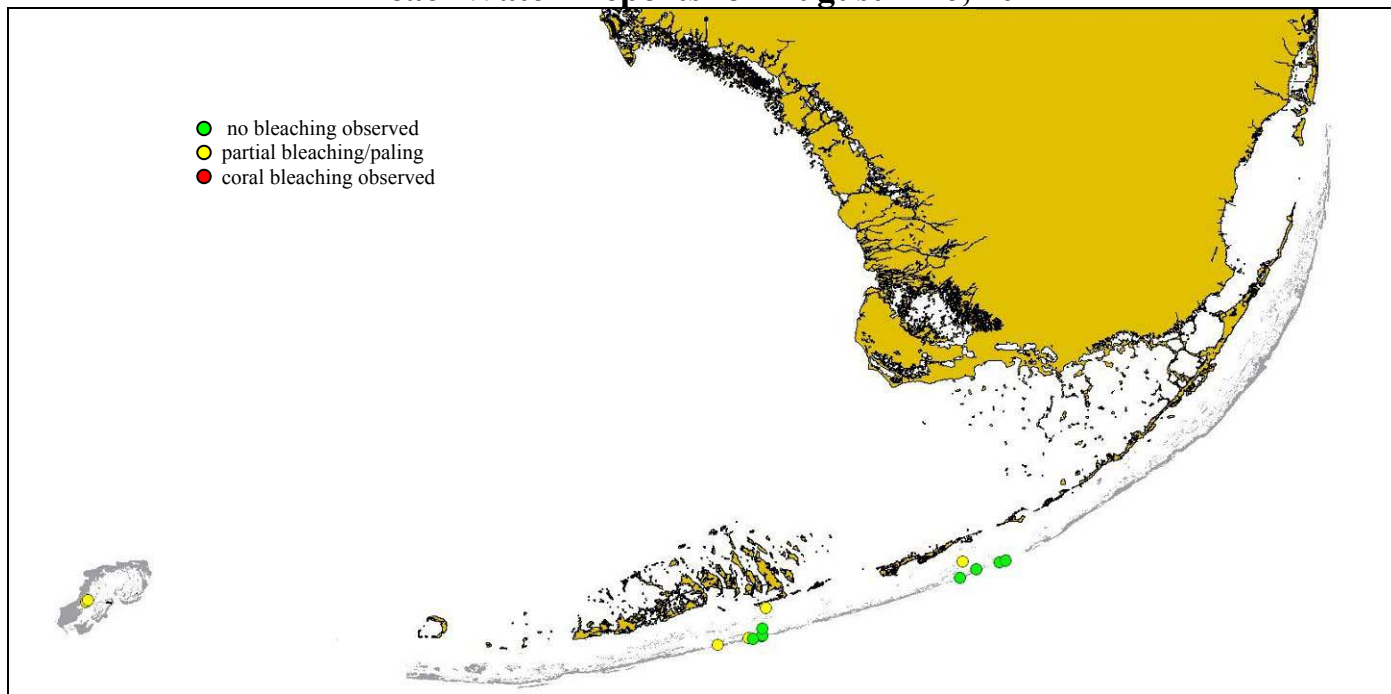


Figure 6. Overview of BleachWatch observer reports submitted from August 1-16, 2012.

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

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