



Updated September 3, 2010

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

NOAA Coral Reef Watch Satellite Coral Bleaching Alert Area
September 2, 2010 (experimental)

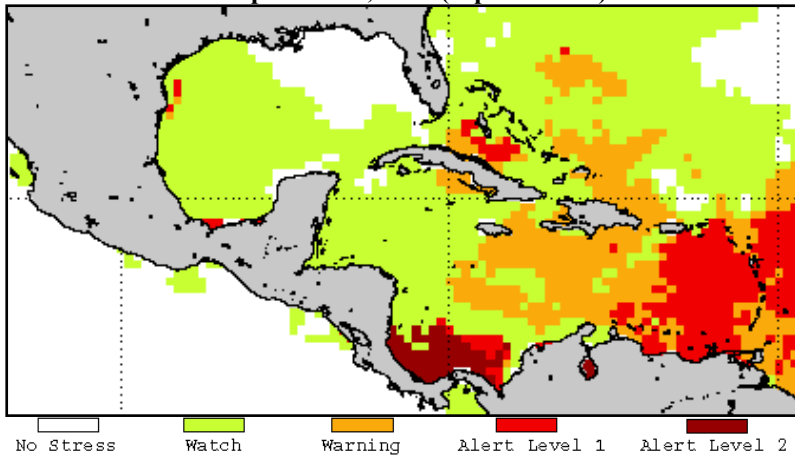


Figure 1. NOAA's Experimental Coral Bleaching Alert Areas for September 2, 2010.
http://coralreefwatch.noaa.gov/satellite/e50/e50_baa.html

Weather and Sea Temperatures

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

Current remote sensing analysis by NOAA's CRW program indicates that most of the Florida Keys region is presently experiencing thermal stress. NOAA's recent experimental 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 continue to be elevated for this time of year in the Florida Keys. Similarly, NOAA's latest experimental Degree Heating Weeks (DHW) map, which shows how much heat stress has built up over the past 12 weeks (Fig.3), shows that a low level of temperature stress has accumulated in the Florida Keys region. However, 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, indicate that temperatures may have decreased slightly during the past week to near or below 30°C (Fig.4), likely due in part to increased wind speeds observed over the past week (Fig. 5). *In-situ* sea temperature data is currently not available for Sand Key, Sombrero, or Dry Tortugas regions.

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.

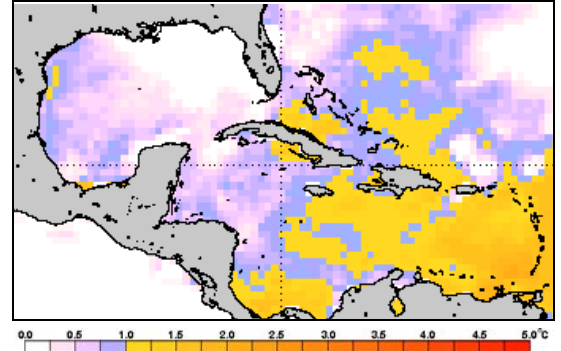


Figure 2. NOAA's Experimental Coral Bleaching HotSpot Map for September 2, 2010.
<http://coralreefwatch.noaa.gov/satellite/e50/>

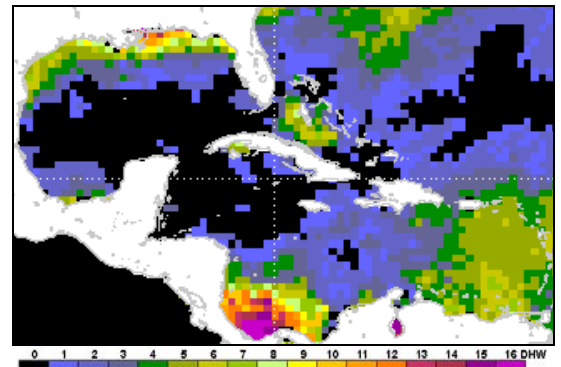


Figure 3. NOAA's Experimental Degree Heating Weeks Map for September 2, 2010.
<http://coralreefwatch.noaa.gov/satellite/e50/>

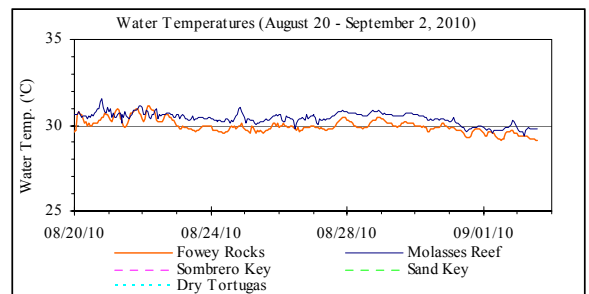


Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (Aug. 20– Sept. 2, 2010).

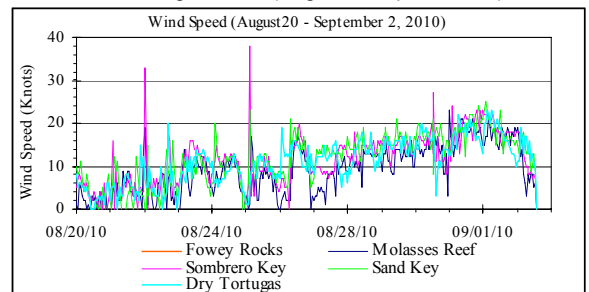


Figure 5. Wind speed data from NOAA/ICON monitoring stations (Aug. 20 – Sept. 2, 2010).



Coral Bleaching Early Warning Network

Current Conditions Report #20100903



Conditions of Corals

A total of 30 BleachWatch Observer reports were received during the past two weeks, with 13 reports indicating only isolated colonies exhibiting signs of paling or partial bleaching (Fig. 6). The remaining



Figure 6. Two colonies of *Colpophyllia natans*; paling and partially bleached near West Washerwoman on Aug. 25, 2010. Photo: MML

reports indicated that no significant signs of coral bleaching (Fig. 7) were observed. At those sites where partial bleaching, paling, or limited bleaching was noted (Fig.8), the overall percentage of corals exhibiting signs of thermal stress typically ranged from only 11-30% of corals at each site.

The majority of isolated paling/partial bleaching observations consisted of Mound and Boulder corals (*Montastraea spp.*, *Porites ssp.*, *Stephanocoenia intersepta*, *Solenastrea spp.* and *Siderastrea spp.*), Branching corals (*Porites spp.*) and Brain corals (*Diploria spp.*, *Colpophyllia*



Figure 7. A healthy *Acropora palmata* offshore of Marathon on Aug. 29, 2010. Photo: Carmen Powers

natans, and *Meandrina meandrites*). Other observations included paling of *Palythoa spp.* and Fire Coral, as well as several reports of coral disease.

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 20 – September 2, 2010

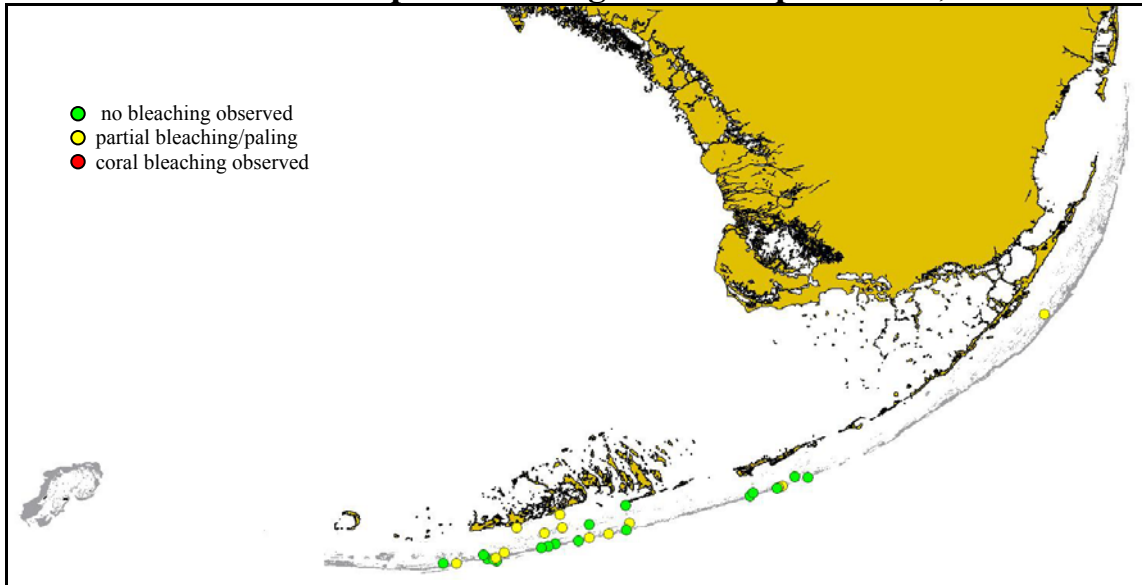


Figure 8. Overview of BleachWatch observer reports submitted from August 20 – September 2, 2010.

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>

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