



Updated September 6, 2011

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

NOAA Coral Reef Watch Satellite Coral Bleaching Alert Area
September 5, 2011 (experimental)

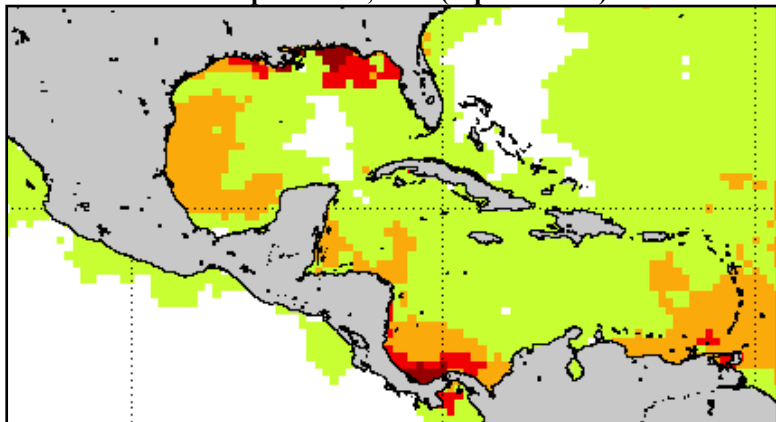


Figure 1. NOAA's Experimental Coral Bleaching Alert Areas for September 5, 2011.

http://coralreefwatch.noaa.gov/satellite/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 moderate 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 are 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. 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 remain near or only slightly exceeding 30°C (Fig.4) for the past month, possibly due to continued breezy conditions over the past few weeks (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.

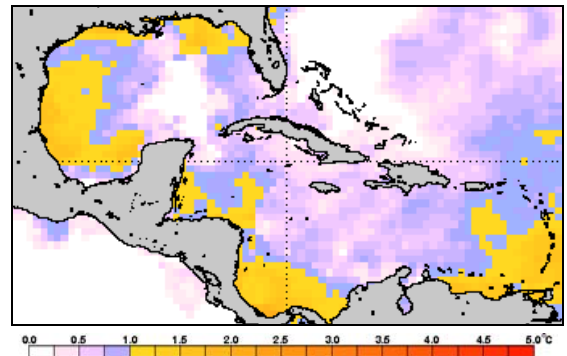


Figure 2. NOAA's Experimental Coral Bleaching HotSpot Map for September 5, 2011.

<http://coralreefwatch.noaa.gov/satellite/e50/>

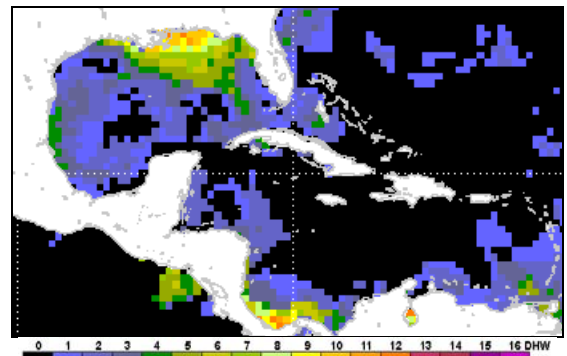


Figure 3. NOAA's Experimental Degree Heating Weeks Map for September 5, 2011.

<http://coralreefwatch.noaa.gov/satellite/e50/>

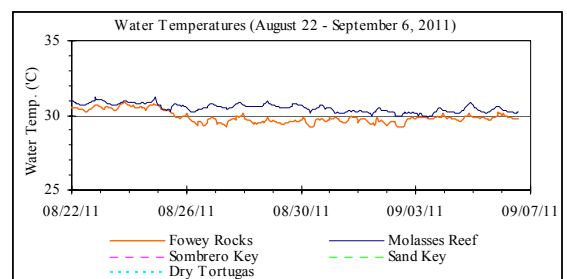


Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (August 22 – September 6, 2011).

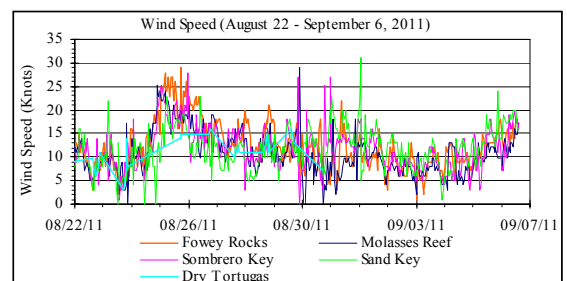


Figure 5. Wind speed data from NOAA/ICON monitoring stations (August 22 – September 6, 2011).



Coral Bleaching Early Warning Network

Current Conditions Report #20110906



Conditions of Corals

A total of 33 BleachWatch Observer reports were received during the past two weeks, with 4 reports of significant bleaching (Fig. 6) and 28 reports indicating only isolated colonies exhibiting signs of paling or partial bleaching (Fig. 7). The remaining reports indicated that no significant signs of coral bleaching were observed. At those sites where partial bleaching, paling, or bleaching was noted (Fig. 8), the overall percentage of corals exhibiting signs of thermal stress typically ranged from 31-50% of corals at each site.

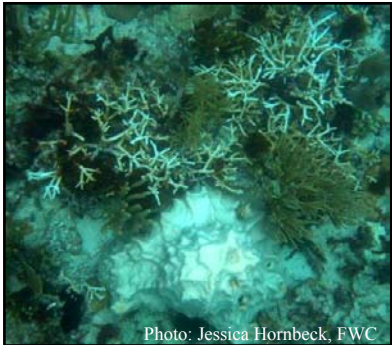


Photo: Jessica Hornbeck, FWC
Figure 6. Bleached *Montastraea faveolata* and paling *Acropora cervicornis* at Davis Reef on Sept. 1, 2011.



Photo: Rob McCall
Figure 7. *Montastraea annularis* paling at Sand Key on Sept. 2, 2011

The majority of isolated paling/partial bleaching observations consisted of Mound and Boulder corals (*Montastraea* spp., *Porites* spp, *Stephanocoenia intersepta*, *Solenastrea* spp. and *Siderastrea* spp.), Branching corals (*Acropora cervicornis*, *Porites* spp.) Brain corals (*Diploria* spp., *Colpophyllia natans*, and *Meandrina meandrites*) Plate corals (*Agaricia* spp.), and Flower corals (*Eusmilia fastigiana*). Other observations included paling and bleaching of *Palythoa* spp, Fire Coral, Gorgonians, as well as several reports of Black Band Disease throughout the Keys.

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 22 – September 5, 2011

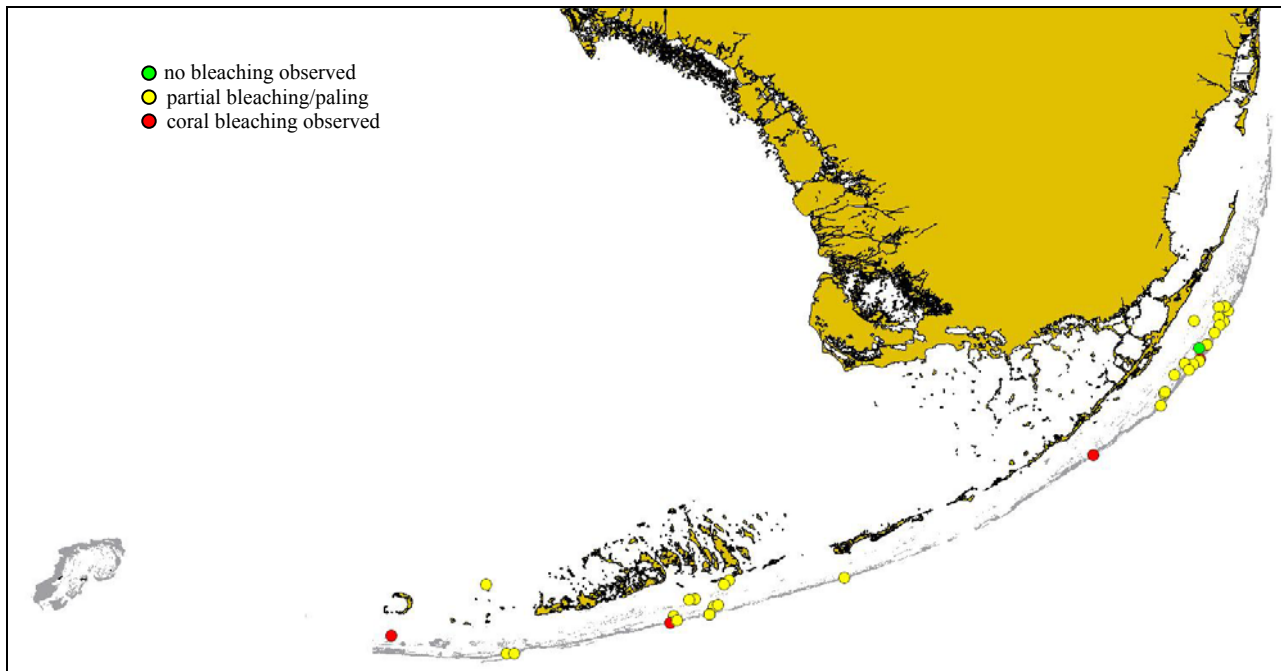


Figure 8. Overview of BleachWatch observer reports submitted from August 22 – September 5, 2011.

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

Cory Walter
Mote Marine Laboratory
24244 Overseas Highway
Summerland Key, FL 33042
(305) 745-2729 x301

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

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