



Mote Marine Laboratory / Florida Keys National Marine Sanctuary  
**Coral Bleaching Early Warning Network**  
**Current Conditions Report #20080901**



Updated September 1, 2008

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

**Weather and Sea Temperatures**

**NOAA Coral Reef Watch Coral Bleaching Thermal Stress Outlook  
 August – November, 2008**

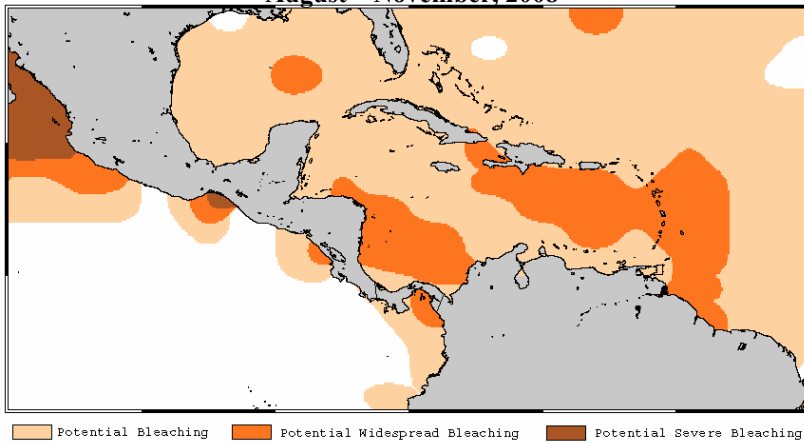


Figure 1. NOAA's Coral Bleaching Thermal Stress Outlook for Aug. – Nov., 2008.

According to NOAA's Coral Reef Watch, there is a potential for bleaching across the Caribbean basin in 2008, but it is not likely to be severe. The potential for widespread bleaching has increased for the Windward Islands and perhaps along the coasts of Nicaragua and Colombia (Figure 1).

NOAA's Coral Reef Watch current remote sensing analysis reveals that the Florida Keys region is experiencing some signs of increasing thermal stress. NOAA's recent Coral Bleaching HotSpot Map, which provides current SST's compared to the historically expected SST's for the region, shows elevated temperature anomalies in the vicinity of the Florida Keys National Marine Sanctuary, but mostly in the Gulf of Mexico to the north (Figure 2). Similarly, NOAA's latest Degree Heating Weeks (DHW) map, which illustrates the accumulation of elevated temperature in an area based on the previous 12 weeks, indicates minimal cumulative temperature stress in the Florida Keys region, again concentrated mainly in the area north of the Keys (Figure 3). Finally, sea temperature readings at NOAA's Integrated Coral Observing Network (ICON) monitoring stations confirm that sea temperatures throughout the Florida Keys have been near 30°C for about 2 weeks, with some temporary periods of cooler conditions likely attributed to impacts from Tropical Storm Fay (Figure 4). As a result, NOAA's Coral Reef Watch program is again issuing a "Bleaching Warning", indicating that observations of coral bleaching are likely in the Florida Keys region.

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.

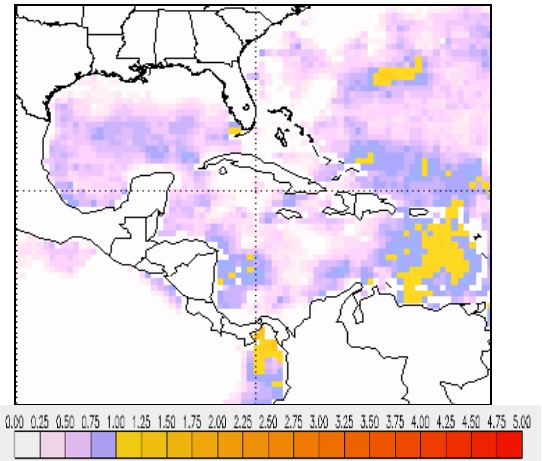


Figure 2. NOAA's Coral Bleaching HotSpot Map for September 1, 2008.  
[www.osdpd.noaa.gov/PSB/EPS/SST/climohot.html](http://www.osdpd.noaa.gov/PSB/EPS/SST/climohot.html)

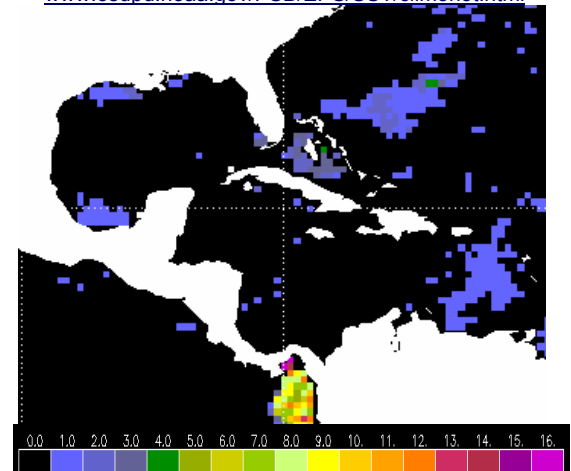


Figure 3. NOAA's Degree Heating Weeks Map for September 1, 2008.  
[www.osdpd.noaa.gov/PSB/EPS/SST/dhw\\_retro.html](http://www.osdpd.noaa.gov/PSB/EPS/SST/dhw_retro.html)

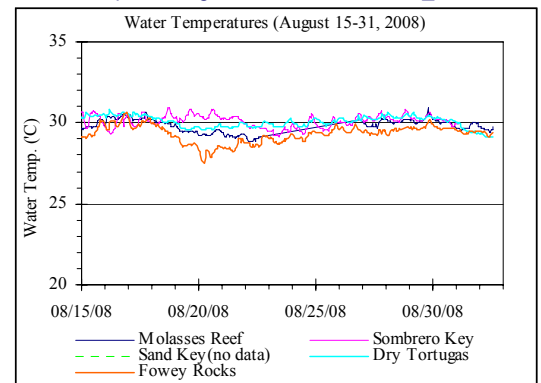


Figure 4. Summary of *in-situ* sea temperature data from NOAA/ICON monitoring stations (Aug. 15 -31, 2008).



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**Conditions of Corals**

A total of 22 BleachWatch Observer reports were received during the last two weeks, with 8 reports indicating isolated colonies exhibiting signs of paling or partial bleaching (Figure 5). The remaining reports indicated no signs of coral bleaching. There were no reports of fully bleached colonies observed throughout the Florida Keys or Key Biscayne (Figure 6)

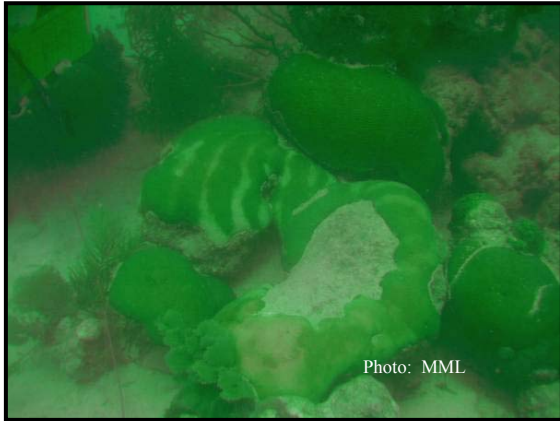


Figure 5. *Siderastrea siderea* with partial bleaching at Cheeca Rocks on August 27, 2008.

These isolated paling/bleaching observations consisted of Mound and Boulder corals (*Montastraea spp.*, *Solenastrea spp.*, and *Siderastrea spp.*), Brain corals, Branching Corals (*Porites porites* and *Oculina spp.*) as well as additional observations of paling/bleached *Palythoa spp.*, and Fire Coral. There were also 2 reports from the Ft. Lauderdale area by Vone Research which noted paling on Brain corals, *Palythoa spp.*, and Fire Coral.

Due to Tropical Storm Fay, there were fewer reports submitted during this period. However, of the reports received after Tropical Storm Fay passed through the Keys, none indicated any significant storm damage to the corals. Please continue to report coral bleaching or no bleaching as weather permits.

**BleachWatch Reports for August 14-31, 2008**

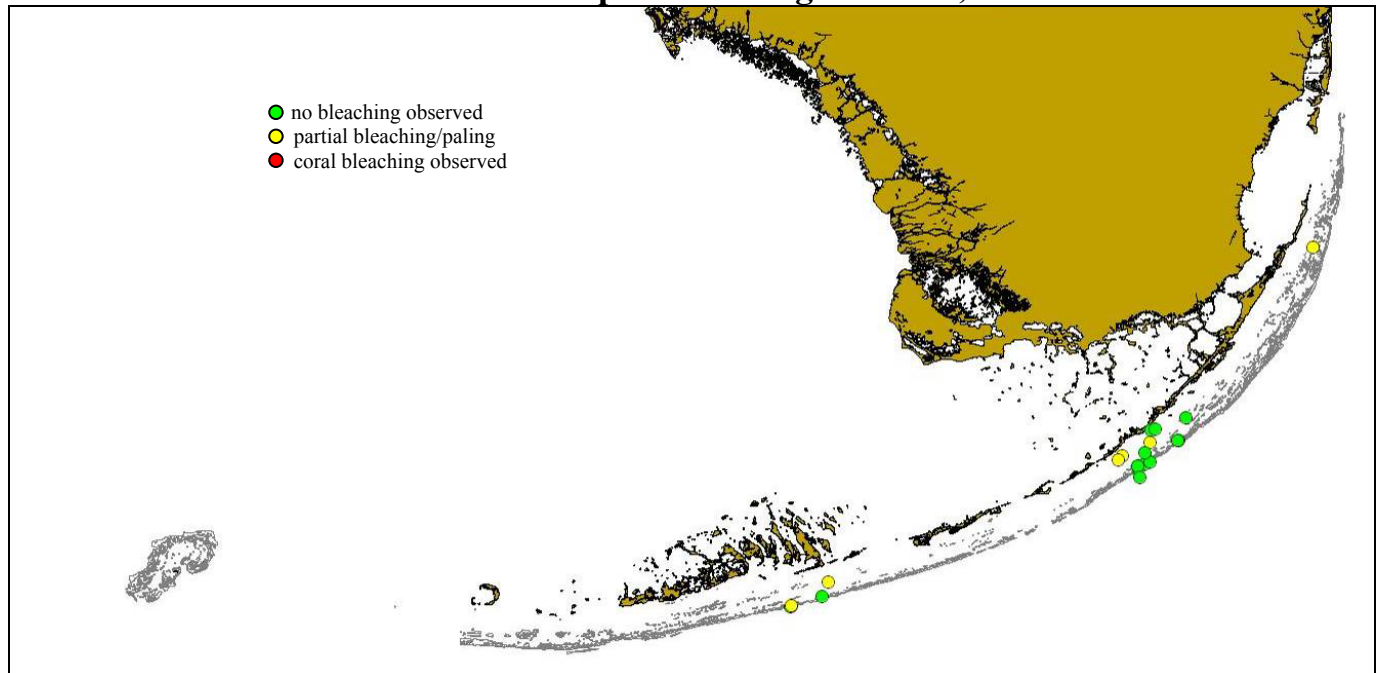


Figure 6. Overview of BleachWatch observer reports submitted from August 14-31, 2008

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>