



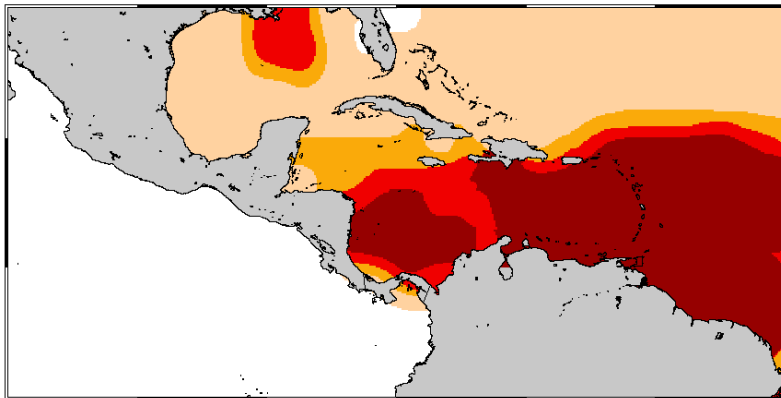
Mote Marine Laboratory / Florida Keys National Marine Sanctuary  
**Coral Bleaching Early Warning Network**  
**Current Conditions Report #20100820**



Updated August 20, 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 Coral Bleaching Thermal Stress Outlook  
 August–November 2010 (Version 2, experimental)



Potential Stress Level: Watch Warning Alert Level 1 Alert Level 2

Figure 1. NOAA's Experimental Coral Bleaching Thermal Stress Outlook for August–November, 2010.

<http://coralreefwatch.noaa.gov/satellite/bleachingoutlook/index.html>

**Weather and Sea Temperatures**

According to the latest NOAA Coral Reef Watch (CRW) experimental Coral Bleaching Thermal Stress Outlook, there is high potential for thermal stress capable of causing coral bleaching throughout the Caribbean during the coming months, however, the waters surrounding the Florida Keys might have a low to moderate potential. (Fig. 1).

Current remote sensing analysis by NOAA's CRW program indicates that 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 have increased slightly during the past two weeks and are presently near or exceeding 30°C (Fig.4), likely due in part to decreased wind speeds observed over the past two 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.

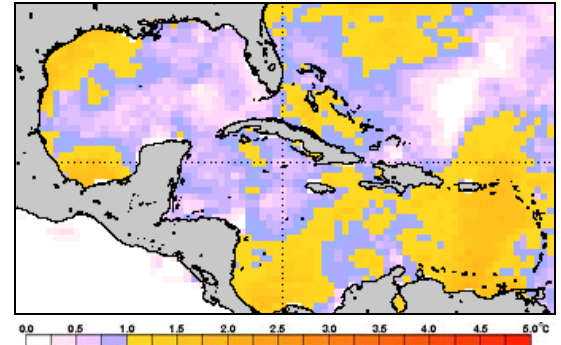


Figure 2. NOAA's Experimental Coral Bleaching HotSpot Map for August 19, 2010.

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

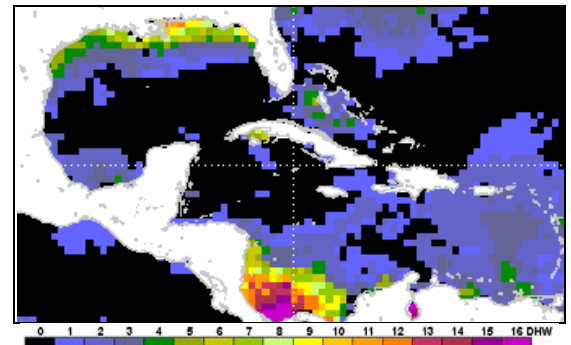


Figure 3. NOAA's Experimental Degree Heating Weeks Map for August 19, 2010.

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

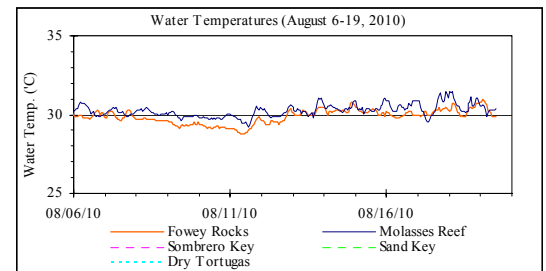


Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (Aug. 6-19, 2010).

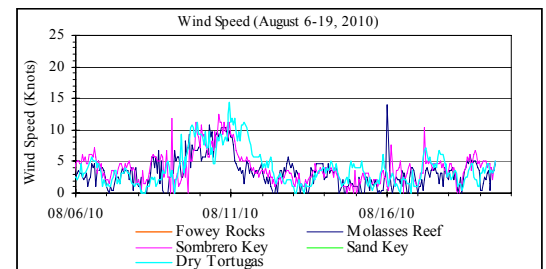


Figure 5. Wind speed data from NOAA/ICON monitoring stations (Aug. 6-19, 2010).



# Coral Bleaching Early Warning Network

## Current Conditions Report #20100820



### Conditions of Corals

A total of 35 BleachWatch Observer reports were received during the past two weeks in August, with 21 reports indicating isolated colonies exhibiting signs of paling or partial bleaching (Fig. 6 & 7).



Figure 6. *Siderastrea siderea* with partial bleaching in Hawk Channel off Marathon Aug. 16, 2010.

The remaining reports indicated that no significant signs of coral bleaching 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 1-10% of corals at each site.

The majority of isolated paling/partial bleaching observations consisted of Mound and Boulder corals

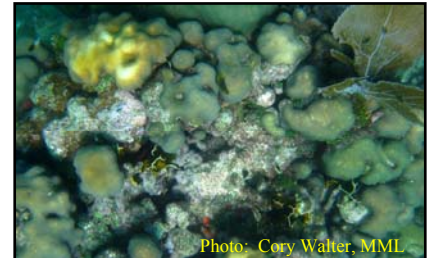


Figure 7. *Montastraea annularis* paling at Sombrero Reef Aug. 14, 2010

(*Montastraea spp.*, *Porites spp.*, *Stephanocoenia intersepta* *Dichocoenia stokesi*, *Solenastrea spp.*

and *Siderastrea spp.*), Branching corals (*Porites spp.* and *Acropora spp.*) and Brain corals

(*Diploria spp.*, *Colpophyllia natans*, and *Meandrina meandrites*). Other observations included paling of *Palythoa spp.*, Fire Coral, and Gorgonians, 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 6-19, 2010

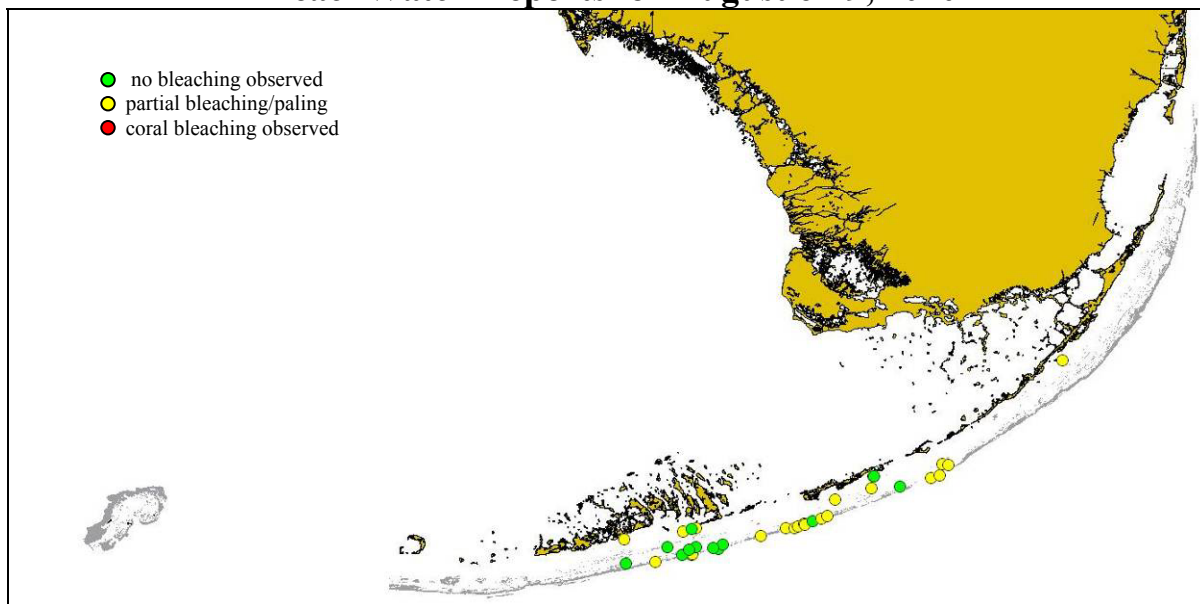


Figure 8. Overview of BleachWatch observer reports submitted from August 6-19, 2010.

**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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