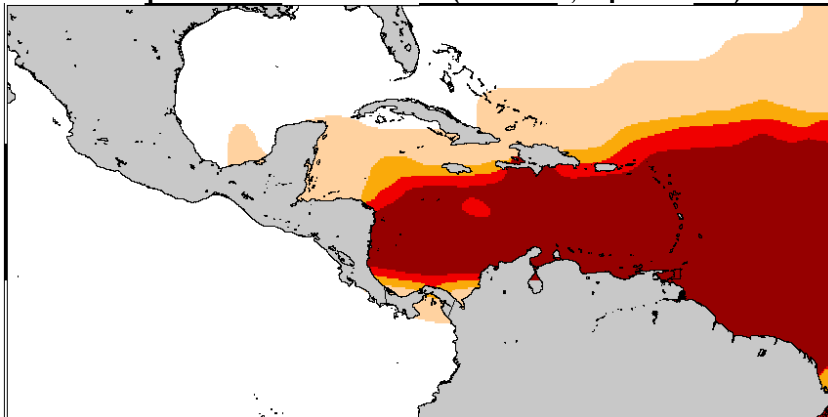




Updated September 17, 2010

**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 September – December 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 September – December, 2010

[http://coralreefwatch.noaa.gov/satellite/e50/e50\\_baa.html](http://coralreefwatch.noaa.gov/satellite/e50/e50_baa.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 potential for severe thermal stress in the Florida Keys and surrounding waters is now less likely than earlier outlooks indicated. (Fig. 1).

Current remote sensing analysis by NOAA's CRW program indicates that most of the Florida Keys region is presently experiencing minimal 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 only slightly 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 accumulated temperature stress in the Florida Keys region remains low. 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 increased slightly during the past week to near or above 30°C (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, 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.

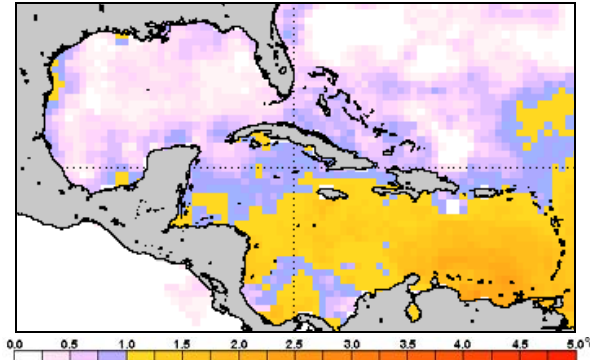


Figure 2. NOAA's Experimental Coral Bleaching HotSpot Map for September 16, 2010.

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

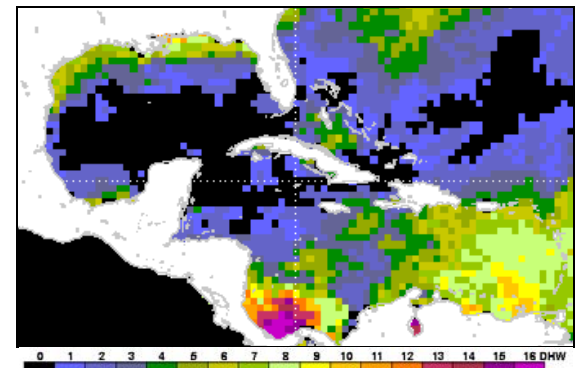


Figure 3. NOAA's Experimental Degree Heating Weeks Map for September 16, 2010.

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

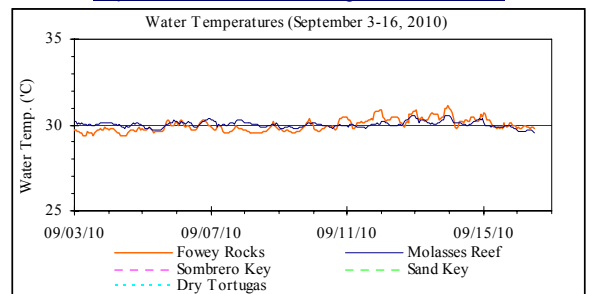


Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (September 3 - 16, 2010).

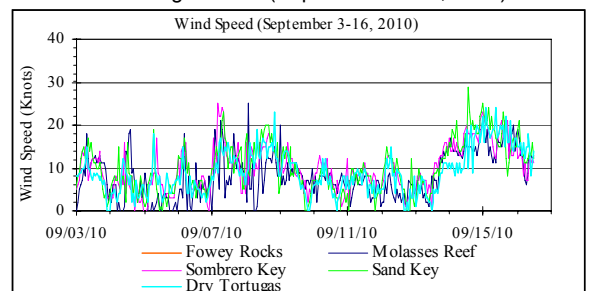


Figure 5. Wind speed data from NOAA/ICON monitoring stations (September 3 - 16, 2010).



# Coral Bleaching Early Warning Network

## Current Conditions Report #20100917



### Conditions of Corals

A total of 36 BleachWatch Observer reports were received during the past two weeks, with 15 reports indicating only isolated colonies exhibiting signs of paling or partial bleaching. The remaining reports indicated that no significant signs of coral bleaching (Fig. 6) were observed. At those sites where partial bleaching, paling, or limited bleaching was noted (Fig.7), the overall percentage of corals exhibiting signs of thermal stress typically ranged from only 1-10% of corals at each site.



Figure 6. A healthy *Diploria strigosa* offshore of Key Largo on September 13, 2010

The majority of isolated paling/partial bleaching observations consisted of Mound and Boulder corals (*Montastraea spp.*, *Porites spp.*, *Stephanocoenia intersepta*, and *Siderastrea spp.*), Branching corals (*Porites spp.*), Brain corals (*Diploria spp.*, *Colpophyllia natans*, and *Meandrina meandrites*) and Plate corals (*Agaricia spp.*). 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 September 3-16, 2010

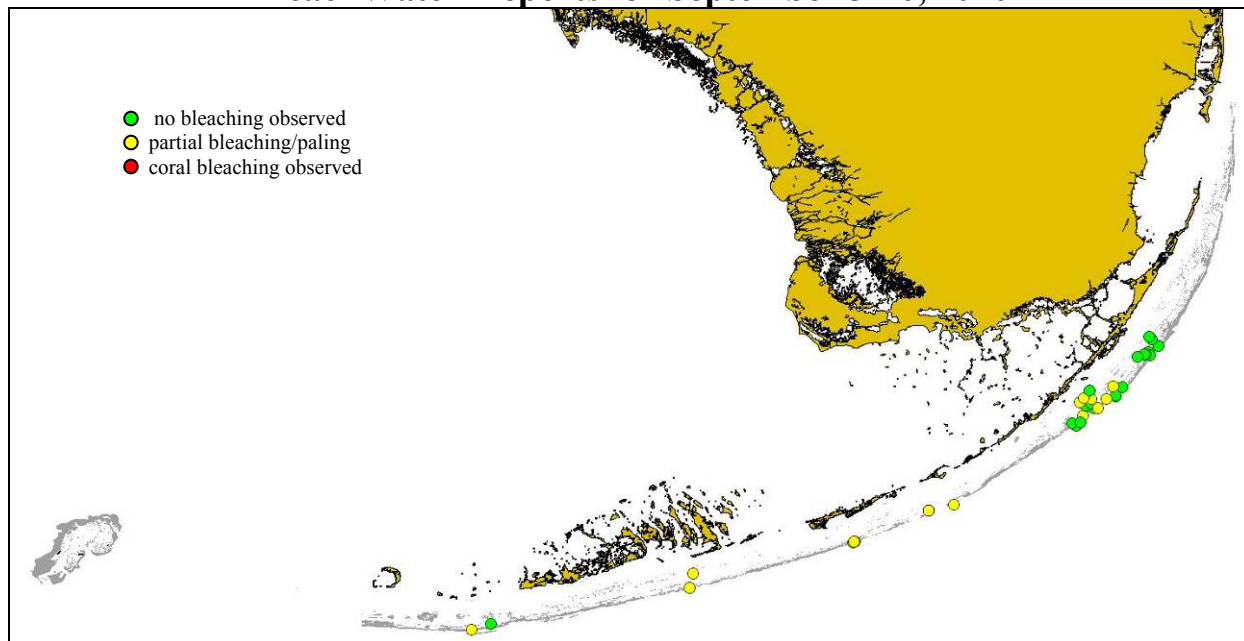


Figure 7. Overview of BleachWatch observer reports submitted from September 3-16, 2010.

#### Funding Provided By:

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

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Summerland Key, FL 33042  
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<http://www.mote.org/Keys/research/bleaching.phtml>

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