



Updated September 19, 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 19, 2011 (experimental)

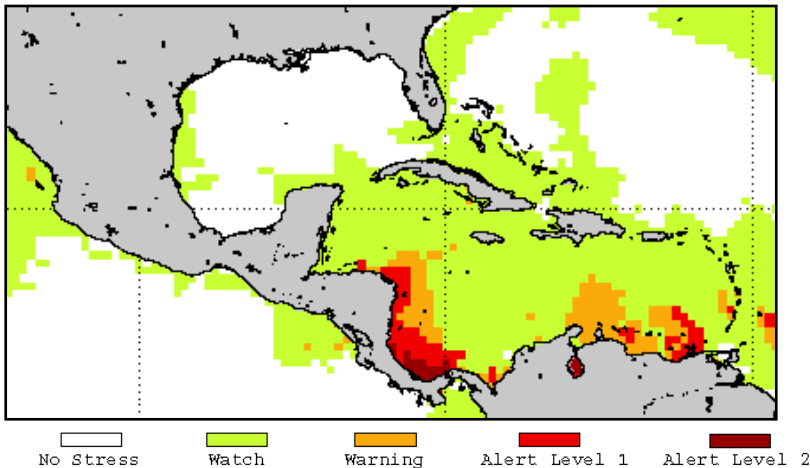


Figure 1. NOAA's Experimental Coral Bleaching Alert Areas for September 19, 2011.  
[http://coralreefwatch.noaa.gov/satellite/e50/e50\\_baa.html](http://coralreefwatch.noaa.gov/satellite/e50/e50_baa.html)

### Weather and Sea Temperatures

According to the latest NOAA Coral Reef Watch (CRW) experimental 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 have not increased significantly and remain near or slightly exceeding 30°C (Fig.4) for the past month, possibly due to light but fairly constant winds over the same period (Fig. 5). *In-situ* sea temperature data is currently not available for Sand Key, or Sombrero. Dry Tortugas station is currently not transmitting data.

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.

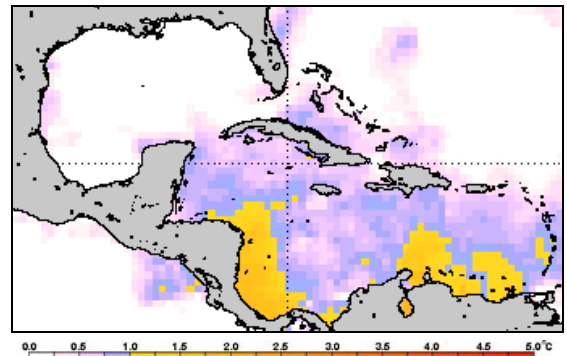


Figure 2. NOAA's Experimental Coral Bleaching HotSpot Map for September 19, 2011.  
<http://coralreefwatch.noaa.gov/satellite/e50/>

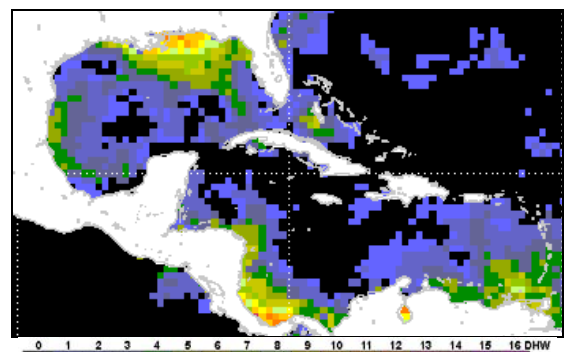


Figure 3. NOAA's Experimental Degree Heating Weeks Map for September 19, 2011.  
<http://coralreefwatch.noaa.gov/satellite/e50/>

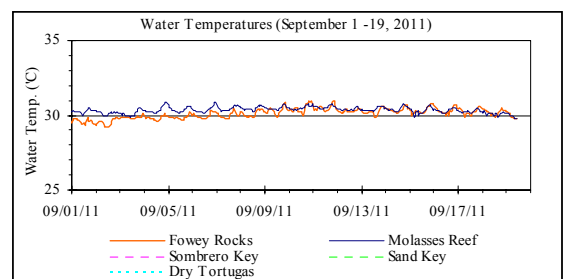


Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (September 1-19, 2011).

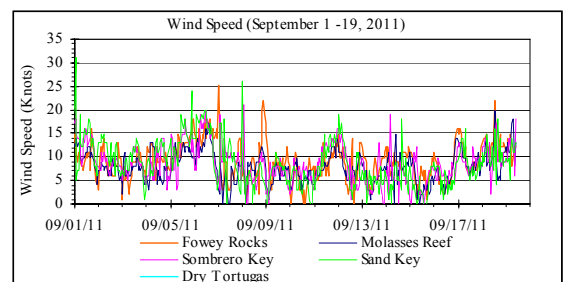


Figure 5. Wind speed data from NOAA/ICON monitoring stations (September 1-19, 2011).



# Coral Bleaching Early Warning Network

## Current Conditions Report #20110919



### Conditions of Corals

A total of 25 BleachWatch Observer reports were received during the past two weeks, with 4 reports of significant bleaching (Fig. 6) and 19 reports indicating only isolated colonies exhibiting signs of paling or partial bleaching. 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. 7), the overall percentage of corals exhibiting signs of thermal stress typically ranged from 31-50% of corals at each site.



Figure 6. Bleached and healthy *Colpophyllia natans* at a Mid-Channel reef off Marathon on Sept. 16, 2011. Photo: Jessica Snook, FWC

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* spp. and *Porites* spp.) Brain corals (*Diploria* spp., *Colpophyllia natans*, and *Meandrina meandrites*) Plate corals (*Agaricia* spp.), and Flower corals (*Eusmilia fastigiana*). Other observations included paling

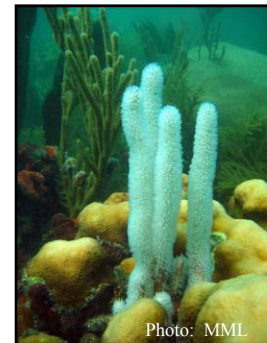


Figure 8. Bleached gorgonian with healthy *Montastraea annularis* at Wonderland on Sept. 7, 2011. Photo: MML

and bleaching of *Palythoa* spp, Fire Coral, Gorgonians (Fig. 8), 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 September 5 - 19, 2011

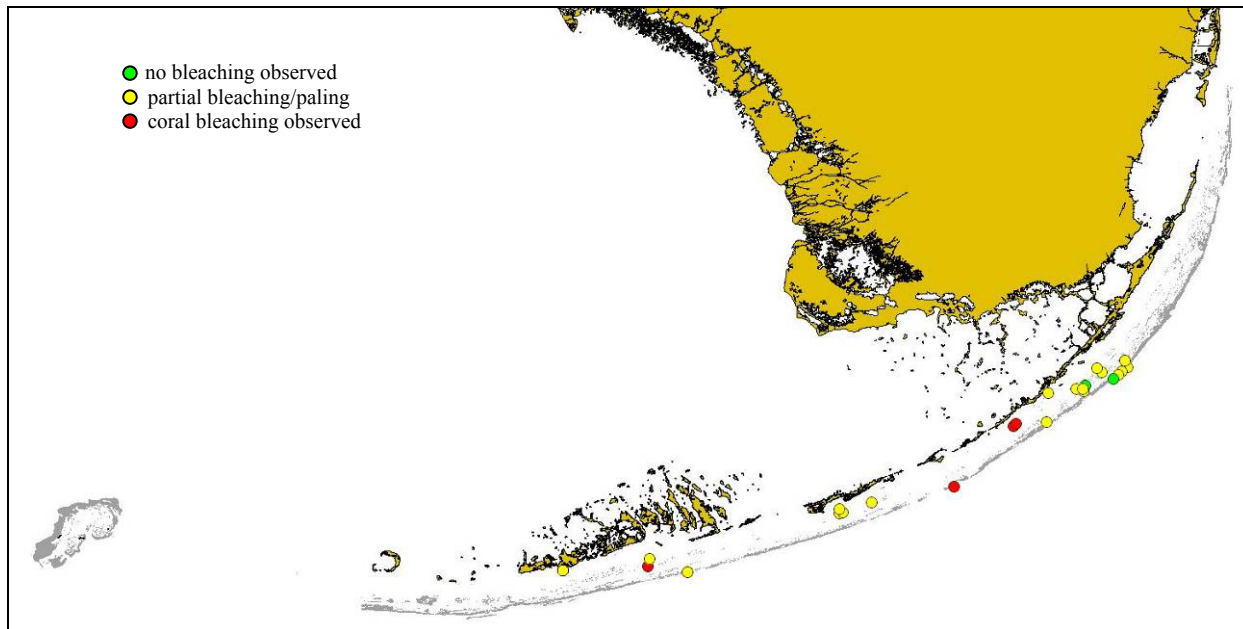


Figure 7. Overview of BleachWatch observer reports submitted from September 5 - 19, 2011.

**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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