



Updated October 3, 2011

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

NOAA Coral Reef Watch Satellite Coral Bleaching Alert Area  
October 3, 2011 (experimental)

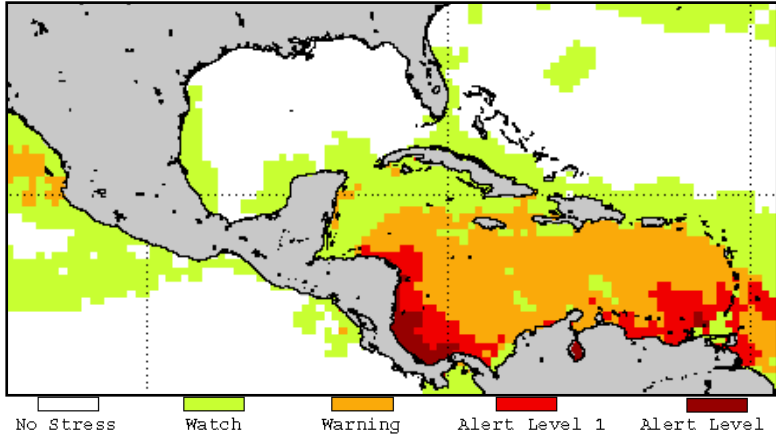


Figure 1. NOAA's Experimental Coral Bleaching Alert Areas for October 3, 2011.  
[http://coralreefwatch.noaa.gov/satellite/e50/e50\\_baa.html](http://coralreefwatch.noaa.gov/satellite/e50/e50_baa.html)

### Weather and Sea Temperatures

According to the latest NOAA Coral Reef Watch (CRW) experimental Satellite Coral Bleaching Alert Area, there is a low level of thermal stress throughout the Florida Keys and the 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 reduced 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 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 only 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 decreased and remain near or slightly below 30°C (Fig.4) for the past two weeks. Despite fairly calm winds over the past few weeks (Fig. 5), forecasts indicate windy conditions for the next week, which should provide additional relief. *In-situ* sea temperature data is currently not available for Sand Key or Sombrero. The 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.

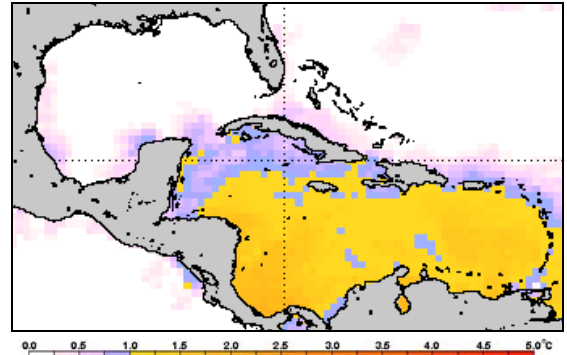


Figure 2. NOAA's Experimental Coral Bleaching HotSpot Map for October 3, 2011.  
<http://coralreefwatch.noaa.gov/satellite/e50/>

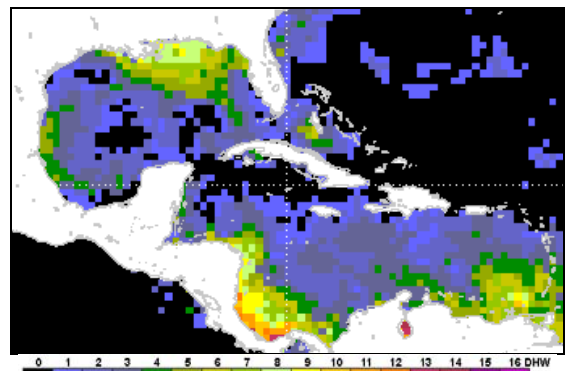


Figure 3. NOAA's Experimental Degree Heating Weeks Map for October 3, 2011.  
<http://coralreefwatch.noaa.gov/satellite/e50/>

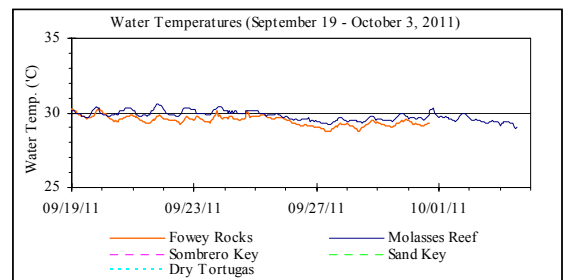


Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (Sept. 19 – Oct. 3, 2011).

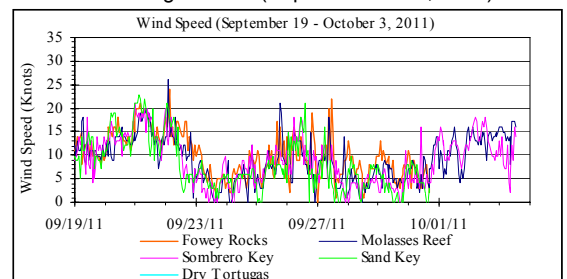


Figure 5. Wind speed data from NOAA/ICON monitoring stations (Sept. 19 – Oct. 3, 2011).



Mote Marine Laboratory / Florida Keys National Marine Sanctuary  
**Coral Bleaching Early Warning Network**  
**Current Conditions Report #20111003**



**Conditions of Corals**

A total of 36 BleachWatch Observer reports were received during the past two weeks, with only 1 report of significant bleaching and 29 reports indicating only isolated colonies exhibiting signs of paling or partial bleaching (Fig. 6). The remaining 6 reports indicated that no significant signs of coral bleaching were observed. At those sites where partial bleaching, paling, or bleaching was noted, the overall percentage of corals exhibiting signs of thermal stress typically ranged from 11-30% of corals at each site (Fig. 7).



Figure 6. Bleached *Colpophyllia natans* at a reef East of Looe Reef on Sept.21, 2011.  
 Photo: Jeff Kelly

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*)



Figure 8. Bleached Fire Coral at Perfection Reef in the Dry Tortugas on Sept. 28, 2011  
 Photo: Meaghan Johnson, TNC

Plate corals (*Agaricia* spp.), and Flower corals (*Eusmilia fastigiana*). Other observations included paling and bleaching of *Palythoa* spp, Fire Coral (Fig. 8), Gorgonians, as well as several reports of Black Band and White 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 19 – October 3, 2011**

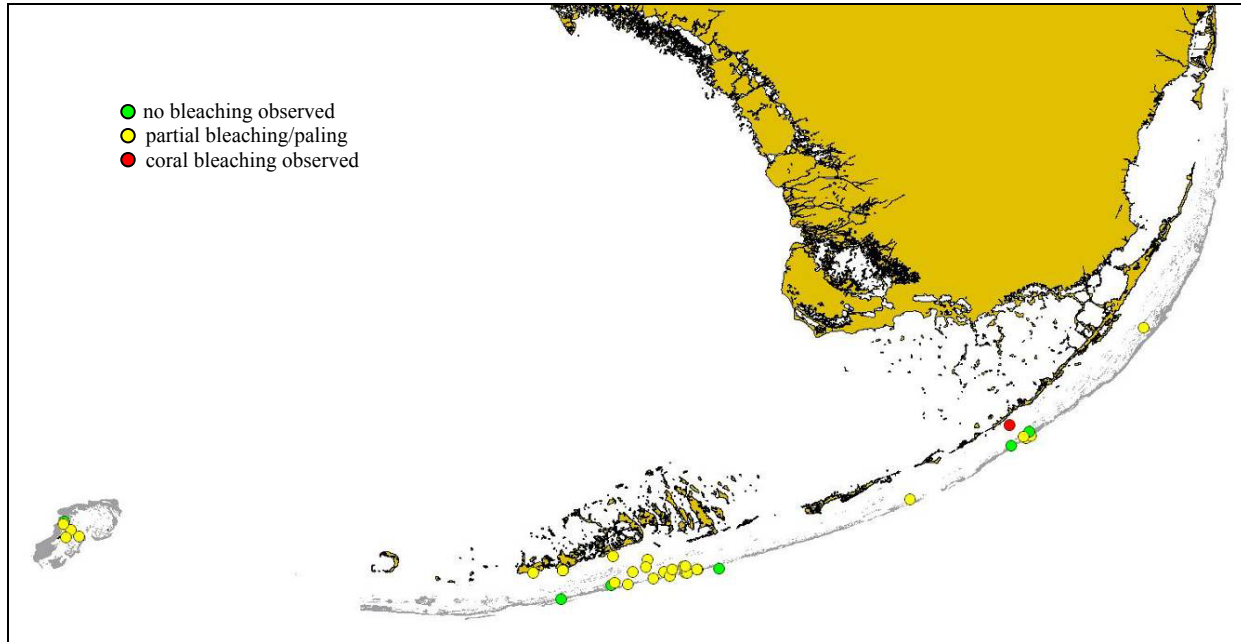


Figure 7. Overview of BleachWatch observer reports submitted from September 19 – October 3, 2011.

**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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