



Updated September 6, 2012

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

NOAA Coral Reef Watch Coral Bleaching Alert Area  
September 4, 2012 (experimental)

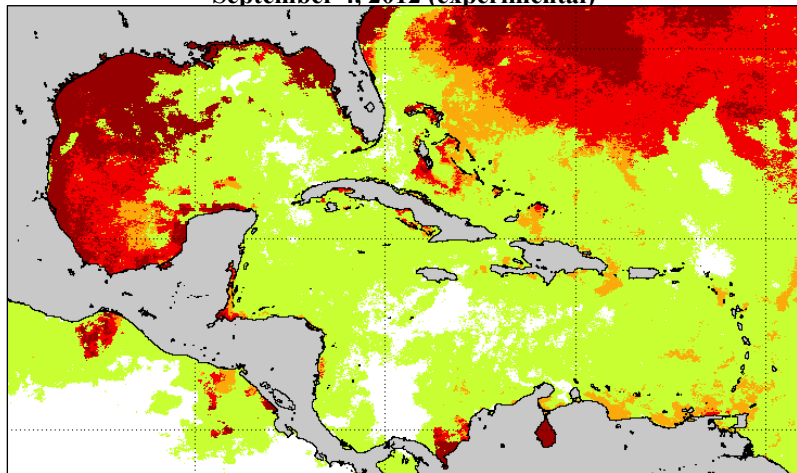


Figure 1. NOAA's 5 km Experimental Coral Bleaching Alert Areas for September 4, 2012. <http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.html>

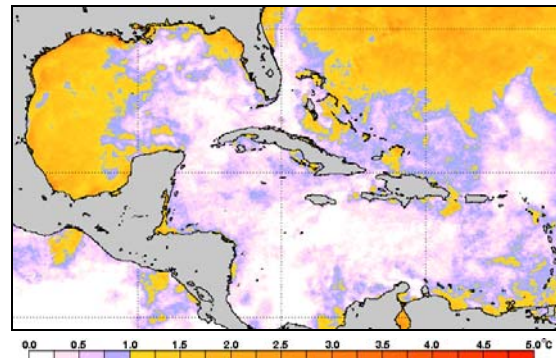


Figure 2. NOAA's Experimental 5 km Coral Bleaching HotSpot Map for September 4, 2012. <http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.html>

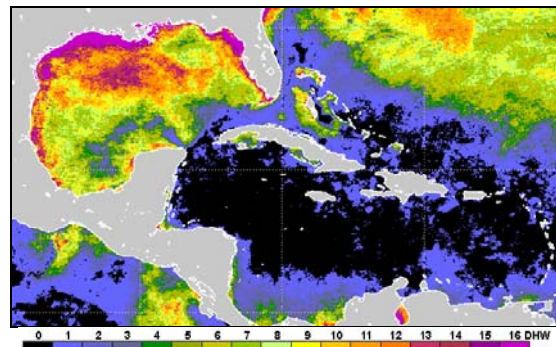


Figure 3. NOAA's Experimental 5 km Degree Heating Weeks Map for September 4, 2012. <http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.html>

### Weather and Sea Temperatures

According to the newly released NOAA Coral Reef Watch (CRW) experimental 5 kilometer (km) Satellite Coral Bleaching Alert Area, there is a moderate level of thermal stress throughout the Florida Keys and the potential for coral bleaching if current conditions continue (Fig. 1).

Recent remote sensing analysis by NOAA's CRW program indicates that the Florida Keys region is presently experiencing thermal stress. NOAA's new experimental 5 km 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 new experimental 5 km Degree Heating Weeks (DHW) map, which illustrates how much heat stress has built up over the past 12 weeks (Fig.3), indicates that a low level of temperature stress has accumulated in the Florida Keys region. 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, suggests that temperatures have decreased to below 30°C over the past two weeks (Fig.4), likely due in part to increased wind speeds observed during Tropical Storm Isaac (Fig. 5). *In-situ* sea temperature data is currently not available for Sand Key or Sombrero. Dry Tortugas is not recording any data at this time.

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.

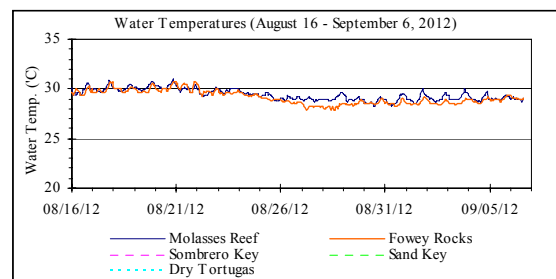


Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (August 16-September 6, 2012).

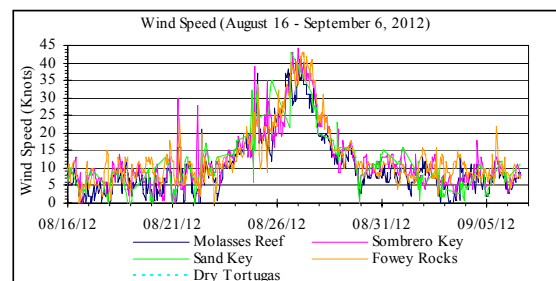


Figure 5. Wind speed data from NOAA/ICON monitoring stations (August 16 – September 6, 2012).



# Coral Bleaching Early Warning Network

## Current Conditions Report #20120906



### Conditions of Corals

A total of 23 BleachWatch Observer reports were received during the last three weeks (Fig. 6), with 12 reports indicating isolated colonies exhibiting signs of paling or surface bleaching (Fig. 7). The remaining 8 reports indicated that no significant signs of coral bleaching were observed. At most sites where partial bleaching or paling was noted, the overall percentage of corals exhibiting signs of thermal stress was only 1-10% of corals at each site except one Lower Key inshore reef where 11-30% of corals were affected.

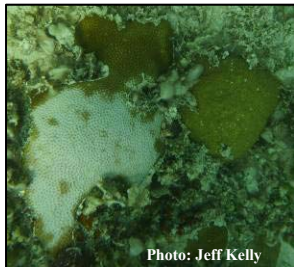


Figure 7. Partially bleached *Siderastrea siderea* off Cook's Island on August 20, 2012.

The majority of isolated paling observations consisted of Encrusting/Mound/Boulder corals (*Montastraea spp.* and *Siderastrea spp.*) and Brain Corals (*Diploria spp.*, *Colpophyllia natans*, and *Meandrina meandrites*). Other observations included paling of *Palythoa spp.* and Fire Coral,

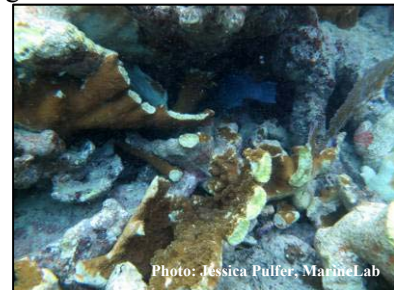


Figure 8. Tropical Storm damage to *Acropora palmata* at Horseshoe Reef off Key Largo on September 4, 2012

as well as several reports of coral diseases and some minor damage from Tropical Storm Isaac (Fig. 8) throughout Upper, Middle, and Lower Keys as well as the Dry Tortugas National Park.

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 16 – September 6, 2012

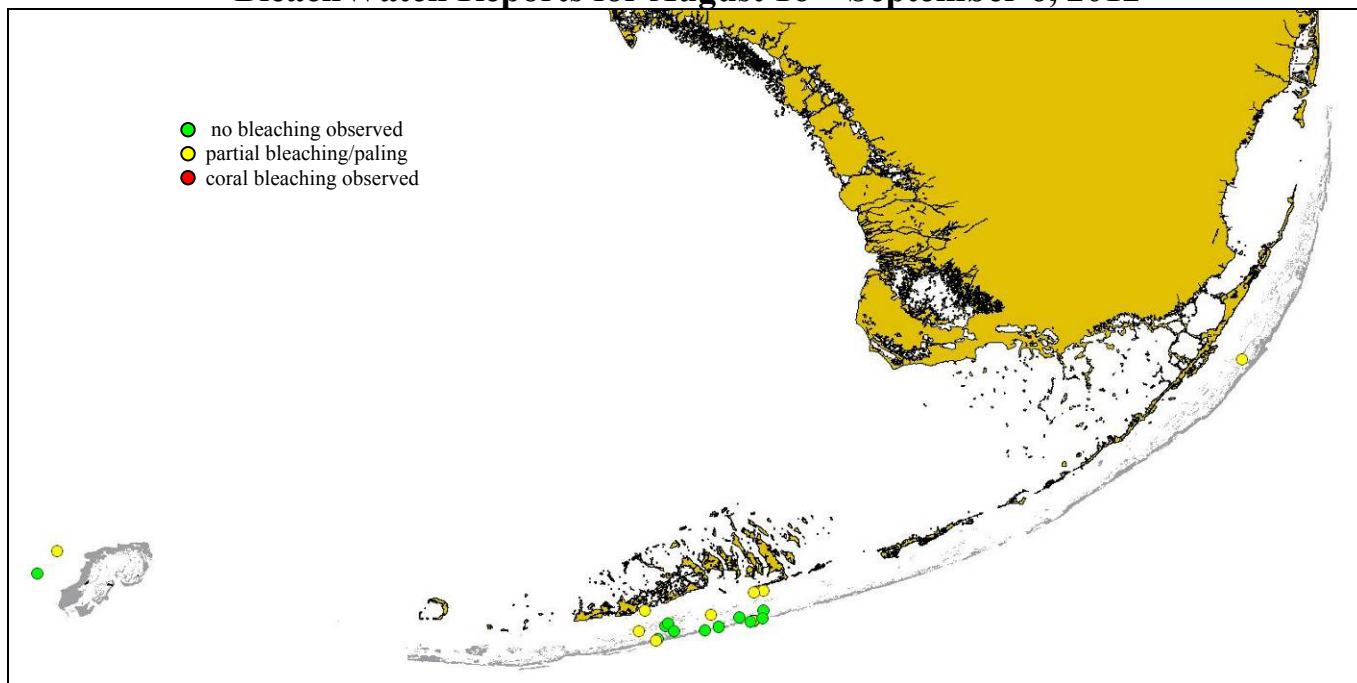


Figure 6. Overview of BleachWatch observer reports submitted from August 16 – September 6, 2012.

**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>

**Funding Provided By:**

