Mote Marine Laboratory / Florida Keys National Marine Sanctuary

# Coral Bleaching Early Warning Network

## Current Conditions Report #20120802

**Updated August 2, 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**
**August 2, 2012 (experimental)**

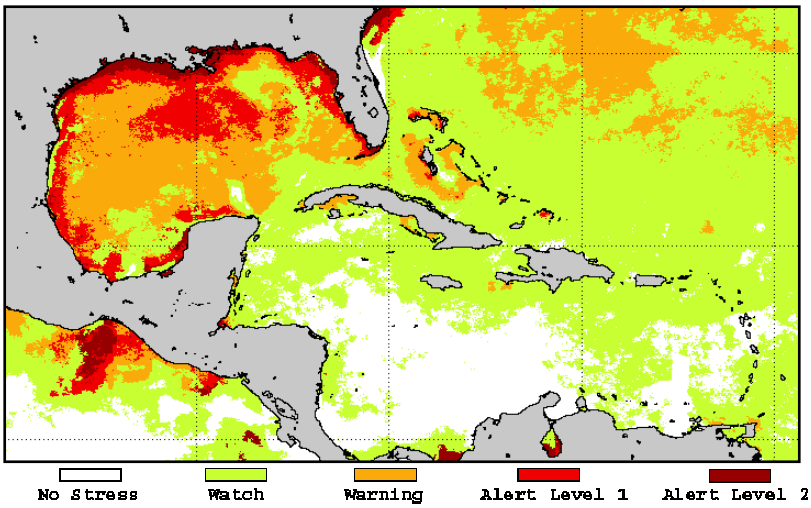


Figure 1. NOAA's 5 km Experimental Coral Bleaching Alert Areas for August 1, 2012.
http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.html

## 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 there is 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 increasing 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. 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 to near 30°C over the month of July (Fig.4), likely due in part to decreased wind speeds observed over the past two weeks (Fig. 5). *In-situ* sea temperature data is currently not available for Sand Key, or Sombrero. Dry Tortugas station is also recording intermittent 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.

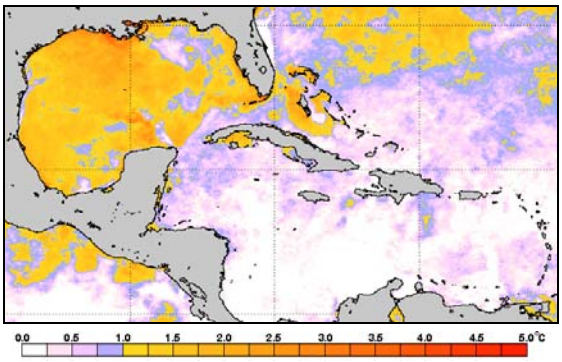


Figure 2. NOAA's Experimental 5 km Coral Bleaching HotSpot Map for August 1, 2012.
http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.html

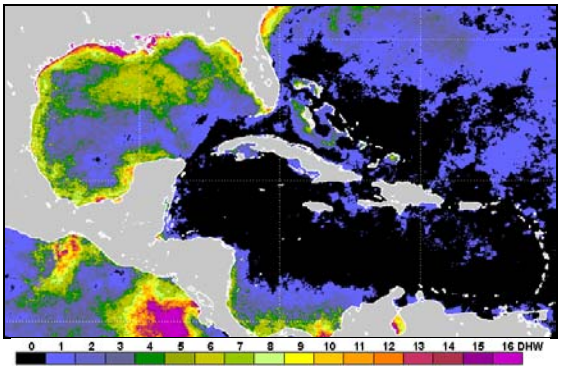


Figure 3. NOAA's Experimental 5 km Degree Heating Weeks Map for August 1, 2012.
http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.html

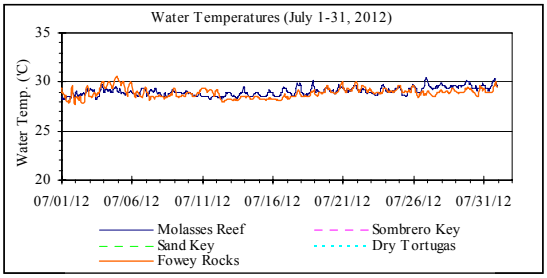


Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (July 1-31, 2012).

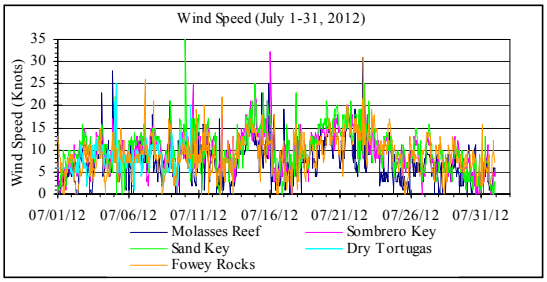


Figure 5. Wind speed data from NOAA/ICON monitoring stations (July 1-31, 2012).

## Conditions of Corals

A total of 74 BleachWatch Observer reports were received during the month of July (Fig. 6), with 40 reports indicating isolated colonies exhibiting signs of paling or surface bleaching (Fig. 7). The remaining 39 reports indicated that no significant signs of coral bleaching were observed (Fig. 8). At those 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.

Figure 7. Paling *Colpophyllia natans* at a patch reef offshore of Big Pine Key on July 2, 2012.

Figure 8. Healthy *Diploria labyrinthiformis* off Upper Keys on July 25, 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, as well as several reports of Black Band disease throughout Upper, Middle, and Lower Keys and 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 July 1-31, 2012

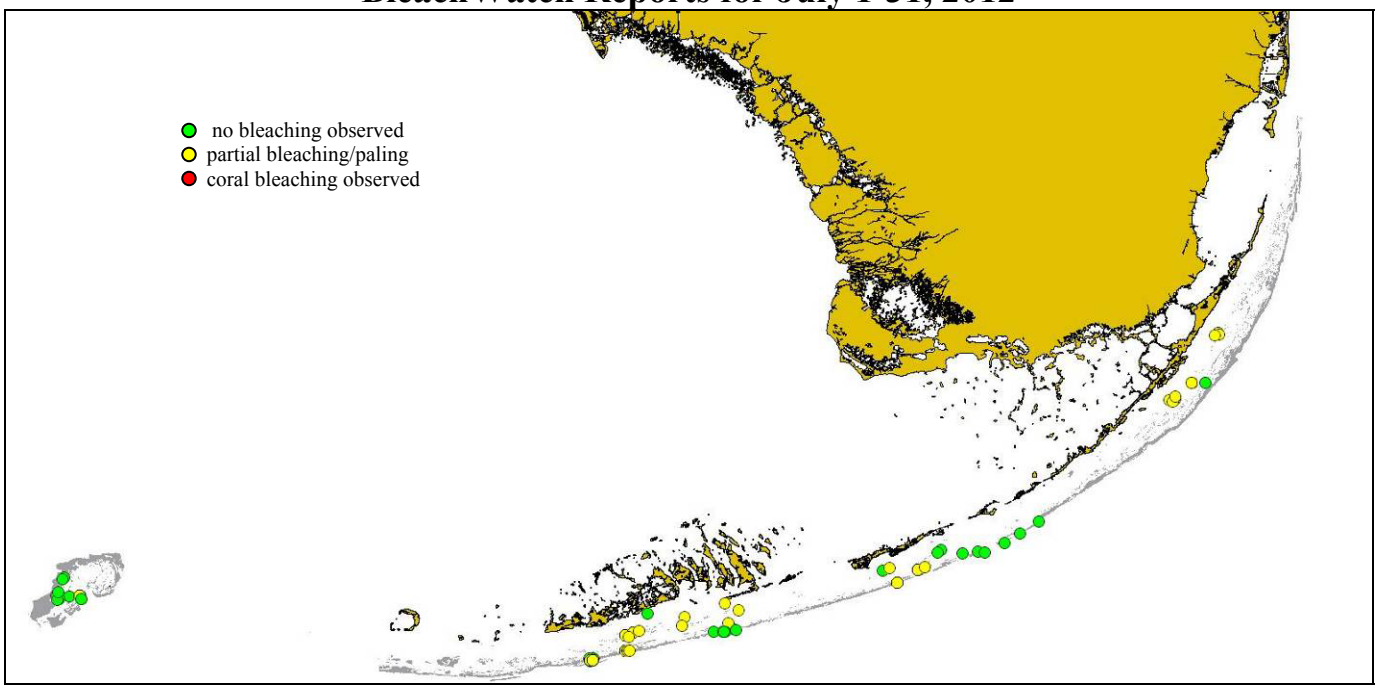

Figure 6. Overview of BleachWatch observer reports submitted from July 1-31, 2012.

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

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