



Mote Marine Laboratory / Florida Keys National Marine Sanctuary  
**Coral Bleaching Early Warning Network**  
**Current Conditions Report #20150828**



**Updated August 28, 2015**

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

**NOAA Coral Reef Watch Current and 60% Probability Coral Bleaching Alert Outlook August 27, 2015 (experimental)**

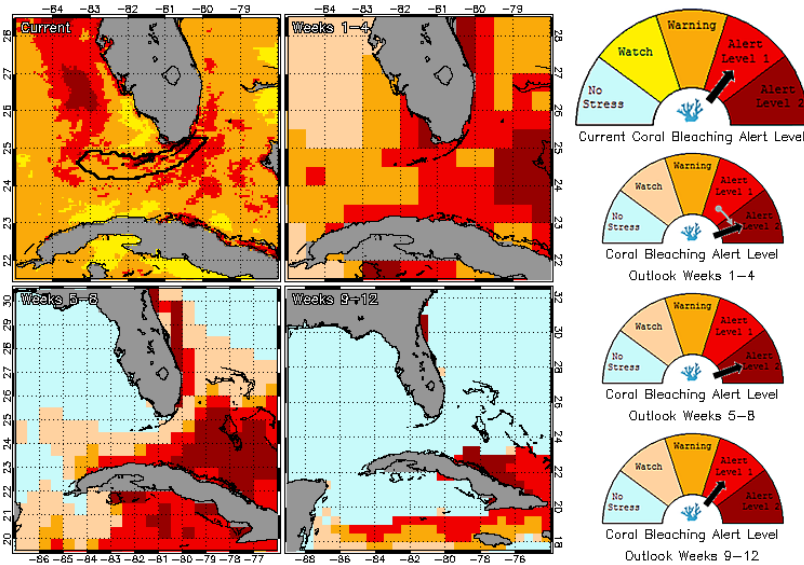


Figure 1. NOAA's 5 km Experimental Current and 60% Probability Coral Bleaching Alert Outlook Areas through November 2015 (Updated August 27, 2015).  
[http://coralreefwatch.noaa.gov/vs/gauges/florida\\_keys.php](http://coralreefwatch.noaa.gov/vs/gauges/florida_keys.php)

**Weather and Sea Temperatures**

According to the newly released NOAA Coral Reef Watch (CRW) experimental 5 kilometer (km) Satellite Current and 60% Probability Coral Bleaching Alert Area, most areas of the Florida Keys National Marine Sanctuary (FKNMS) are under an Alert Level 1, with the potential for continual bleaching warnings and alerts if sea temperatures remain elevated during the next few months (Fig. 1).

Recent remote sensing analysis by NOAA's CRW program indicates that the entire Florida Keys region is currently 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 elevated temperatures for the Florida Keys over the last 4 weeks. Similarly, NOAA's 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 continued accumulating temperature stress 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, confirms that temperatures have exceeded 30°C (Fig.4) along with prolonged periods of lighter winds observed during the past two weeks (Fig 5). *In-situ* sea temperature data is currently only available at Molasses Reef. Sombrero Key and Fowey Rocks are 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 NOAA monitoring stations on a weekly basis for the remainder of the bleaching season.

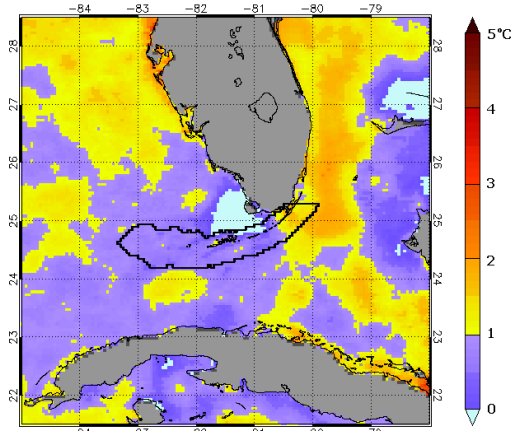


Figure 2. NOAA's Experimental 5km Coral Bleaching HotSpot Map for Florida August 27, 2015.  
<http://coralreefwatch.noaa.gov/regions/florida.php>

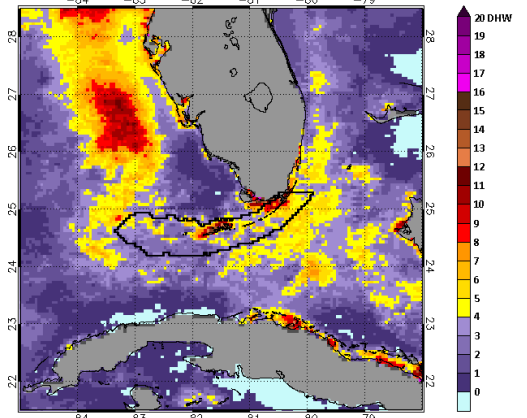


Figure 3. NOAA's Experimental 5km Degree Heating Weeks Map for Florida August 27, 2015.  
<http://coralreefwatch.noaa.gov/regions/florida.php>

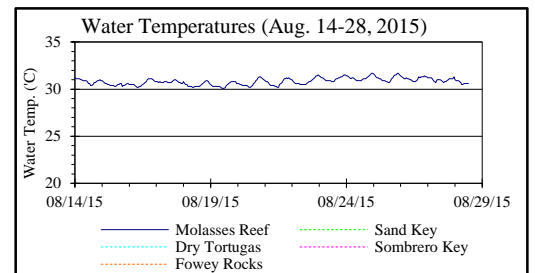


Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (August 14-28, 2015).

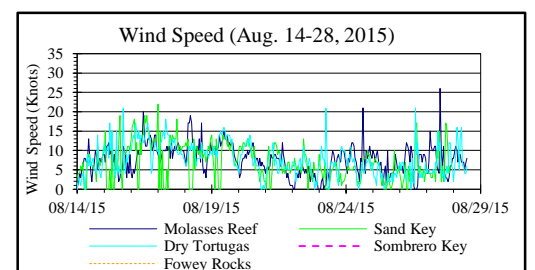


Figure 5. Wind speed data from NOAA/ICON monitoring stations (August 14-28, 2015).



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**Current Coral Conditions**

A total of 54 BleachWatch Observer reports were received during the last two weeks (Fig. 6), with all reports indicating isolated colonies exhibiting signs of paling and partial bleaching (Fig. 7). The overall percentage of corals exhibiting signs of thermal stress at sites visited varied by region with Upper Keys and Dry Tortugas primarily 1-10%, however Lower and Middle Keys with most sites at 76-100% affected. The majority of paling and partial bleaching observations consisted of isolated colonies of Encrusting/Mound/Boulder corals (*Siderastrea siderea*, *S. radians*, *Montastraea cavernosa*, *Stephanocoenia intersepta*, *Porites astreoides*, and *Solenastrea bourmoni*), Brain corals (*Colpophyllia natans*, *Meandrina meandrites*, *Pseudodiploria strigosa*, and *P. clivosa*), Flower Corals (*Eusmilia fastigiata*), Branching/Pillar corals



Figure 7. Partially bleached *S. Siderea* offshore Bahia Honda State Park on 8/25/15.



Figure 8. *M. meandrites* with White Plague Disease in Biscayne National Park on 8/15/15.

(*Acropora cervicornis*, *Oculina diffusa*, *Dendrogyra cylindricus* and *P. porites*), and Leaf/Plate corals (*Undaria agaricites*). Other observations included paling of *Palythoa spp.*, Fire Coral and Gorgonians as well as several reports of possible White Plague Disease affecting various corals in the Upper Keys and Biscayne National Park (Fig. 8).

These observations, combined with continued elevated temperatures and accumulated thermal stress, indicate that the onset of a mass bleaching event is likely at this time; however, additional field observations are needed to determine the range, duration, and severity of coral bleaching impacts as this event continues to develop.

**BleachWatch Reports for August 14-28, 2015**

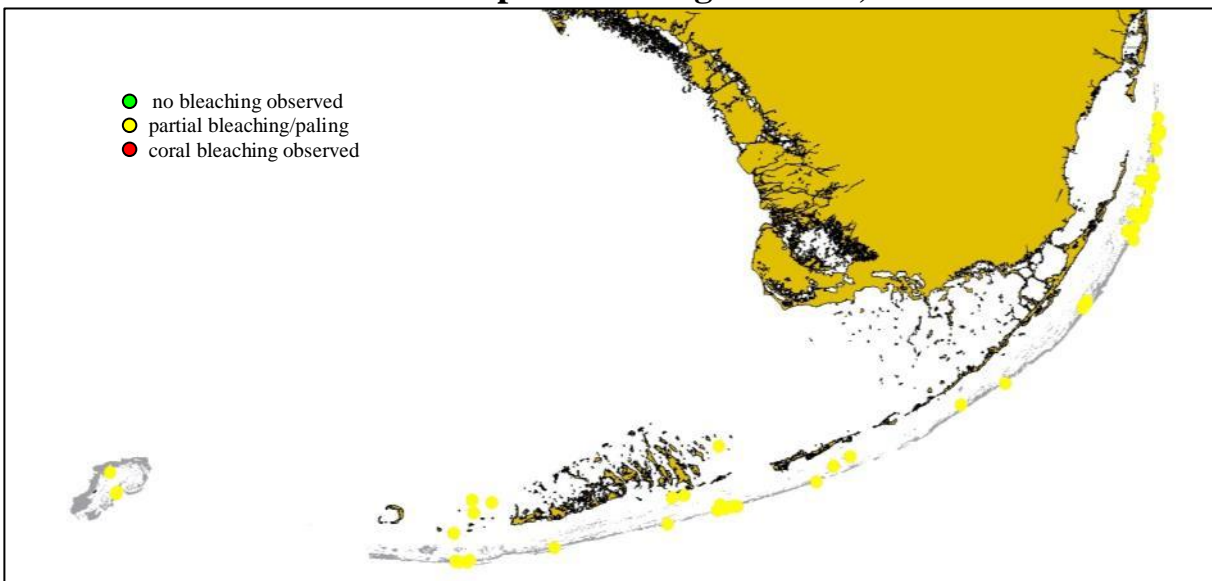


Figure 6. Overview of BleachWatch observer reports submitted from August 14-28, 2015.

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

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**FUNDING THANKS TO....**

