Mote Marine Laboratory / Florida Keys National Marine Sanctuary

Coral Bleaching Early Warning Network

Current Conditions Report #20160801

Updated August 1, 2016

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

NOAA Coral Reef Watch Current and 60% Probability Coral Bleaching Alert Outlook July 30, 2016 (experimental)

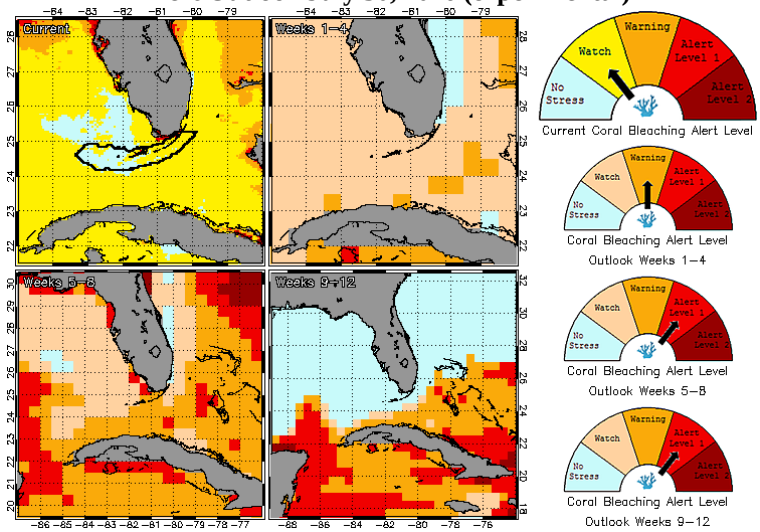

Figure 1. NOAA's 5 km Experimental Current and 60% Probability Coral Bleaching Alert Outlook Areas through September 2016. Updated July 30, 2016.
http://coralreefwatch.noaa.gov/vs/gauges/florida_keys.php

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, there is currently a bleaching watch for only parts of Florida Keys National Marine Sanctuary, with the potential for more bleaching warnings and alerts if sea temperatures continue to increase in the next few months (Fig. 1).

Recent remote sensing analysis by NOAA's CRW program indicates that most of the Florida Keys region is currently experiencing minimal 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 only slightly elevated temperatures for some areas of the Florida Keys. 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 limited temperature stress currently for 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 remained at or slightly below 30°C over the past two weeks (Fig.4), likely due in part to moderate wind conditions observed during the same period (Fig. 5). *In-situ* sea temperature data is currently only available at Fowey Rocks and intermittently at Molasses Reef. Sombrero is not recording 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.

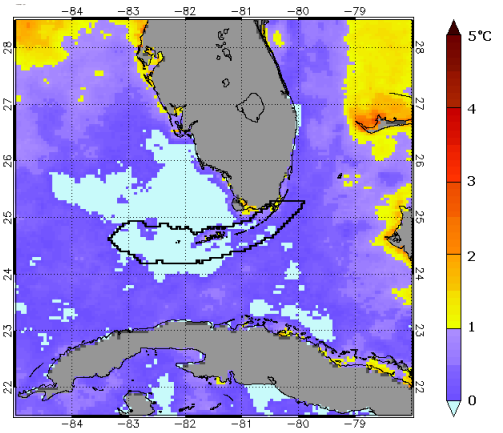

Figure 2. NOAA's Experimental 5km Coral Bleaching HotSpot Map for Florida July 30, 2016.
http://coralreefwatch.noaa.gov/regions/florida.php

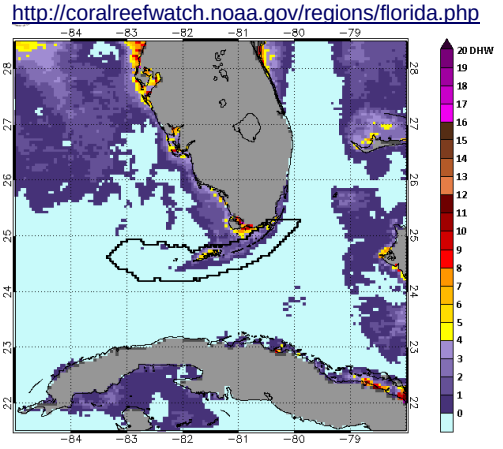

Figure 3. NOAA's Experimental 5km Degree Heating Weeks Map for Florida July 30, 2016.
http://coralreefwatch.noaa.gov/regions/florida.php

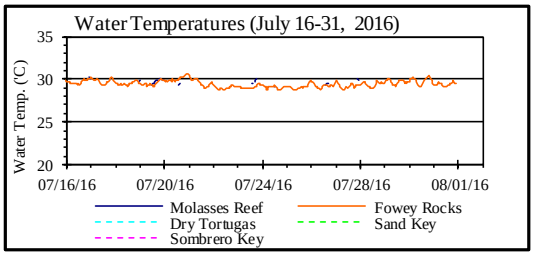

Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (July 16-31, 2016).

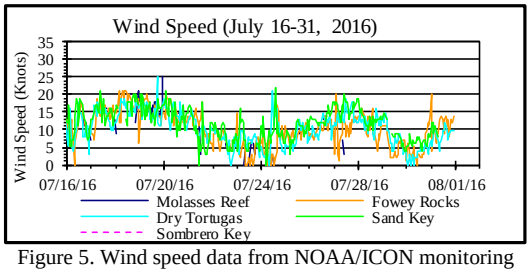

Figure 5. Wind speed data from NOAA/ICON monitoring stations (July 16-31, 2016).

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Current Coral Conditions

Figure 7. *P. strigosa* with "white disease" west of Looe Reef on 7/22/16.

A total of 26 BleachWatch Observer reports were received during the past two weeks (Fig. 6), with only 8 reports indicating isolated colonies exhibiting signs of paling. The remaining 18 reports indicated that no significant signs of coral bleaching were observed. At those sites where paling was noted, the overall percentage of corals exhibiting signs of thermal stress was mostly 1-10%, however a few inshore sites noted up to 30% of corals affected. The majority of paling observations consisted of isolated colonies of Encrusting/Mound/Boulder corals; *Siderastrea siderea, Stephanocoenia intersepts* and *Siderastrea radians*, Brain corals; *Colpohyllia natans*, *Meandrina meandrites*, *Pseudodiploria clivosa and Pseudodiploria strigosa.* Flower Corals; *Eusmilia fastigiata* and Branching Corals; *Acropora cervicornis* and *Porites porites.* Other observations included paling of *Palythoa spp.*, and Fire Coral as well as several reports of potential coral disease. Due to the past two years of elevated thermal stress on the corals throughout the region, observers are encouraged to continue to report observations of disease (Fig. 7 & 8) or no disease.

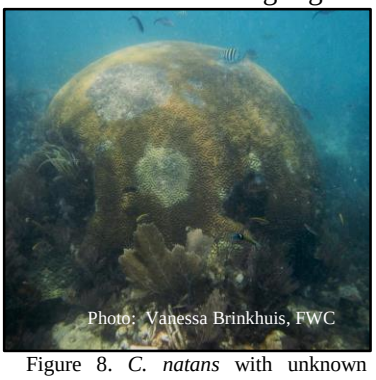

Figure 8. *C. natans* with unknown "white blotch" disease at Grecian Rocks on 7/16/16

These isolated observations of paling and partial bleaching do not necessarily indicate that the onset of a mass bleaching event is currently underway; however, continued field observations are needed as more widespread coral bleaching could potentially develop if environmental conditions change.

BleachWatch Reports for July 16-31, 2016

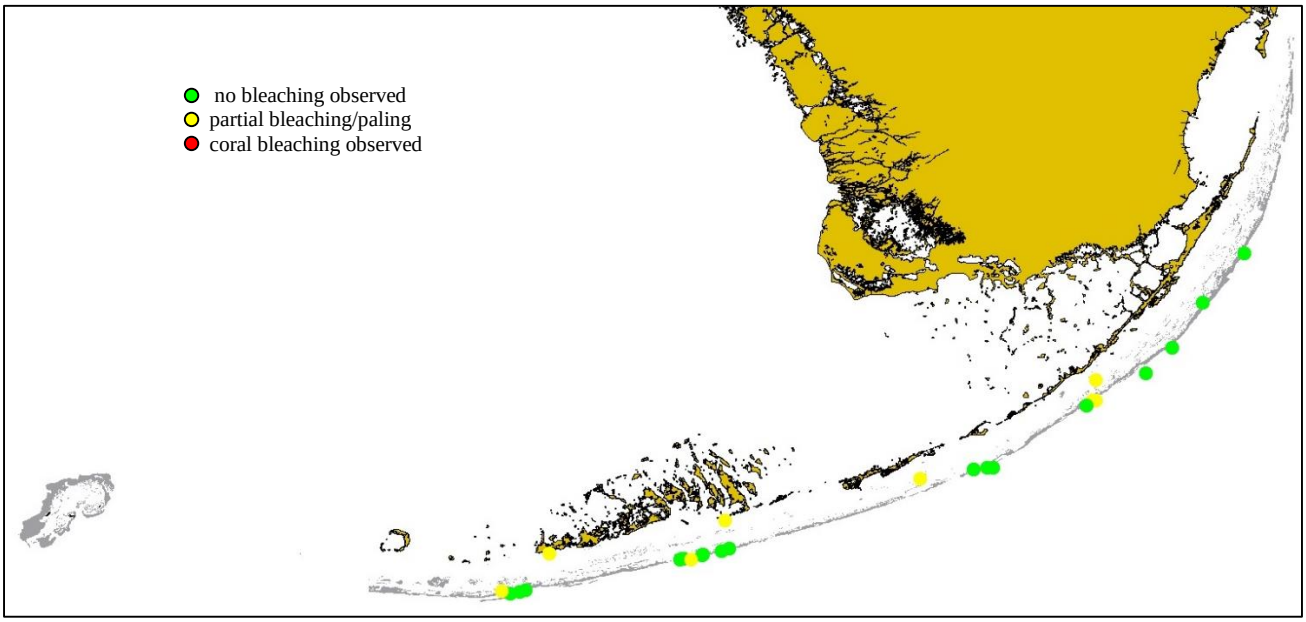

Figure 6. Overview of BleachWatch observer reports submitted from July 16-31, 2016

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

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FUNDING THANKS TO….