Mote Marine Laboratory / Florida Keys National Marine Sanctuary

Coral Bleaching Early Warning Network

Current Conditions Report #20160701

Updated July 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 June 29, 2016 (experimental)

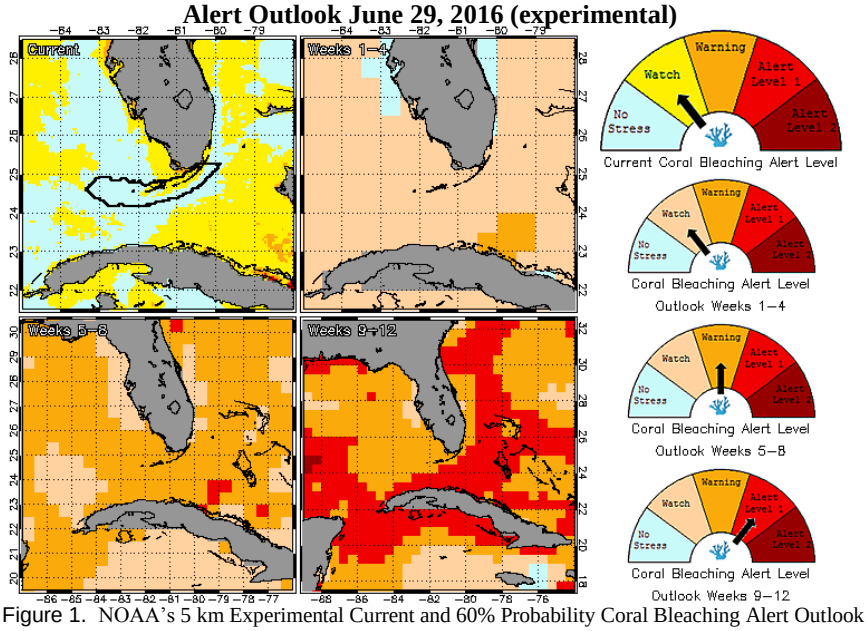

Figure 1. NOAA's 5 km Experimental Current and 60% Probability Coral Bleaching Alert Outlook Areas through September 2016. Updated June 29, 2016.
http://coralreefwatch.noaa.gov/vs/gauges/florida_keys.php

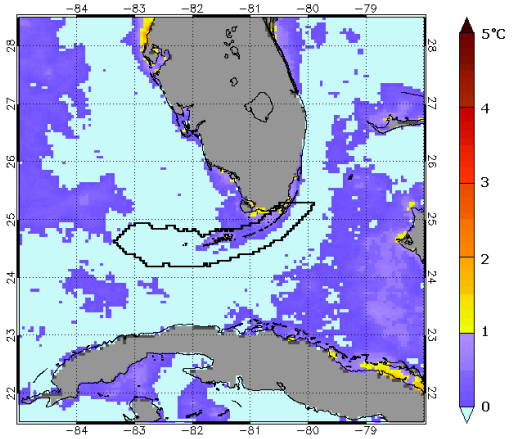

Figure 2. NOAA's Experimental 5km Coral Bleaching HotSpot Map for Florida June 29, 2016.
http://coralreefwatch.noaa.gov/regions/florida.php

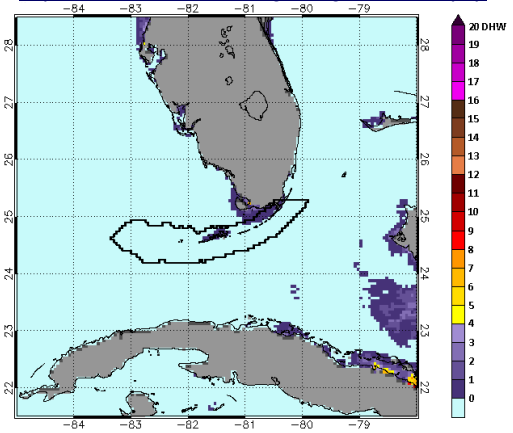

Figure 3. NOAA's Experimental 5km Degree Heating Weeks Map for Florida June 29, 2016.
http://coralreefwatch.noaa.gov/regions/florida.php

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 the Florida Keys National Marine Sanctuary, with the potential for more bleaching warnings and alerts if sea temperatures continue to increase in the next few weeks (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 temperatures are slightly elevated for 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 minimal accumulating temperature stress currently evident 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 are steadily increasing to or just above 30°C over the past four weeks (Fig.4), likely due in part to lighter wind conditions observed during the past week (Fig. 5). *In-situ* sea temperature data is currently only available at Molasses Reef and Fowey Rocks. Sombrero 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 NOAA monitoring stations on a weekly basis for the remainder of the bleaching season.

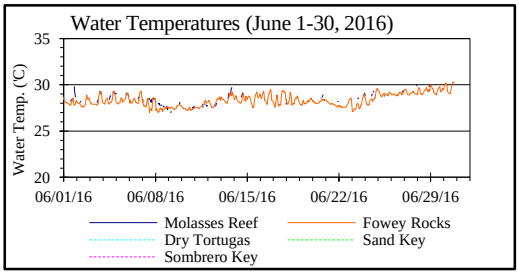

Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (June 1-30, 2016).

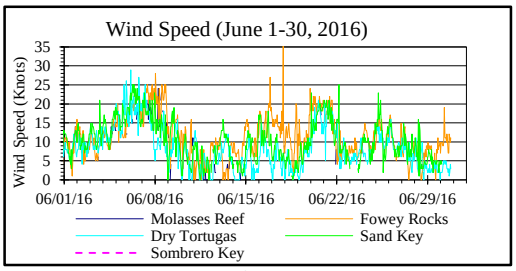

Figure 5. Wind speed data from NOAA/ICON monitoring stations (June 1-30, 2016).

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Current Coral Conditions

Figure 7. Healthy *Dendrogyra cylindrus* at Looe Key reef on 6/19/16.

A total of 46 BleachWatch Observer reports were received during the month of June (Fig. 6), with 11 reports indicating isolated colonies exhibiting signs of paling. The remaining 35 reports indicated that no significant signs of coral bleaching were observed (Fig. 7). At those sites where paling was noted, the overall percentage of corals exhibiting signs of thermal stress was mostly 1-10%, however a few sites noted up to 30% of corals affected. The majority of paling observations consisted of isolated colonies of Encrusting/Mound/Boulder corals; *Siderastrea siderea* and *S. radians* and Brain corals; *Colpohyllia natans*. Other observations included paling of *Palythoa spp.*, and Fire Coral as well as several reports of potential coral disease (Fig. 8). Due to two years of elevated thermal stress on the corals, observers are encouraged to report disease or no disease.

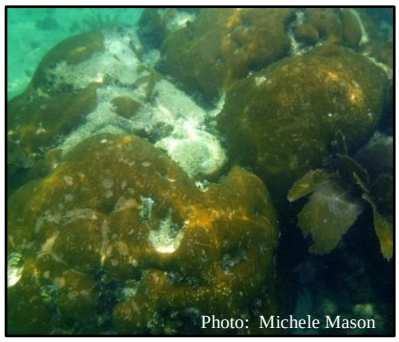

Figure 8. *Siderastrea sidereal* fish bites and unusual spots at the Newfound Harbor SPA on 6/27/16.

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 June 1-30, 2016

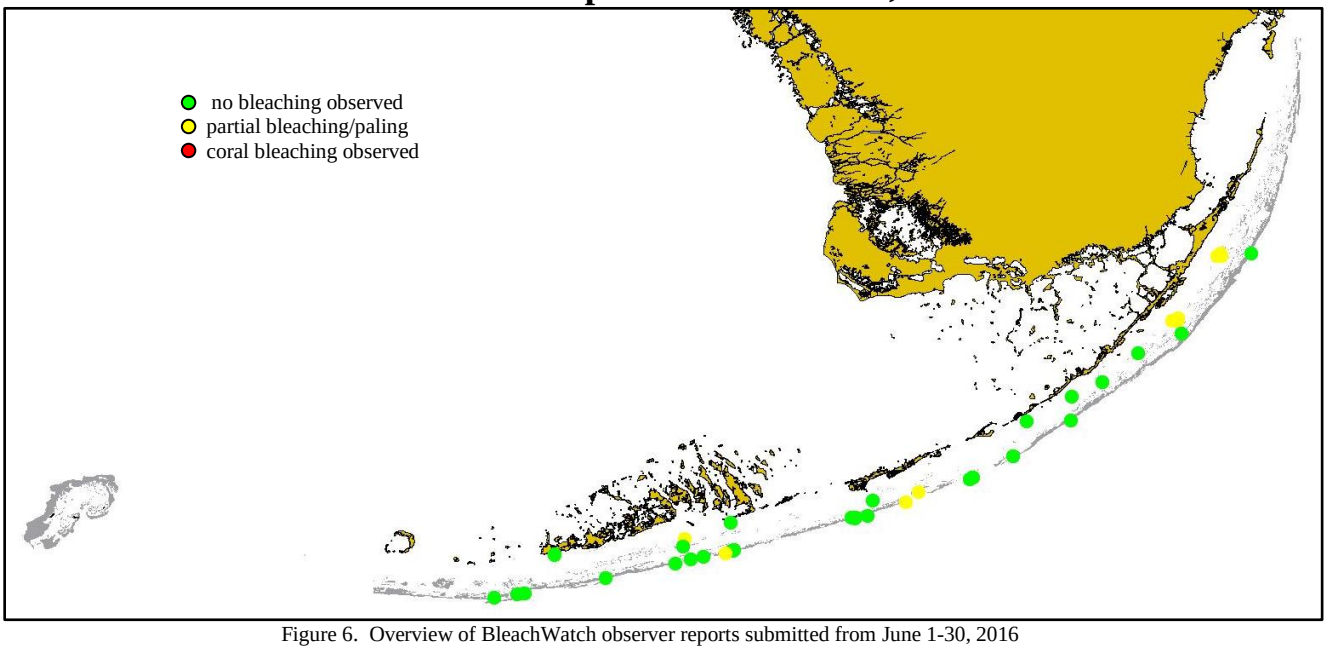

Figure 6. Overview of BleachWatch observer reports submitted from June 1-30, 2016

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

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