



Updated August 1, 2017

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 Current and 60% Probability Coral Bleaching Alert Outlook July 30, 2017 (experimental)

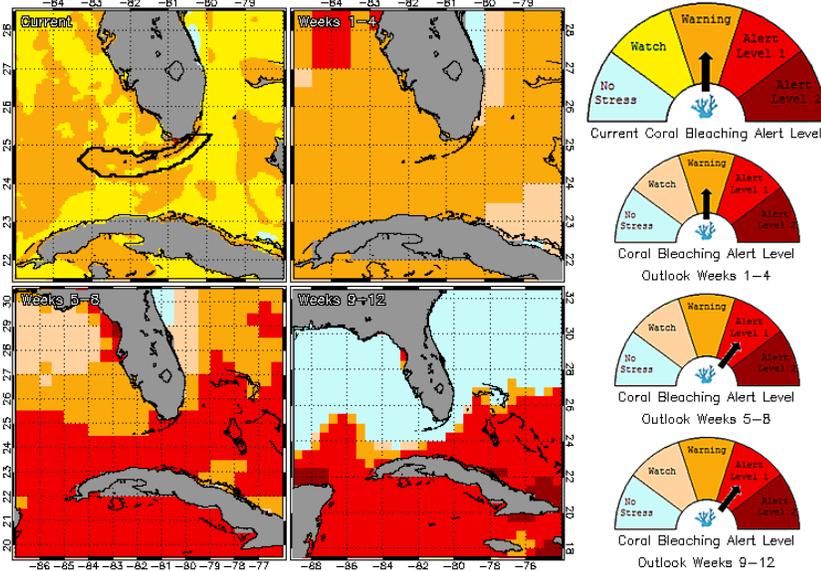


Figure 1. NOAA's 5 km Experimental Current and 60% Probability Coral Bleaching Alert Outlook Areas through September 2017. Updated July 30, 2017. http://coralreefwatch.noaa.gov/vs/gauges/florida_keys.php

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 warning 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 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. 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 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, confirms that temperatures have been at or only slightly exceeding 30°C over the past month (Fig.4), likely due in part to light to moderate wind conditions (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.

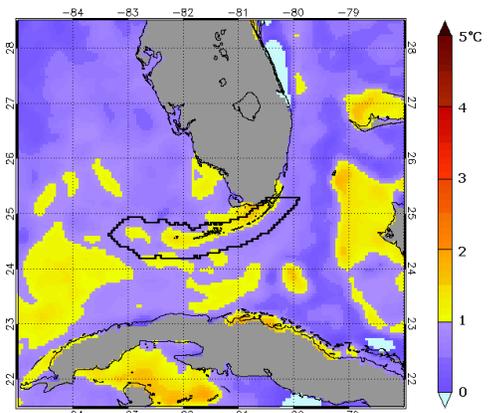


Figure 2. NOAA's Experimental 5km Coral Bleaching HotSpot Map for Florida July 30, 2017.

<http://coralreefwatch.noaa.gov/regions/florida.php>

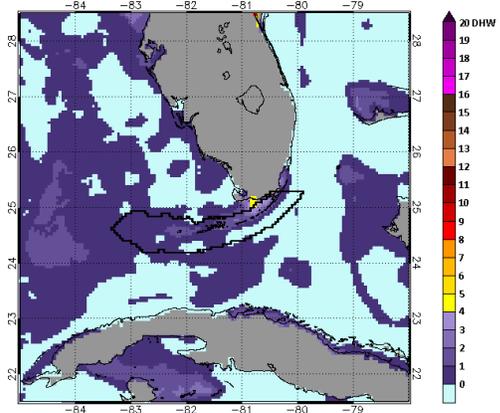


Figure 3. NOAA's Experimental 5km Degree Heating Weeks Map for Florida July 30, 2017.

<http://coralreefwatch.noaa.gov/regions/florida.php>

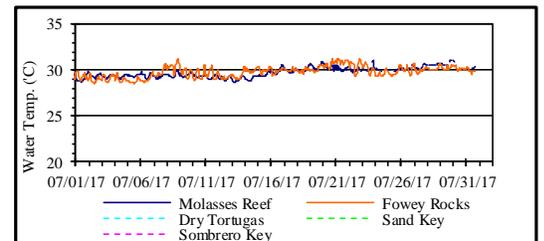


Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (July 1-31, 2017).

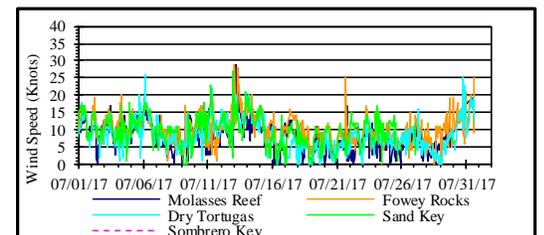


Figure 5. Wind speed data from NOAA/ICON monitoring stations (July 1-31, 2017).



Coral Bleaching Early Warning Network

Current Conditions Report #20170801



Current Coral Conditions

A total of 76 BleachWatch Observer reports were received during the month of July (Fig. 6), with 36 reports indicating



Figure 7. Paling/stressed *M. cavernosa* f Looe Key SPA on 7/24/17.

isolated colonies exhibiting signs of paling (Fig. 7) or partial bleaching. The remaining 40 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 offshore and deep reef 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 intersepta* *Montastraea cavernosa*, and *S. radians*, Brain corals; *Colpophyllia natans*, *Meandrina meandrites*, *Pseudodiploria clivosa* and *Pseudodiploria strigosa*. and Flower Corals; *Eusmilia fastigiata*. Other observations included paling of *Palythoa* spp.,



Figure 8. A diseased *Orbicella faveolata* at the Secret Garden off Islamorada 7/23/17.

and Fire Coral as well as numerous reports of coral disease (Fig. 8). Due to increase in coral disease observations in the Key Largo and Islamorada area, observers are encouraged to report if disease is both present or absent at their sites.

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 continue to favorable.

BleachWatch Reports for July 1-31, 2017

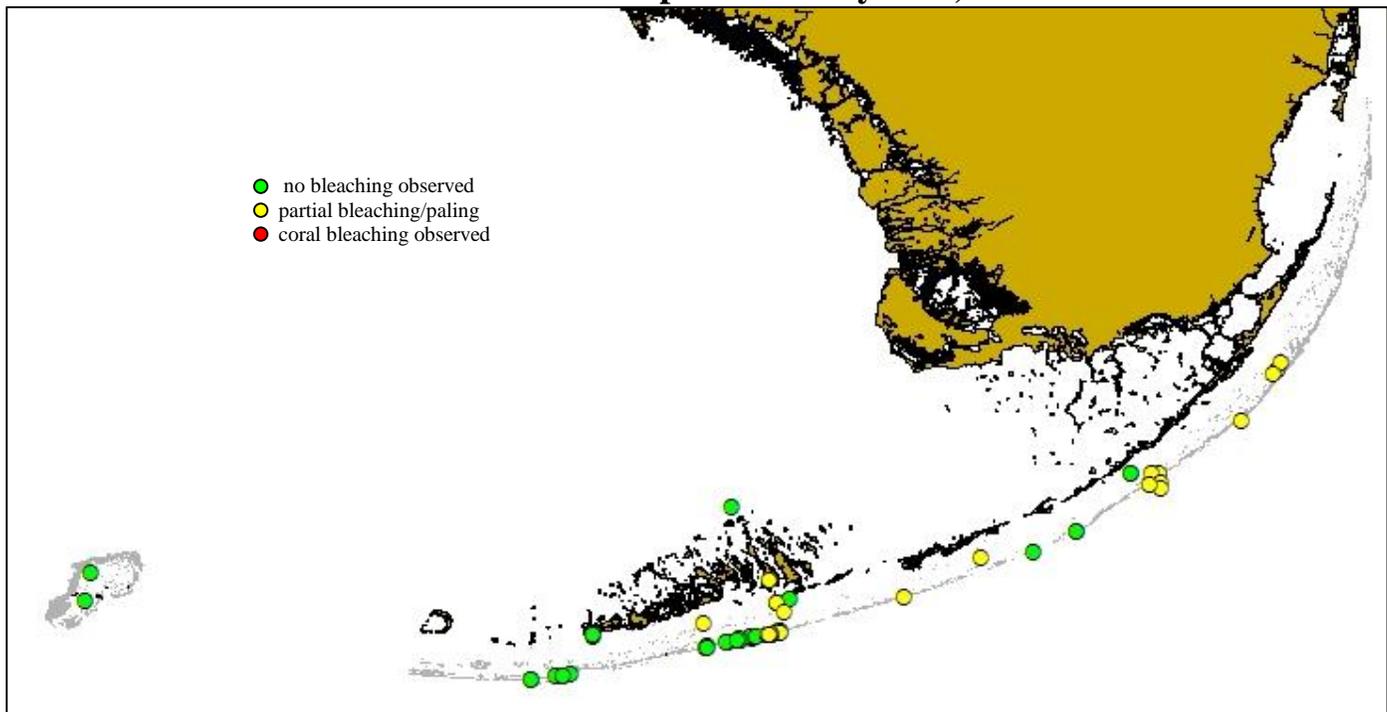


Figure 6. Overview of BleachWatch observer reports submitted from July 1-31, 2017

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



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FUNDING THANKS TO....

