Mote Marine Laboratory / Florida Keys National Marine Sanctuary

Coral Bleaching Early Warning Network

Current Conditions Report #20181101

Updated November 1, 2018

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

NOAA Coral Reef Watch Current and 60% Probability Coral Bleaching Alert Outlook October 30, 2018 (experimental)

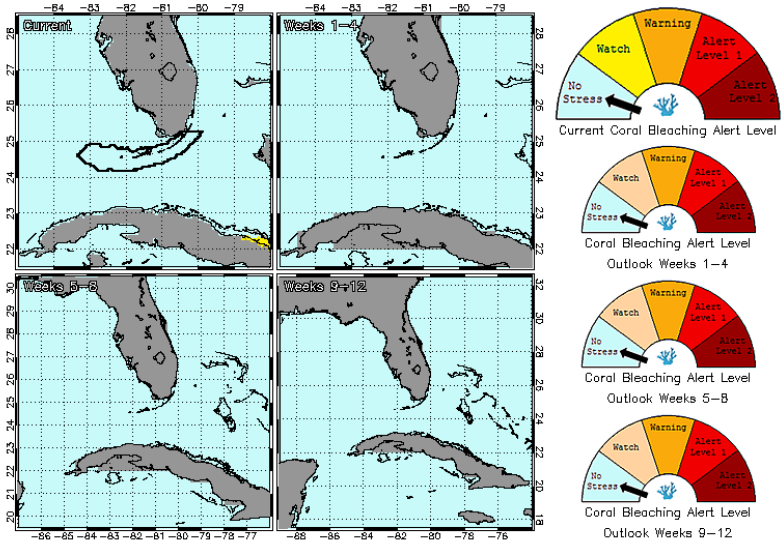

Figure 1. NOAA's 5 km Experimental Current and 60% Probability Coral Bleaching Alert Outlook Areas through January, 2018 (Updated October 30, 2018).
coralreefwatch.noaa.gov/vs/gauges/florida_keys.php

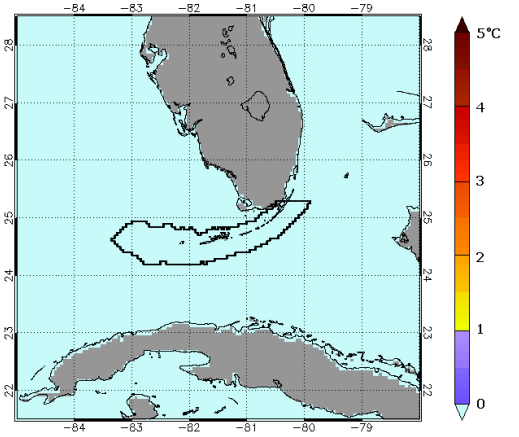

Figure 2. NOAA's Experimental 5km Coral Bleaching HotSpot Map for Florida October 30, 2018.
coralreefwatch.noaa.gov/vs/gauges/florida_keys.php

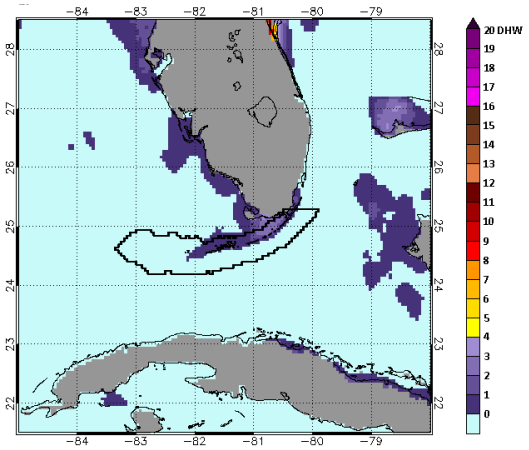

Figure 3. NOAA's Experimental 5km Degree Heating Weeks Map for Florida October 30, 2018.
coralreefwatch.noaa.gov/vs/gauges/florida_keys.php

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, areas of the Florida Keys National Marine Sanctuary (FKNMS) has been reduced to "No Stress", indicating there is no longer a threat of mass bleaching this season for the Florida Keys.

Recent remote sensing analysis by NOAA's CRW program indicates that the entire Florida Keys region continues to experience decreasing 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 temperatures are not 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), confirms that the level of accumulated temperature stress has decreased 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 sea temperatures have decreased to well below 30°C (Fig.4), likely due in part to cooler air temperatures and windy conditions observed during most of the past 3 weeks (Fig. 5) In-situ sea temperature data is currently only available at Molasses Reef and Fowey Rocks. Sand Key is not recording wind data at this time. Because the CRW's program continues to maintain a coral bleaching alert status of "No Stress" indicating that coral bleaching is not likely, and due to the current environmental conditions, this will be the final current conditions report for the 2018 Florida Keys BleachWatch season.

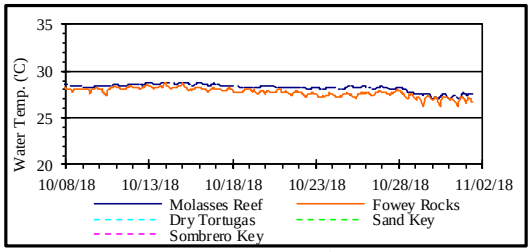

Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (Oct. 8-Nov.1, 2018).

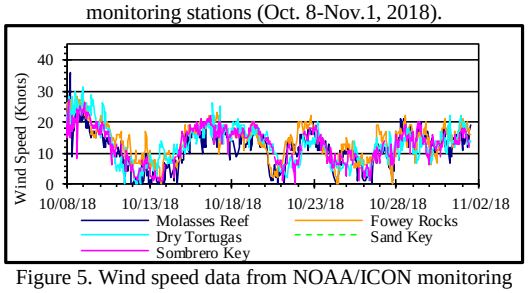

Figure 5. Wind speed data from NOAA/ICON monitoring stations (Oct. 8-Nov.1, 2018).

Mote Marine Laboratory / Florida Keys National Marine Sanctuary

Coral Bleaching Early Warning Network

Current Conditions Report #20181101

Current Coral Conditions

A total of 36 BleachWatch Observer reports were received during the last three weeks, with only one report indicating isolated colonies exhibiting signs of paling. The few affected corals were limited to Mound/Boulder and Brain corals. The remaining reports indicated that no significant signs of coral bleaching were observed. At the site where paling was noted (Fig.6), the overall percentage of corals exhibiting signs of thermal stress ranged from only 1-10%. Several reports indicate that isolated observations of paling *Palythoa spp.* are still being noted.

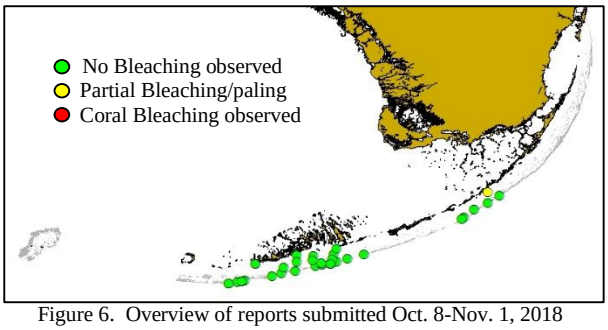

Figure 6. Overview of reports submitted Oct. 8-Nov. 1, 2018

The 2018 Florida Keys BleachWatch season has officially come to an end with an OVERWHELMING total of 380 reports submitted by BleachWatch observers (Fig. 7). Observer reports verified that only minimal signs of coral bleaching were observed in the Florida Keys region in 2018, with most reports noting only paling or partial bleaching and with only 1-10% of corals affected at those sites (Fig. 8). Based on current environmental conditions and the limited number of isolated paling or partially bleached corals noted by BleachWatch observers, significant coral bleaching in the Florida Keys National Marine Sanctuary and surrounding waters seems highly unlikely at this time. As a result, this will be the final current conditions report for 2018. Please continue to report on the coral disease event to the SEAFAN website at http://www.surveygizmo.com/s3/3036751/SEAFAN-Mobile-Report

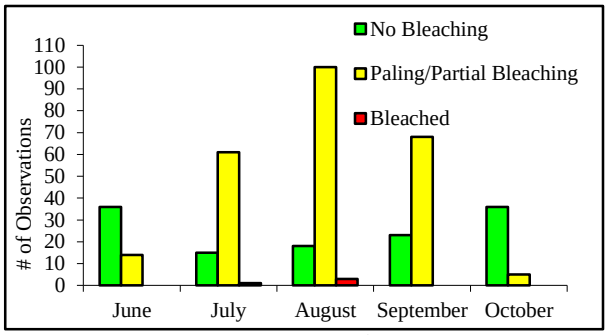

Figure 8. Bleaching severity by month for June-October 2018.

THANK YOU BLEACHWATCH OBSERVERS!!!!

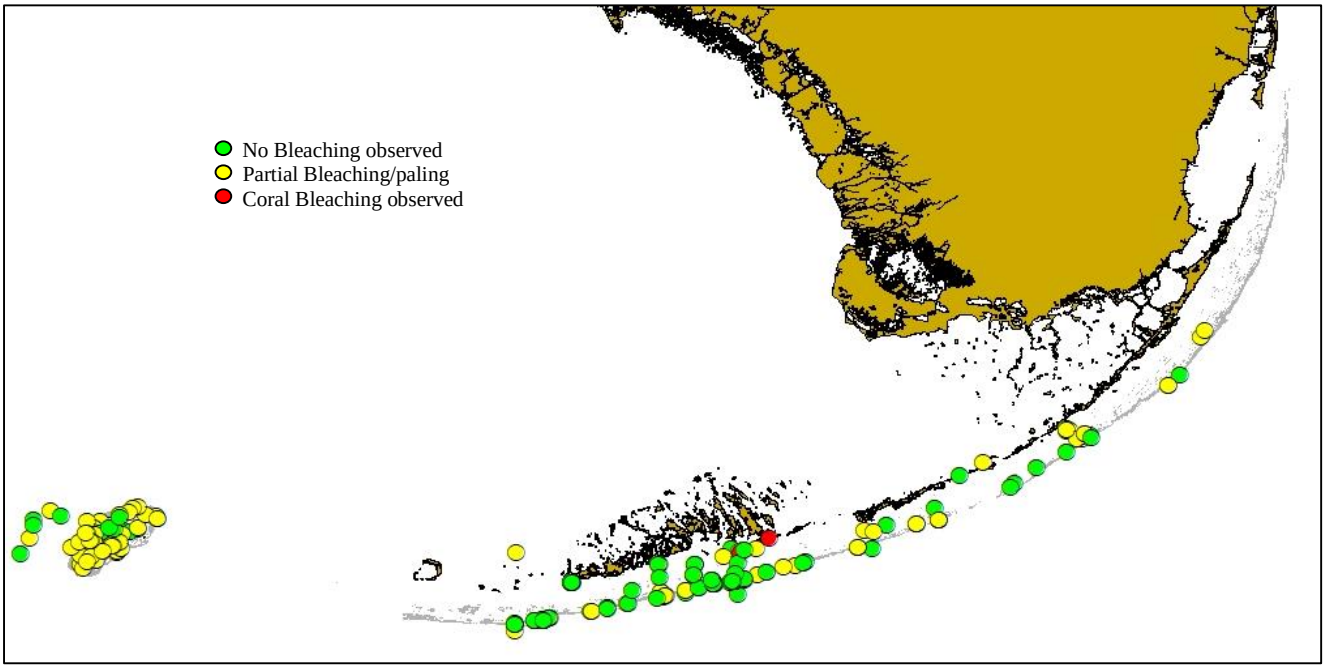

Figure 7. Summary map of all Florida Keys BleachWatch Observer reports submitted during the 2018 coral bleaching season.

For more information about the BleachWatch program, or to submit a bleaching observation, contact:
Cory Walter
Mote Marine Laboratory
24244 Overseas Highway
Summerland Key, FL 33042
(305) 745-2729 x301
http://www.mote.org/bleachwatch

FUNDING THANKS TO….