



Coral Bleaching Early Warning Network

Current Conditions Report #20191021

Updated October 21, 2019



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 19, 2019 (experimental)

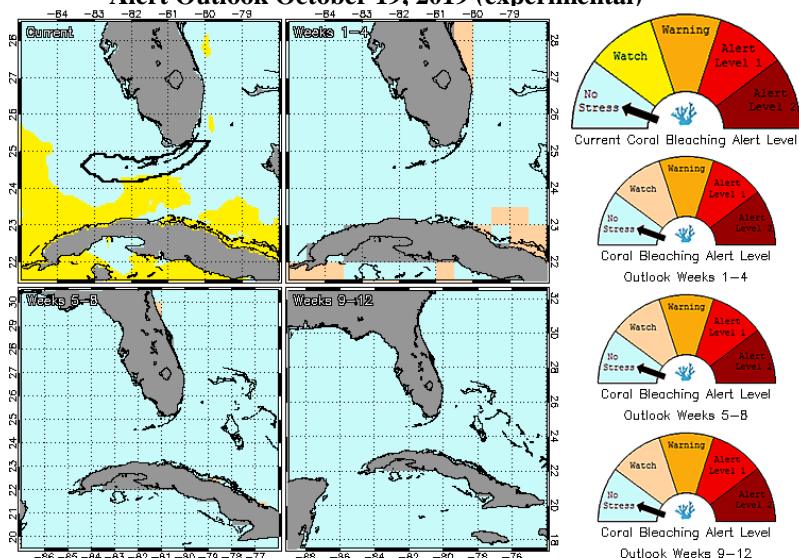


Figure 1. NOAA's 5 km Experimental Current and 60% Probability Coral Bleaching Alert Outlook Areas through January, 2020 (Updated October 19, 2019). coralreefwatch.noaa.gov/vs/gauges/florida_keys.php

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 all the 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 currently 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 is decreasing for the Florida Keys region.

NOAA's Integrated Coral Observing Network (ICON) and Pacific Marine Environmental Laboratory (PMEL) monitoring stations, which provide near real time *in-situ* sea temperature and/or wind data throughout the Florida Keys reefs, as well as Mote Marine Laboratory (MML) *in-situ* temperature data confirm that temperatures 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 4 weeks (Fig. 5) 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 2019 Florida Keys BleachWatch season.

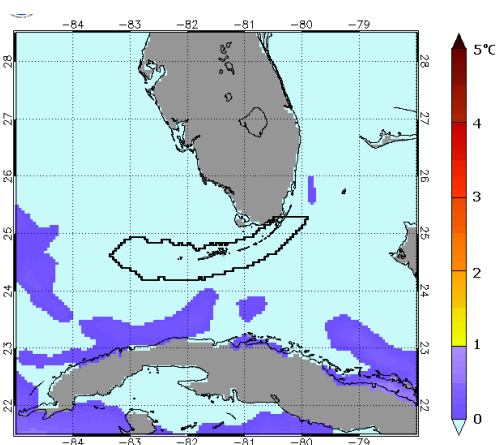


Figure 2. NOAA's Experimental 5km Coral Bleaching HotSpot Map for Florida October 19, 2019. coralreefwatch.noaa.gov/vs/gauges/florida_keys.php

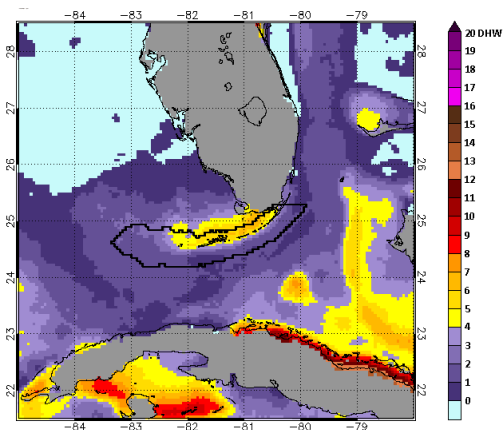


Figure 3. NOAA's Experimental 5km Degree Heating Weeks Map for Florida October 19, 2019. coralreefwatch.noaa.gov/vs/gauges/florida_keys.php

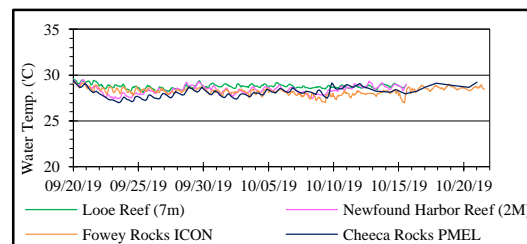


Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (Sept. 20-Oct. 21, 2019).

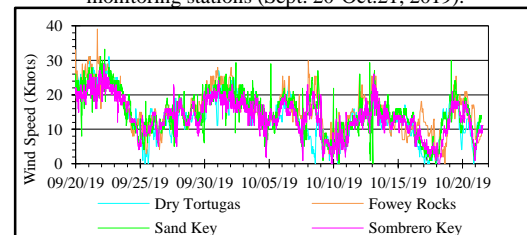


Figure 5. Wind speed data from NOAA/ICON monitoring stations (Sept. 20-Oct. 21, 2019).



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Current Coral Conditions

A total of 97 BleachWatch Observer reports were received during the last month, with 36 reports indicating isolated colonies exhibiting signs of paling or partial bleaching. 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 sites where paling was noted (Fig.6), the overall percentage of corals exhibiting signs of thermal stress ranged mostly from only 1-10%, with some sites up to 50%.

The 2019 Florida Keys BleachWatch season has officially come to an end with an OVERWHELMING total of 492 reports submitted by BleachWatch observers and researchers (Fig. 7). Observer reports verified that minor signs of coral bleaching were observed in the Florida Keys region in 2019, with most reports noting only paling or partial bleaching (Fig. 8) and with only 1-10% of corals affected at most of those sites. 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 2019. Please continue to report on the coral disease event to the SEAFAN website at <http://www.surveygizmo.com/s/3036751/SEAFAN-Mobile-Report>

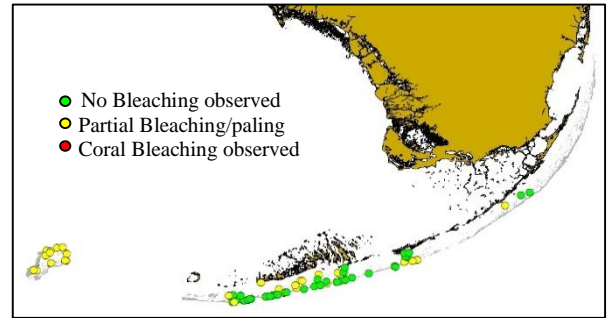


Figure 6. Overview of reports submitted Sept. 20-Oct. 20, 2019

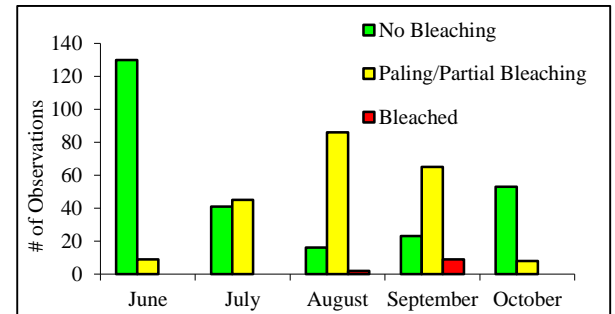


Figure 8. Bleaching severity by month for June-October 2019.

THANK YOU BLEACHWATCH OBSERVERS!!!!

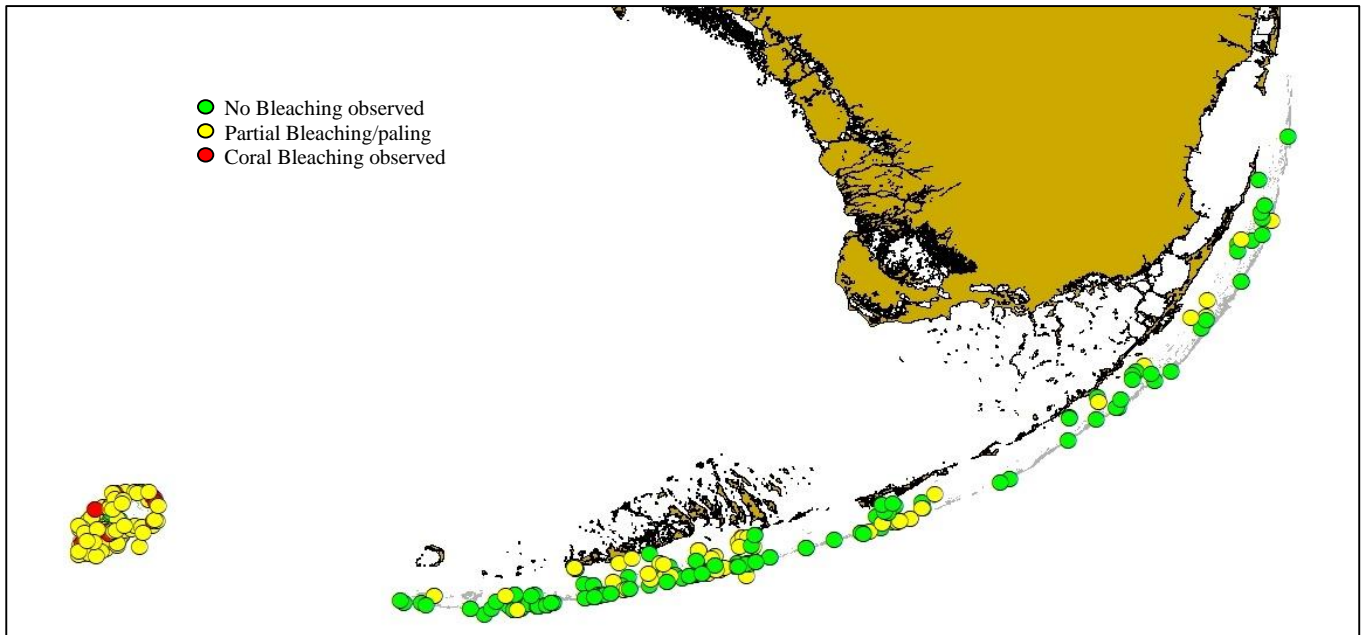


Figure 7. Summary map of all Florida Keys BleachWatch Observer reports submitted during the 2019 coral bleaching season.

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

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FUNDING THANKS TO....

