



Coral Bleaching Early Warning Network

Current Conditions Report #20231102

Updated November 2, 2023



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 31, 2023 (experimental)

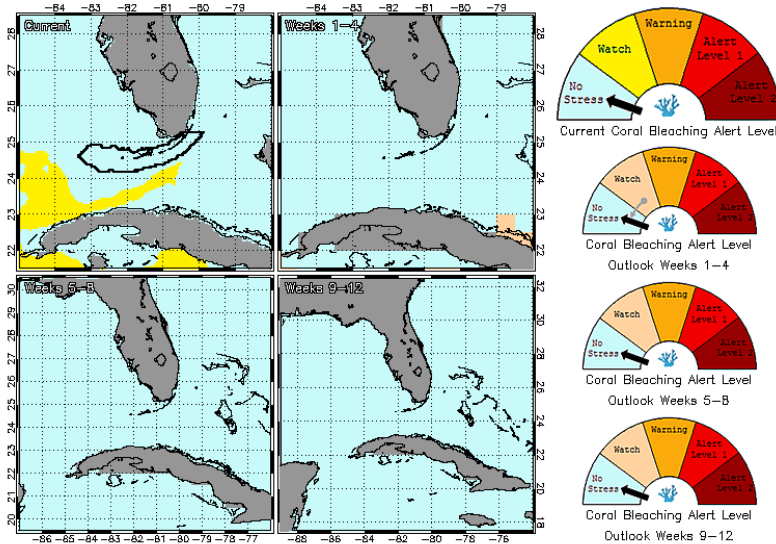


Figure 1. NOAA's 5 km Experimental Current and 60% Probability Coral Bleaching Alert Outlook Areas through January, 2023 (Updated October 31, 2023). coralreefwatch.noaa.gov/vs/gauges/florida_keys.php

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), which provides near real time *in-situ* wind data at Sombrero and Sand Key Reef, as well as Mote Marine Laboratory (MML) and Pacific Marine Environmental Laboratory (PMEL) *in-situ* temperature data confirm that temperatures have been at or well below 30°C over the past three weeks (Fig.4), likely due in part to elevated wind conditions observed during the same period (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 2023 Florida Keys BleachWatch season.

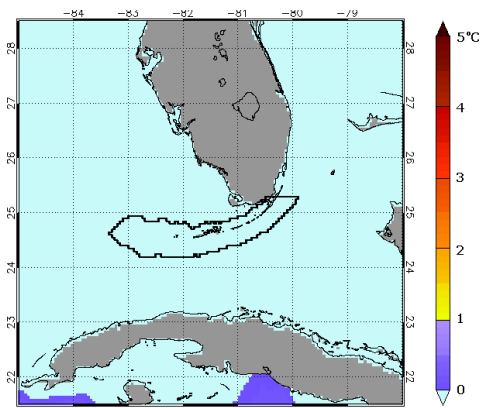


Figure 2. NOAA's Experimental 5km Coral Bleaching HotSpot Map for Florida October 31, 2023. coralreefwatch.noaa.gov/vs/gauges/florida_keys.php

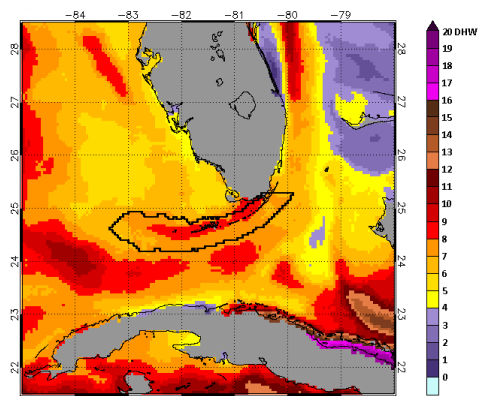


Figure 3. NOAA's Experimental 5km Degree Heating Weeks Map for Florida October 31, 2023. coralreefwatch.noaa.gov/vs/gauges/florida_keys.php

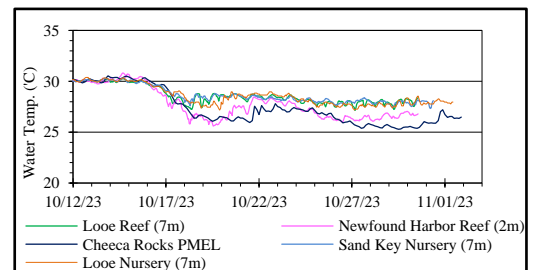


Figure 4. *in-situ* sea temperature from NOAA/ICON/Mote monitoring stations (October 12-November 2, 2023).

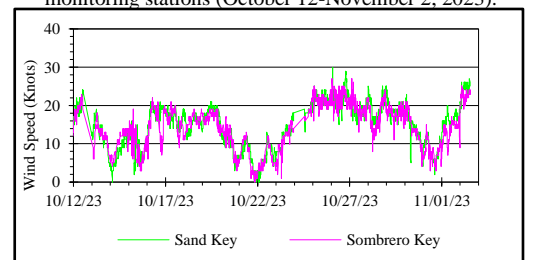


Figure 5. Wind speed data from NOAA/ICON monitoring stations (October 12-November 2, 2023).



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Current Coral Conditions

A total of 21 BleachWatch Observer reports were received during the past three weeks (Fig. 6), with all reports indicating isolated colonies exhibiting signs of paling or partial bleaching. All coral types still showing signs of thermal stress, however, most corals are observed to be recovering. At these sites where paling/partial bleaching was noted (Fig.6), the overall percentage of corals exhibiting signs of thermal stress was 1-30%.

The 2023 Florida Keys BleachWatch season has officially come to an end with a total of 347 reports submitted by BleachWatch observers and researchers (Fig. 7). Observer reports verified that major signs of coral bleaching were observed in the Florida Keys region in 2023, with most reports noting paling or partial bleaching (Fig. 8) and with up to 100% of corals affected at many of those sites. Based on current environmental conditions significant coral bleaching in the Florida Keys National Marine Sanctuary and surrounding waters seems highly unlikely to continue at this time. As a result, this will be the final current conditions report for 2023.

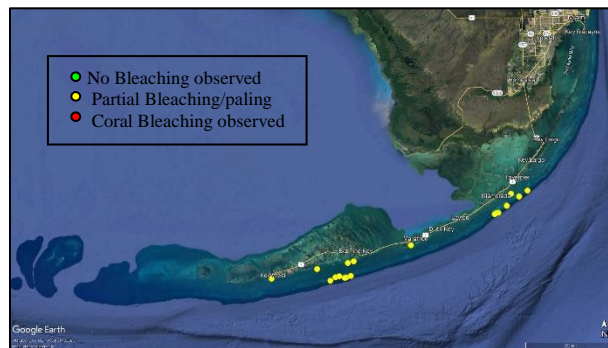


Figure 6. Overview of reports submitted Oct. 1-Nov. 2, 2023

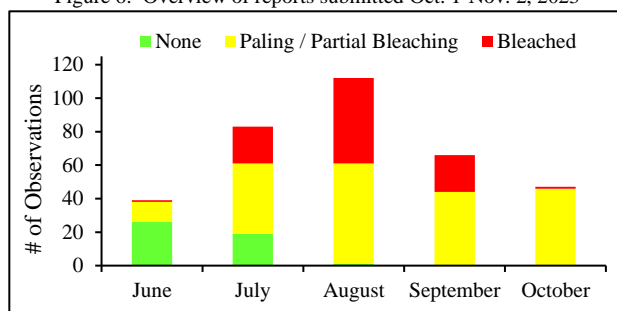


Figure 8. Bleaching severity by month for June-October 2023

THANK YOU BLEACHWATCH OBSERVERS!!!

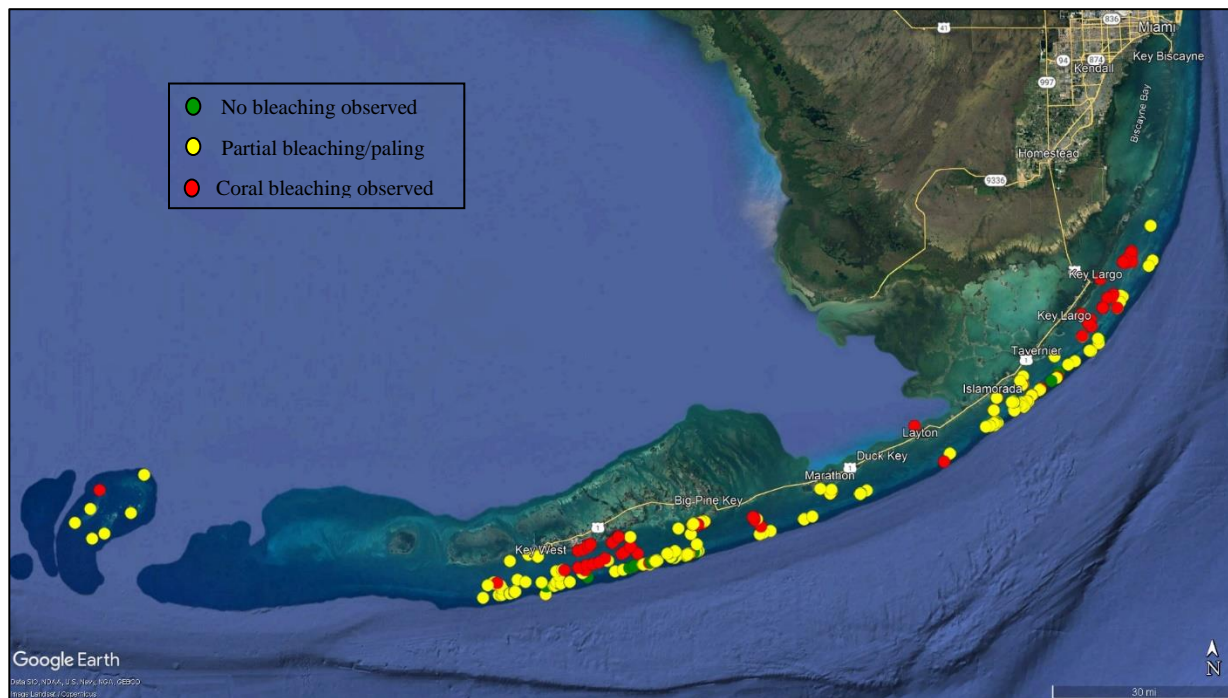


Figure 7. Summary map of all Florida Keys BleachWatch Observer reports submitted during the 2023 coral bleaching season.

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

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FUNDING THANKS TO....

