



Mote Marine Laboratory / Florida Keys National Marine Sanctuary
Coral Bleaching Early Warning Network
Current Conditions Report #20131030



Updated October 30, 2013

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 60% Probability Coral Bleaching Thermal Stress Outlook Nov. 2013-Feb. 2014 (experimental)

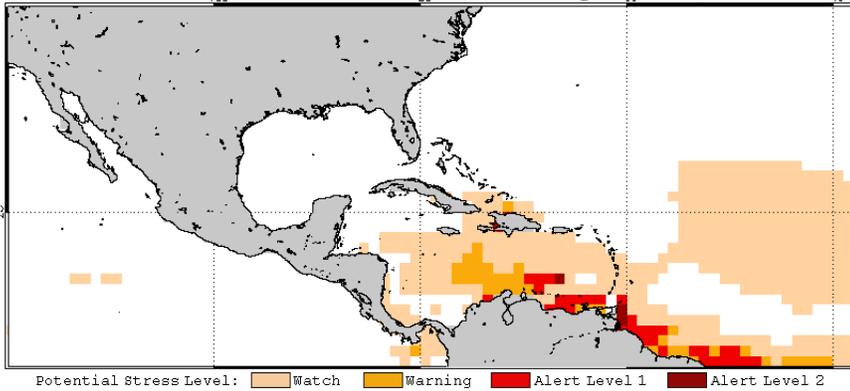


Figure 1. NOAA's Experimental Coral Bleaching Thermal Stress Outlook for November 2013– February 2014

http://coralreefwatch.noaa.gov/satellite/bleachingoutlook_cfs/outlook_cfs.php

Weather and Sea Temperatures

According to the newly released NOAA Coral Reef Watch (CRW) experimental Coral Bleaching Thermal Stress Outlook, the possibility of any additional increase in thermal stress capable of causing coral bleaching throughout the southern Caribbean including the Florida Keys region appears highly unlikely for the remainder of 2013. (Fig.1).

Recent remote sensing analysis by NOAA's CRW program indicates that the Florida Keys region is presently experiencing limited 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 sea surface temperatures are not elevated above normal for this time of year in the Florida Keys. Similarly, NOAA's new 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 that only a low level of accumulated temperature stress is still 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 have decreased to well below 30°C over the past four weeks (Fig.4), likely due in part to breezy conditions observed during this time frame (Fig. 5). *In-situ* sea temperature data is currently not available for Sand Key or Sombrero. Dry Tortugas is not recording any data at this time.

Finally, NOAA's Coral Reef Watch program continues to maintain a coral bleaching alert status of "No Stress", indicating that significant coral bleaching is not likely to occur in the Florida Keys for the remainder of 2013. As a result, this will be the final current conditions report for 2013.

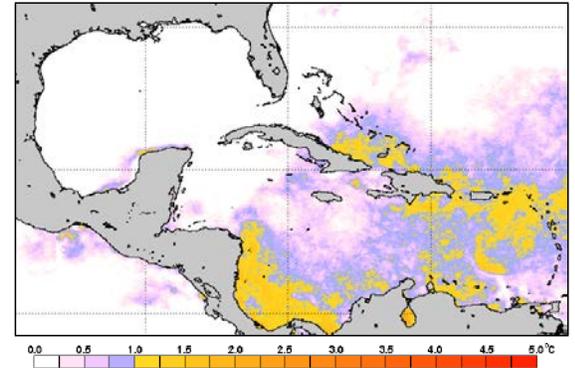


Figure 2. NOAA's Experimental 5 km Coral Bleaching HotSpot Map for October 28, 2013.

<http://coralreefwatch.noaa.gov/satellite/bleaching5km>

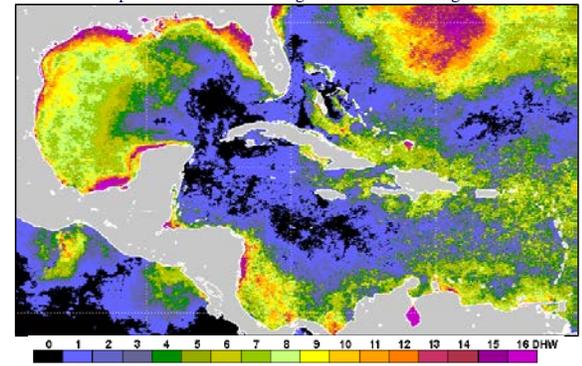


Figure 3. NOAA's Experimental 5 km Degree Heating Weeks Map for October 28, 2013.

<http://coralreefwatch.noaa.gov/satellite/bleaching5km>

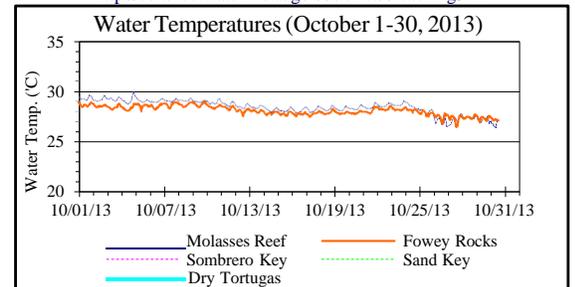


Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (October 1- 30, 2013).

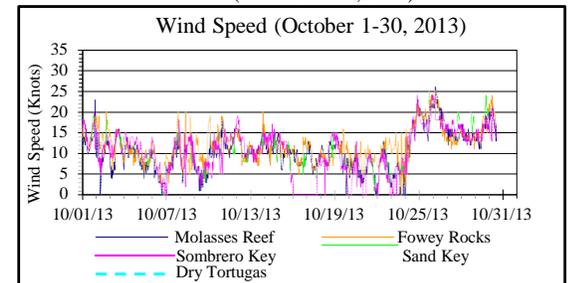


Figure 5. Wind speed data from NOAA/ICON monitoring stations (October 1-30, 2013).



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Conditions of Corals

A total of 13 BleachWatch Observer reports were received during the last four weeks, with only 2 reports indicating isolated colonies exhibiting signs of paling. Commonly affected corals included Mound/Boulder and Brain corals. The remaining reports indicated that no significant signs of coral bleaching were observed. At sites where paling was noted (Fig.6), the overall percentage of corals exhibiting signs of thermal stress ranged from only 1-10%.

The 2013 BleachWatch season has come to an end with a total of 139 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 2013, with most reports noting only paling or partial bleaching and with only 1-10% of corals affected at 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 2013.

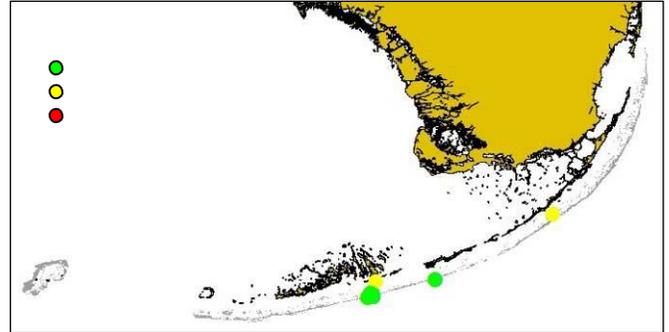


Figure 6. Overview of BleachWatch reports submitted Oct. 1-30, 2013.

BleachWatch Reports for June-October, 2013

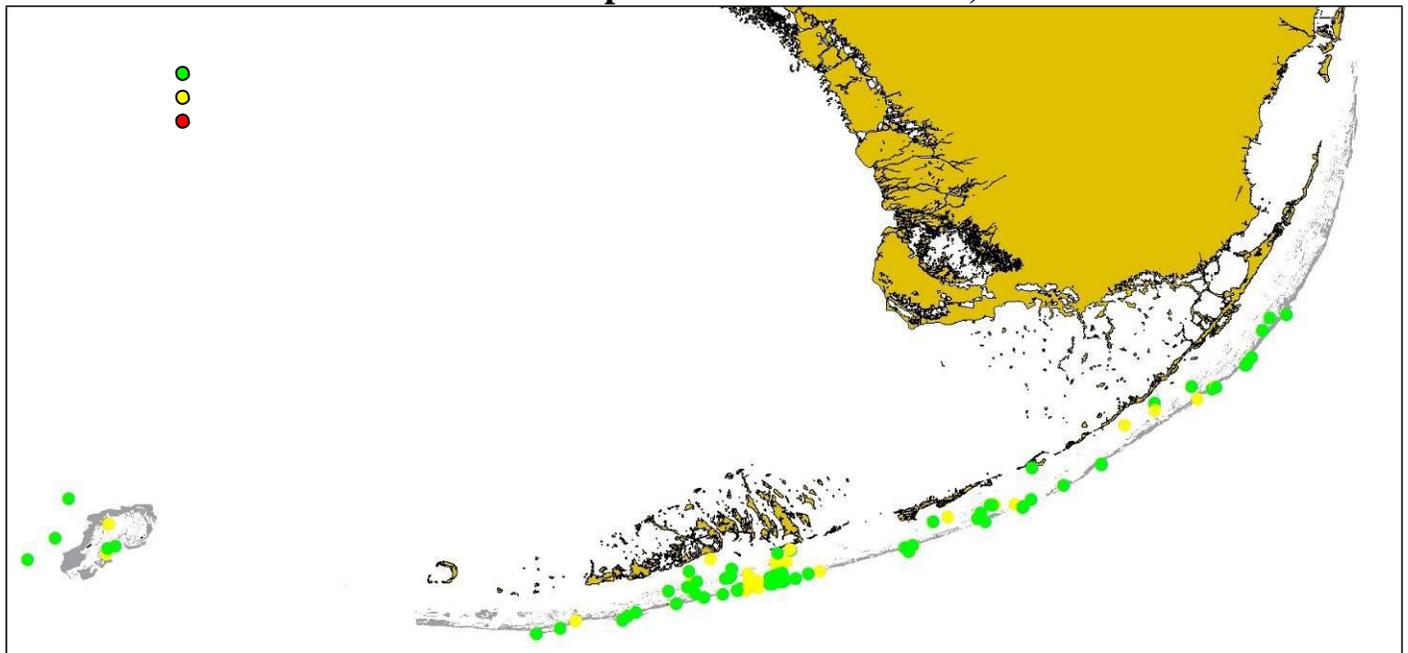


Figure 7. Summary map of all Florida Keys BleachWatch Observer reports submitted during the 2013 coral bleaching season.

THANK YOU OBSERVERS FOR YOUR HARD WORK!

*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/Keys/research/bleaching.phtml>

Funding Provided By:

