



Updated November 5, 2009

**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 Coral Bleaching Thermal Stress Outlook November 2009-January 2010

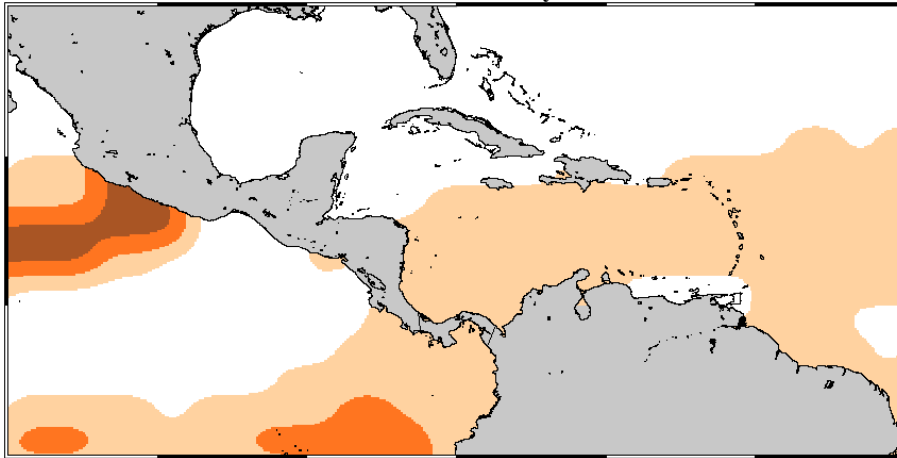


Figure 1. NOAA's Coral Bleaching Thermal Stress Outlook for Nov. 2009 – Jan. 2010.  
<http://coralreefwatch.noaa.gov/satellite/bleachingoutlook/index.html>

### Weather and Sea Temperatures

According to the latest NOAA Coral Reef Watch Coral Bleaching Thermal Stress Outlook, “The potential for coral bleaching in the Caribbean in 2009 has lessened. While there continues to be an elevated potential for higher than normal temperatures in 2009, severe thermal stress is less likely than earlier outlooks indicated.” The forecast for the Florida Keys region shows that there is no significant potential for coral bleaching for the remainder of 2009 (Fig.1).

Current enhanced remote sensing analysis by NOAA’s CRW program indicates that the Florida Keys region is experiencing little or no levels of thermal stress and reduced potential for mass coral bleaching compared to other parts of the Caribbean. NOAA’s recent Enhanced Coral Bleaching HotSpot Map (Fig. 2), which provides current sea surface temperature (SST) compared to the historically expected SST’s for the region, reveals no elevated temperature anomalies in the vicinity of the Florida Keys National Marine Sanctuary (FKNMS). Similarly, NOAA’s latest Degree Heating Weeks (DHW) map, which illustrates the accumulation of elevated temperature in an area based on the previous 12 weeks, indicates minimal cumulative temperature stress in the Florida Keys region (Fig. 3). Furthermore, sea temperature readings at NOAA's Integrated Coral Observing Network (ICON) monitoring stations confirm that sea temperatures throughout the Florida Keys have been well below 30°C over the past two weeks (Fig. 4) and despite brief periods of calm winds over the past month, there have been no prolonged doldrum-like conditions in the Florida Keys region (Fig. 5). 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 2009. As a result, this will be the final current conditions report for 2009.

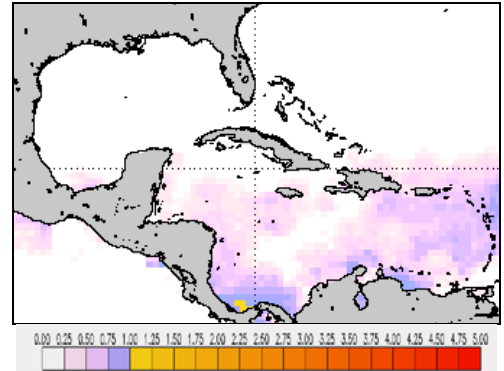


Figure 2. NOAA's Enhanced Coral Bleaching HotSpot Map for November 4, 2009.  
<http://coralreefwatch.noaa.gov/satellite/e50/>

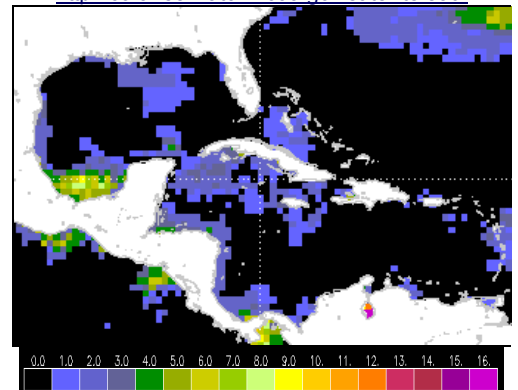


Figure 3. NOAA's Enhanced Degree Heating Weeks Map for November 4, 2009.  
<http://coralreefwatch.noaa.gov/satellite/e50/>

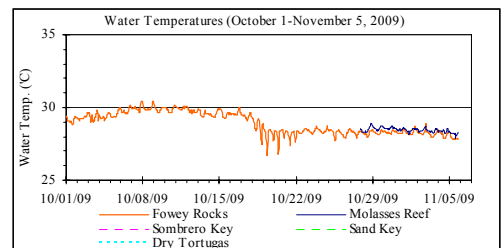


Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (Oct. 1-Nov. 5, 2009).

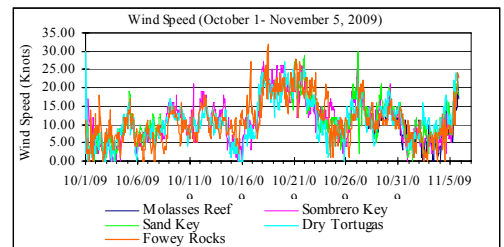


Figure 5. Wind speed data from NOAA/ICON monitoring stations (Oct. 1-Nov. 5, 2009).



# Coral Bleaching Early Warning Network

## Current Conditions Report #20091105



### Conditions of Corals

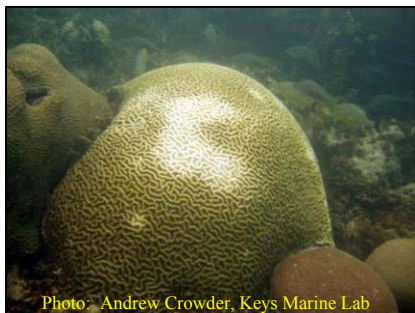


Photo: Andrew Crowder, Keys Marine Lab

Figure 7. A paling *Colpophyllia natans* at Coral Gardens on Nov. 4, 2009.

A total of 27 BleachWatch Observer reports were received since the 1<sup>st</sup> of October, with 24 reports (Fig. 6) indicating isolated colonies exhibiting signs of paling or partial bleaching (Fig. 7) such as Mound and Boulder corals (*Montastraea spp.*), Brain Corals, (*Colpophyllia natans*), and Plate Corals (*Agaricia spp.*). The overall severity of corals showing thermal stress was only 1-10% affected with all other reports indicating no signs of coral bleaching observed during this period. Other observations included no paling or bleaching on *Palythoa sp.*, fire coral or Gorgonians.

reports verified that only minimal signs of coral bleaching were observed in the Florida Keys region in 2009, with most reports noting only paling or partial bleaching. 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 2009.

The 2009 BleachWatch season has come to an end with a record total of 289 reports submitted by BleachWatch observers (Fig. 8). Observer

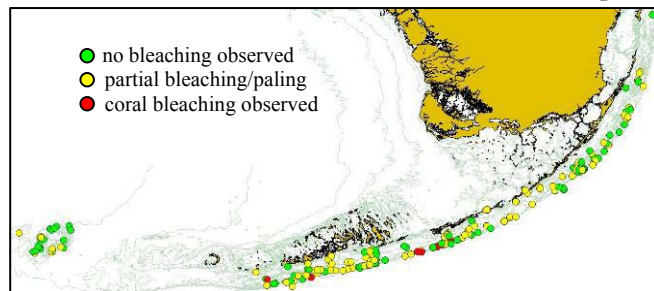


Figure 8. Summary map of all Florida Keys BleachWatch Observer reports submitted during the 2009 coral bleaching season.

## THANK YOU OBSERVERS FOR YOUR HARD WORK!

### BleachWatch Reports for October 1-November 5, 2009

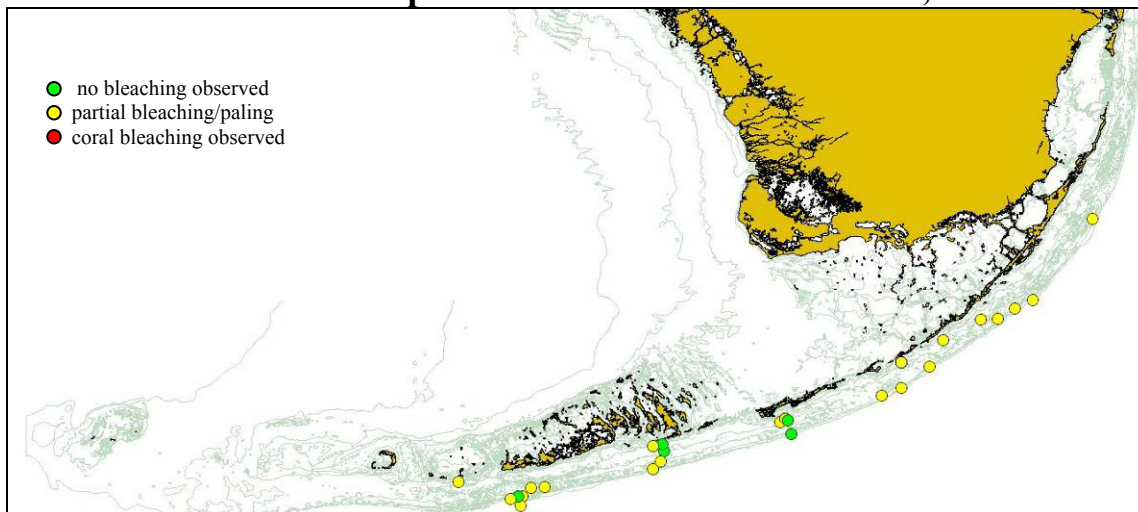


Figure 6. Overview of BleachWatch observer reports submitted from Oct. 1-Nov. 5, 2009

**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 THANKS TO....



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