



Updated October 1, 2007

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

Weather and Sea Temperatures

Current remote sensing analysis by NOAA’s Coral Reef Watch program indicates that sea temperature stress continues to decrease for the Florida Keys region. NOAA’s recent Coral Bleaching HotSpot Map, which depicts the current Sea Surface Temperature (SST) compared to the historically expected SST’s for the region, shows that despite the elevated temperatures continuing to affect the eastern Caribbean, sea surface temperatures have returned to “normal” for the Florida Keys National Marine Sanctuary and surrounding waters (Figure 1). NOAA’s latest Degree Heating Weeks (DHW) map, illustrating accumulation of elevated sea surface temperature in an area based on the previous 12 weeks (Figure 2), indicates that accumulated temperature stress for the Florida Keys region, while still elevated, has not continued to increase. Furthermore, if SST’s continue to decrease, DHW maps in the next few weeks will likely continue to show a reduction in accumulated temperature stress for the region. NOAA’s Coral Reef Watch program has decreased their “Bleaching Watch” to a “No Stress” level indicating that current thermal stress has decreased and significant coral bleaching is not expected. NOAA’s Integrated Coral Observing Network (ICON) monitoring stations also indicate that sea temperatures throughout the Florida Keys, at least along the outer reef tract, have decreased during the past week (Figure 3), and breezy conditions for the same period further reduce the likelihood for significant bleaching (Figure 4).

Mote Marine Laboratory will continue to monitor the NOAA HotSpot maps, DHW maps, and ICON sea temperature data from NOAA monitoring stations for the remainder of the bleaching season.

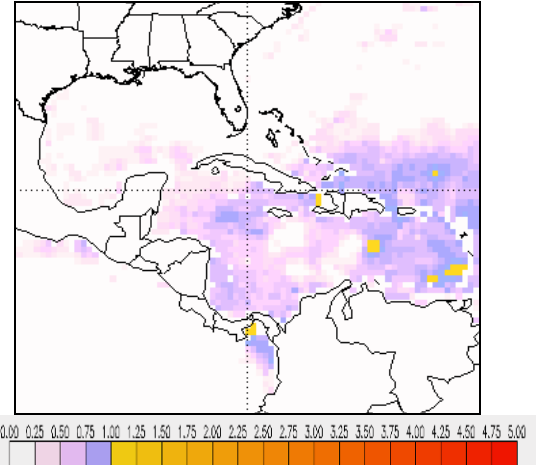


Figure 1. NOAA’s Coral Bleaching HotSpot Map for October 1, 2007.
www.osdpd.noaa.gov/PSB/EPS/SST/climohot.html

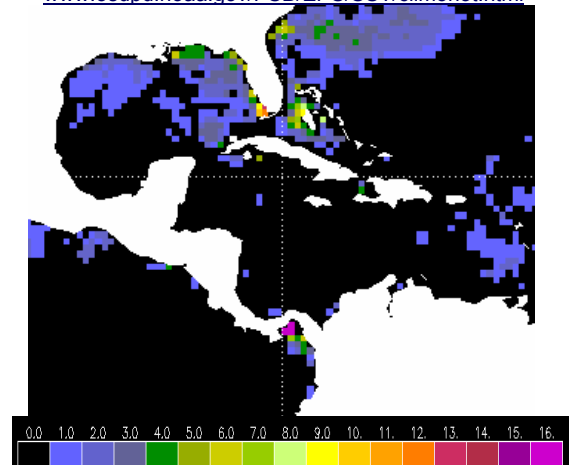


Figure 2. NOAA’s Degree Heating Weeks Map for October 1, 2007.
www.osdpd.noaa.gov/PSB/EPS/SST/dhw_retro.html

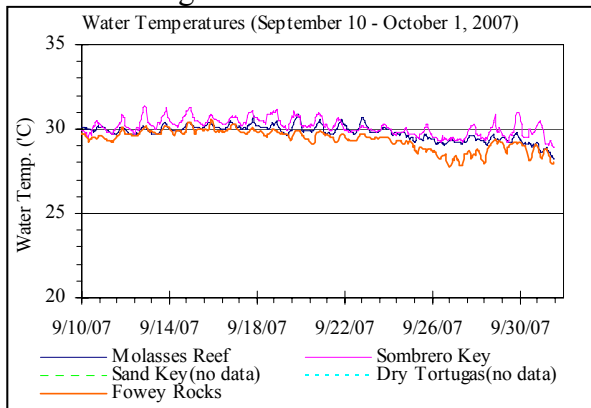


Figure 3. Summary of *in-situ* sea temperature data from NOAA/ICON monitoring stations (Sept. 10 – Oct. 1, 2007).

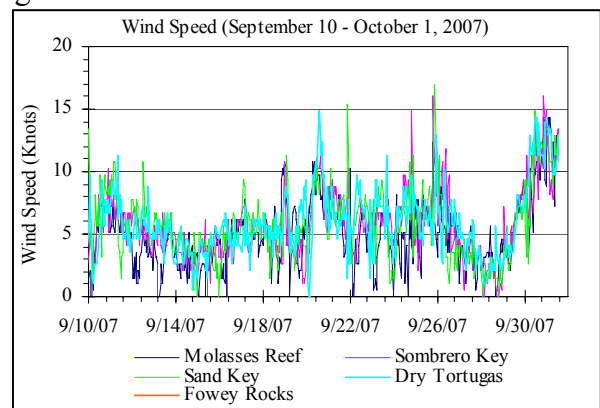


Figure 4. Summary of wind speed data from NOAA/ICON monitoring stations (Sept. 10 – Oct. 1, 2007).



Conditions of Corals

A total of 39 BleachWatch Observer reports were received during the last three weeks, including observations from researchers participating in the NOAA Florida Keys Coral Disease Cruise on the R/V Nancy Foster from September 23-29, 2007. There were 25 reports indicating isolated paling or partially bleached colonies, and 1 report of several isolated bleached colonies located throughout the Florida Keys (Figure 6). These isolated paling/bleaching observations consisted of Mound and Boulder corals (*Montastraea spp.*, *Solenastrea spp.*, *Porites astreoides*, and *Siderastrea spp.*), Brain corals, Branching Corals (*Porites porites* and *Oculina spp.*), Leaf/Plate/Sheet Corals (*Agaricia spp.*) as well as additional observations of paling/bleached *Palythoa spp.*, Fire Coral and Gorgonians. However, the remaining 13 reports indicated little or no signs of coral bleaching. In addition, reports seem to show that paling/bleached corals previously observed at some sites, such as *Siderastrea siderea* observed by Ken Nedimyer about 1.5 miles offshore of Tavernier (Figure 5), have regained some of their zooxanthellae since the onset of paling/bleaching several weeks ago. In addition, many sites that were previously observed to have considerable bleaching present have recovered to where only 1-10% of corals at the site remain paling/bleached.

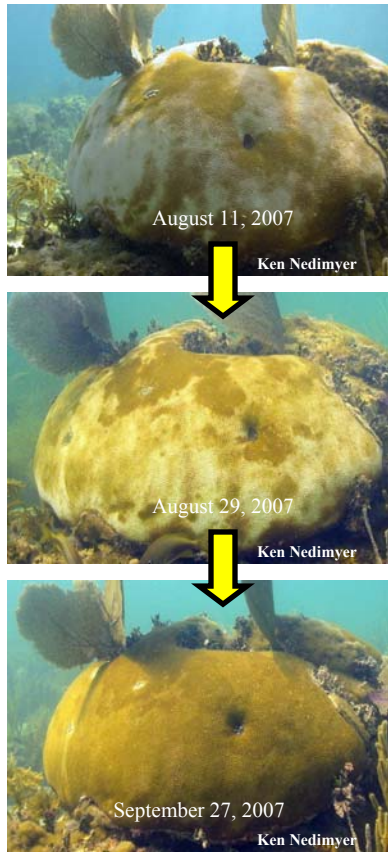


Figure 5. Time series of *Siderastrea siderea* on a patch reef off Tavernier.

These isolated observations of recovery of the zooxanthellae do not necessarily indicate full recovery of all species, so please continue to note any recent mortality, disease or other unusual biological activity at your reef sites.

BleachWatch Reports for September 10 – October 1, 2007

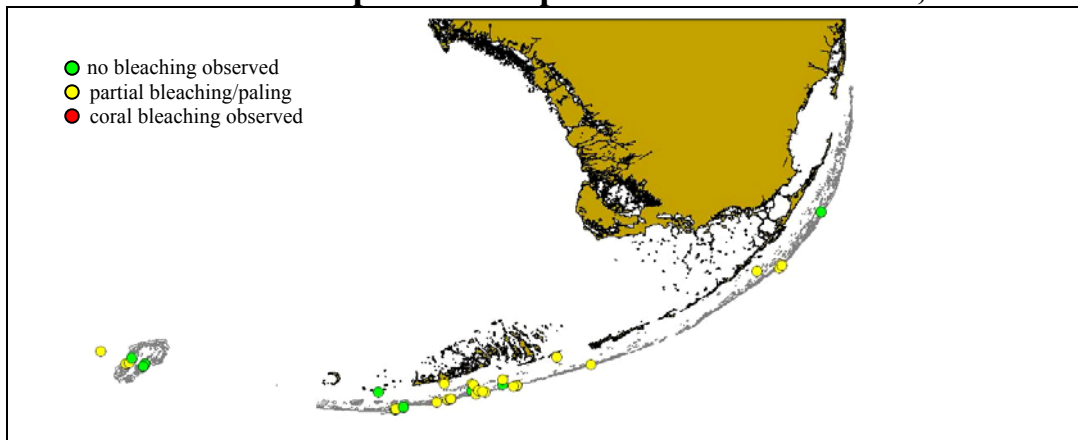


Figure 6. Overview of BleachWatch observer reports submitted from September 10 – October 1, 2007.

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

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