



Mote Marine Laboratory / Florida Keys National Marine Sanctua
Coral Bleaching Early Warning Network
Current Conditions Report #20070910



Updated September 10, 2007

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

Weather and Sea Temperatures

Current remote sensing analysis by NOAA’s Coral Reef Watch program reveals that the Florida Keys region is continuing to show signs of thermal stress. NOAA’s recent Coral Bleaching HotSpot Map (Figure 1), which provides current SST’s compared to the historically expected SST’s for the region, indicates elevated temperature anomalies for parts of the Florida Keys National Marine Sanctuary and surrounding waters. 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 temperature stress has increased to a record of 12.2 DHW in the Florida Keys region (Figure 2). NOAA’s Coral Reef Watch program has increased their “Bleaching Watch” to a “Bleaching Alert-Level 2” indicating that current thermal stress has increased and significant coral bleaching is expected. However, NOAA’s Integrated Coral Observing Network (ICON) monitoring stations indicate that sea temperatures throughout the Florida Keys, at least along the outer reef tract, have actually decreased slightly during the past week (Figure 3), and breezy conditions for the same period may have provided additional relief (Figure 4).

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

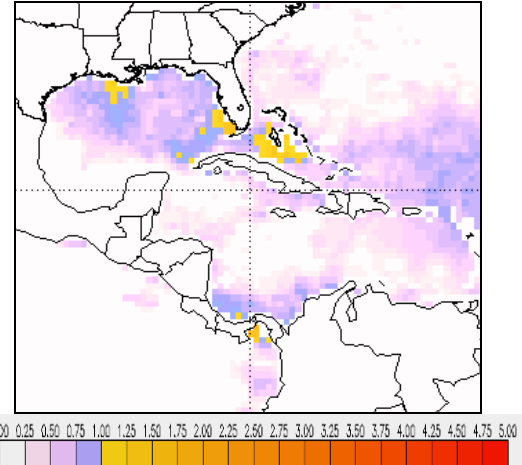


Figure 1. NOAA's Coral Bleaching HotSpot Map for September 10, 2007.
www.osdpd.noaa.gov/PSB/EPS/SST/climohot.html

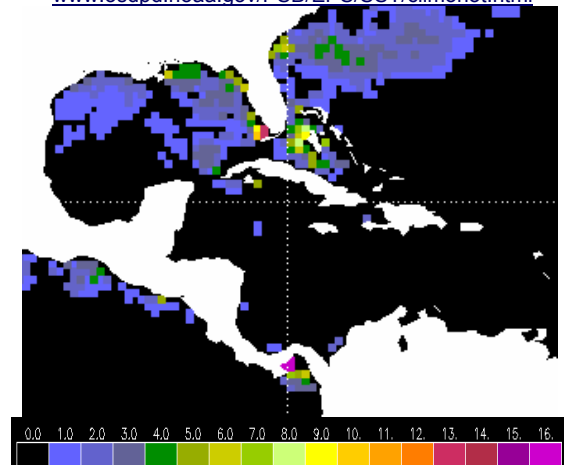


Figure 2. NOAA's Degree Heating Weeks Map for September 10, 2007.
www.osdpd.noaa.gov/PSB/EPS/SST/dhw_retro.html

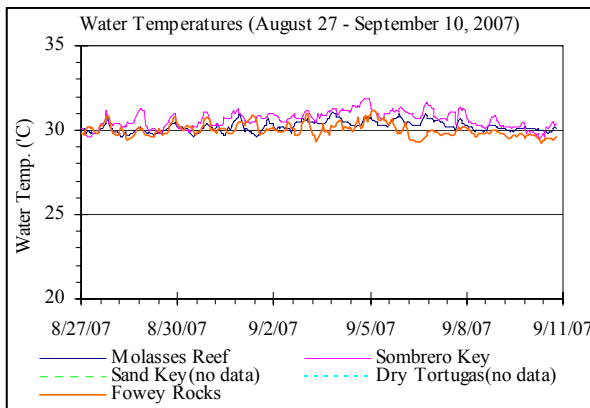


Figure 3. Summary of *in-situ* sea temperature data from NOAA/ICON monitoring stations (Aug. 27 – Sept. 10, 2007).

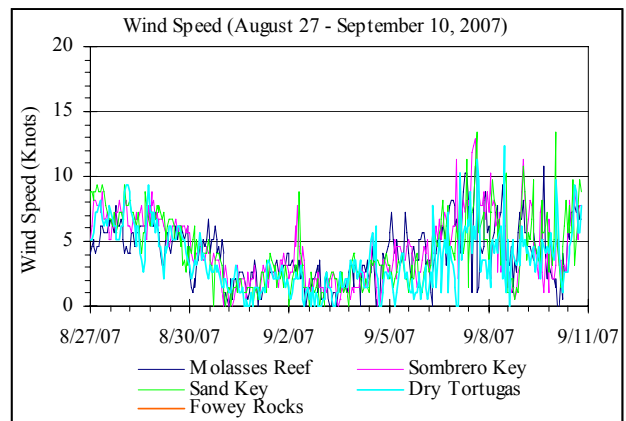


Figure 4. Summary of wind speed data from NOAA/ICON monitoring stations (Aug. 27-Sept. 10, 2007).



Conditions of Corals

A total of 21 BleachWatch Observer reports were received during the last two weeks, with 12 reports indicating isolated colonies exhibiting signs of paling or partial bleaching (Figure 5) and 3 reports of



Figure 5. Paling *Copophyllia natans* and *Montastraea sp.* offshore of Little Palm Island Aug. 26, 2007.

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*, *Oculina spp.*, and *Acropora cervicornis.*), Leaf/Plate/Sheet Corals (*Agaricia spp.*) as well as additional observations of paling/bleached *Palythoa spp.*, Fire Coral and Gorgonians. Reports from several inshore patch reefs indicated that more than 50% of coral present at those sites were paling and/or bleaching, however 2 observers indicated that corals at these sites (such as Figure 5) previously paling/bleached have regained some of there zooxanthellae since the onset of paling/bleaching several weeks ago.

These isolated observations of paling and partial bleaching do not necessarily indicate the onset of a mass bleaching event; however, continued field observations are needed as more widespread bleaching could develop if environmental conditions continue to be favorable.

BleachWatch Reports for August 27 – September 10, 2007

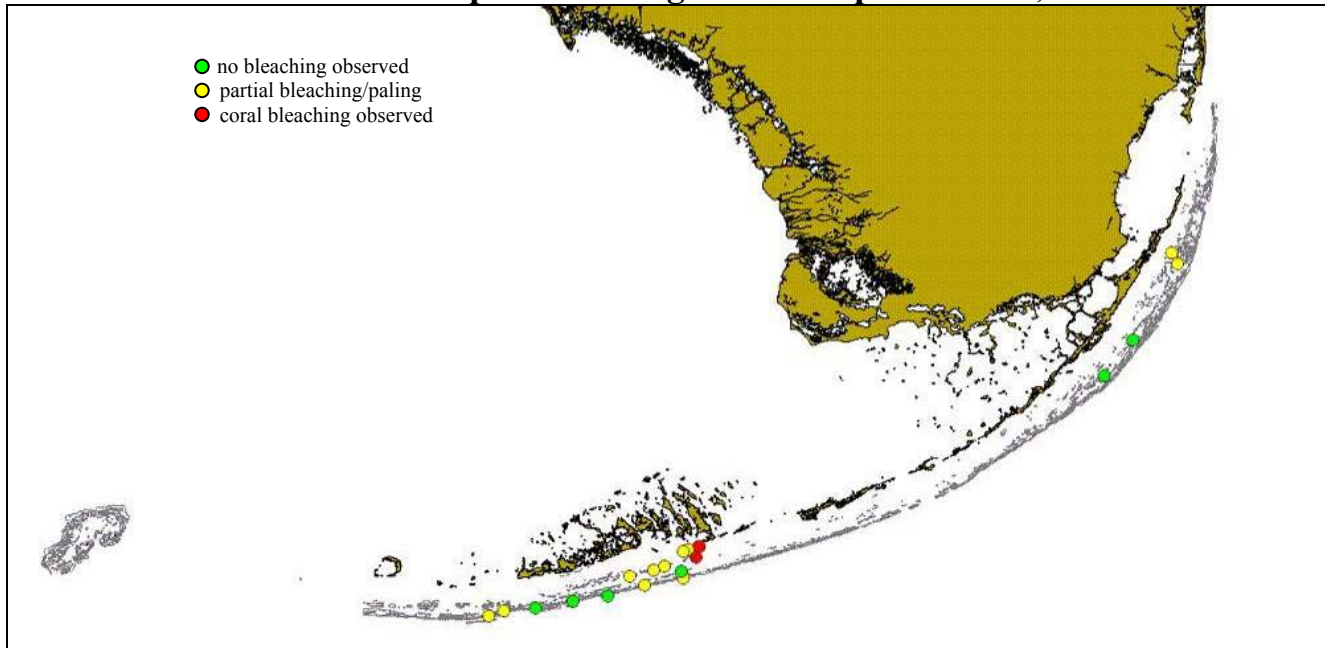


Figure 6. Overview of BleachWatch observer reports submitted from August 27- September 10, 2007.

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



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<http://www.mote.org/Keys/research/bleaching.phtml>