



Mote Marine Laboratory / Florida Keys National Marine Sanctua
Coral Bleaching Early Warning Network
Current Conditions Report #20070827



Updated August 27, 2007

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

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 some 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 currently leveled off in the Florida Keys region (Figure 2). NOAA’s Coral Reef Watch program has downgraded from a “Bleaching Alert-Level 2” to a “Bleaching Watch, indicating that current thermal stress has decreased due to a slight drop in sea surface temperatures. NOAA’s Integrated Coral Observing Network (ICON) monitoring stations confirm that sea temperatures throughout the Florida Keys have dropped slightly during the past week (Figure 3), and winds of up to 15 knots 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.

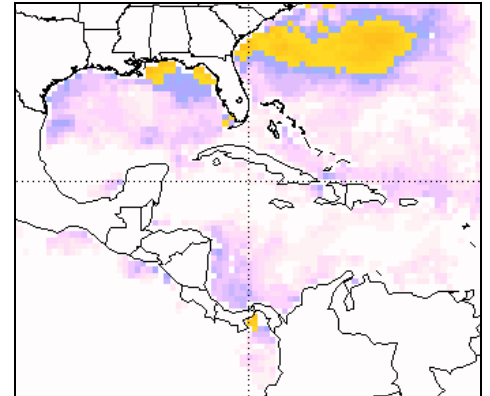


Figure 1. NOAA's Coral Bleaching HotSpot Map for August 27, 2007.

www.osdpd.noaa.gov/PSB/EPS/SST/climohot.html

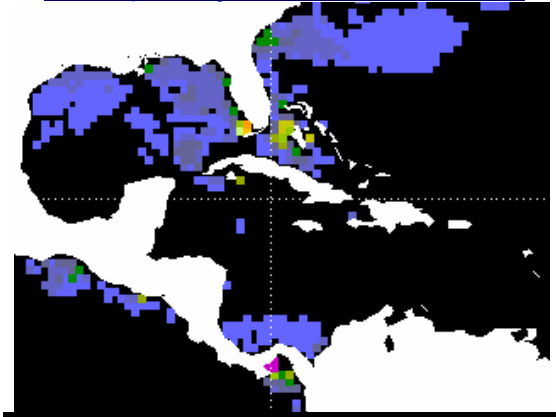


Figure 2. NOAA's Degree Heating Weeks Map for August 27, 2007.

www.osdpd.noaa.gov/PSB/EPS/SST/dhw_retro.html

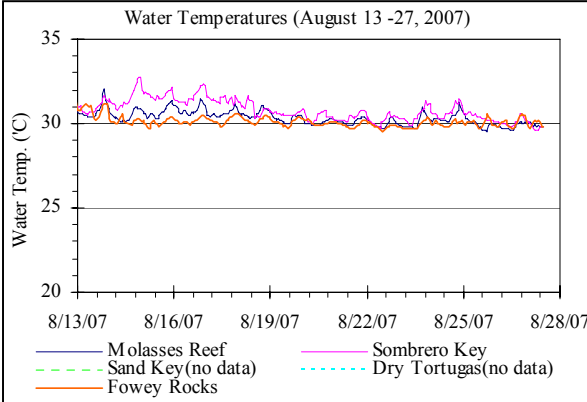


Figure 3. Summary of *in-situ* sea temperature data from NOAA/ICON monitoring stations (August 13 - 27, 2007).

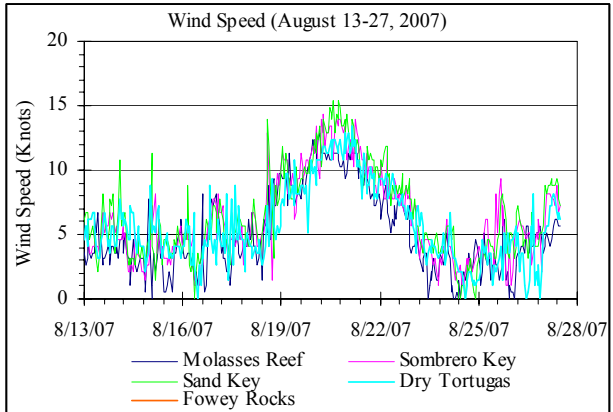


Figure 4. Summary of wind speed data from NOAA/ICON monitoring stations (August 13 - 27, 2007).



Conditions of Corals

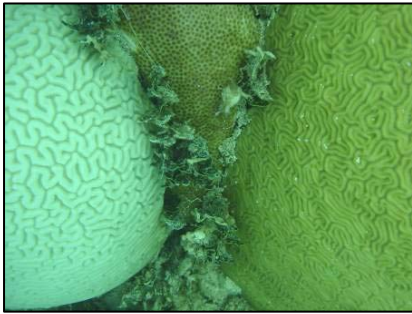


Figure 5. Bleached/Healthy *Diploria labyrinthiformis* on August 16, 2007 near Newfound Harbor.

A total of 15 BleachWatch Observer reports were received during the last two weeks, with 10 reports indicating isolated colonies exhibiting signs of paling or partial bleaching (Figure 5) and 3 reports 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,



Figure 7. Paling/Bleached reef scene on August 16, 2007 near Newfound Harbor.

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 (Figure 7) indicated that more than 50% of coral present at those sites were paling and/or bleaching.

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 13 - 27, 2007

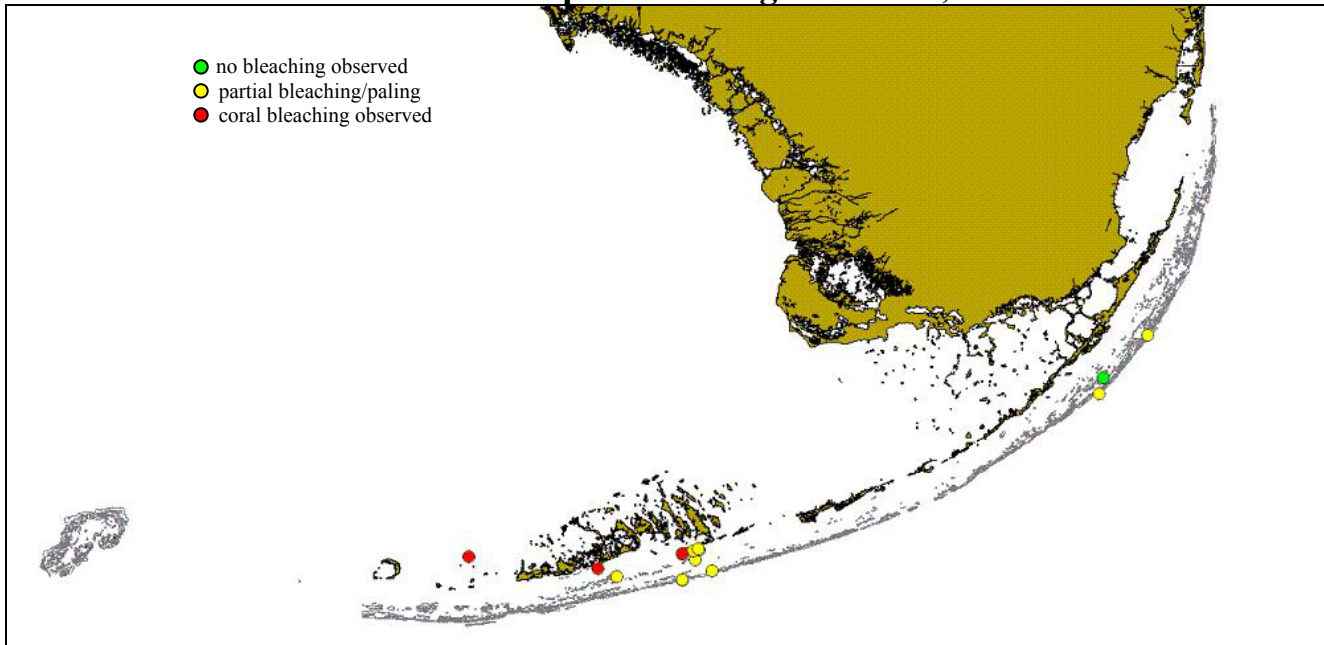


Figure 6. Overview of BleachWatch observer reports submitted from August 13 - 27, 2007.

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>