



Updated July 30, 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 showing signs of building 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 most 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 increasing temperature stress in the Florida Keys region (Figure 2). In fact, NOAA’s Coral Reef Watch program has issued a “Bleaching Alert – Level 1”, indicating that coral bleaching is expected in the Florida Keys region based on the current trend of accumulating thermal stress in the area. Sea surface temperature readings at NOAA’s *in-situ* monitoring stations confirms that sea temperatures throughout the Florida Keys have exceeded 30°C for several weeks (Figure 3), and light and variable winds during that same period (Figure 4) have likely further increased the potential for coral bleaching to occur.

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

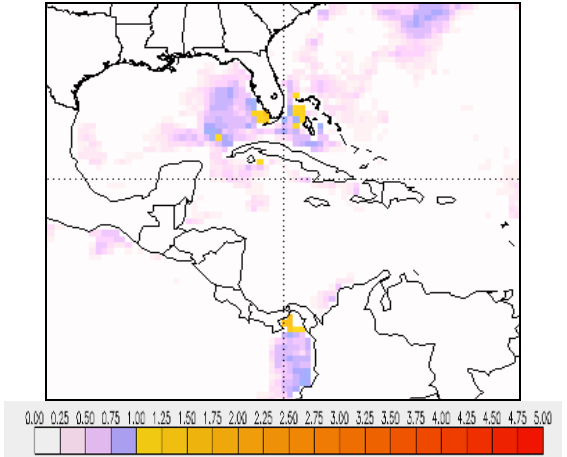


Figure 1. NOAA's Coral Bleaching HotSpot Map for July 30, 2007.

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

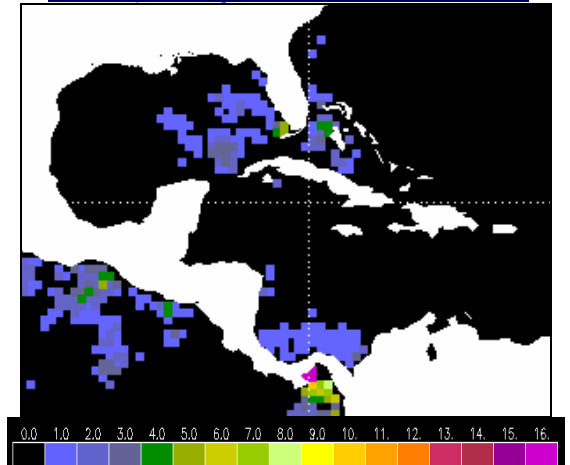


Figure 2. NOAA's Degree Heating Weeks Map for July 30, 2007.

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

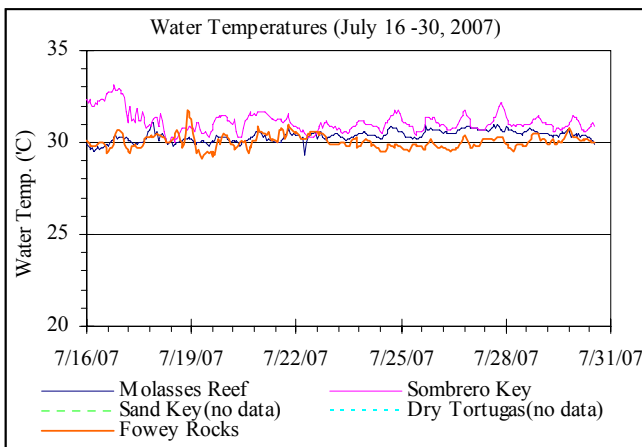


Figure 3. Summary of *in-situ* sea temperature data from NOAA/FIO monitoring stations (July 16-30, 2007).

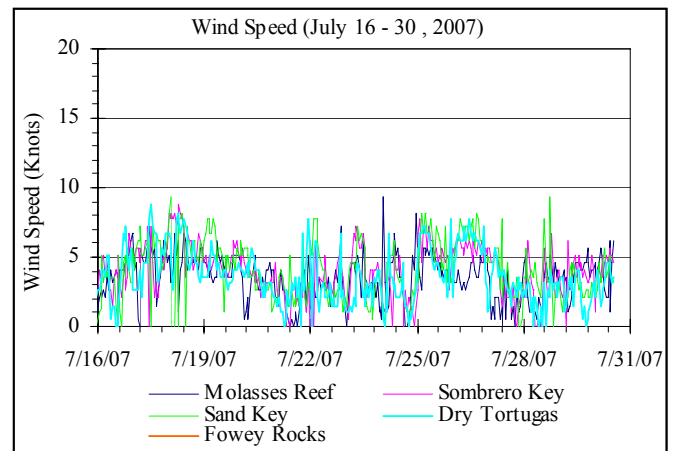


Figure 4. Summary of wind speed data from NOAA/FIO monitoring stations (July 16-30, 2007).



Mote Marine Laboratory / Florida Keys National Marine Sanctuary
Coral Bleaching Early Warning Network
Current Conditions Report #20070730



Conditions of Corals

A total of 36 BleachWatch Observer reports were received during the last two weeks, with 19 reports indicating isolated colonies exhibiting signs of paling or partial bleaching (Figure 5 & 6) and 3 reports of several isolated bleached colonies located throughout the Florida Keys and Key Biscayne (Figure7). 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.*) as well as additional observations of paling/bleached *Palythoa spp.*, Fire Coral and Gorgonians.



Figure 6. *Colpophyllia natans* paling on July 24, 2007 on a patch near Looe Key.

Figure 5. Paling *Diploria sp.* and *Siderastrea sp.* on July 27, 2007 off of Grassy Key.

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.

Please report after every reef visit, even if no bleaching is observed.

BleachWatch Reports for July 16-30, 2007

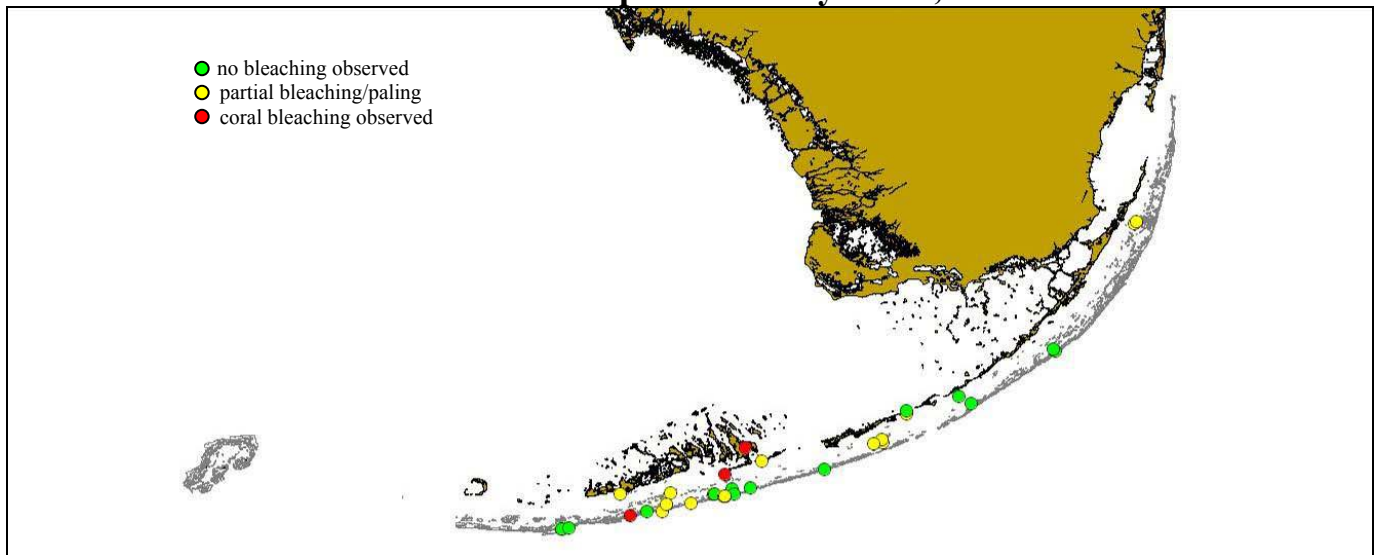


Figure7. Overview of BleachWatch observer reports submitted from July 16-30, 2007.

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>