



Mote Marine Laboratory / Florida Keys National Marine Sanctuary
Coral Bleaching Early Warning Network
Current Conditions Report #20060731



Updated July 31, 2006

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

Weather and sea surface temperature (SST) predictions for August, 2006 by NOAA's Climate Prediction Center indicate that SST's in the Florida Keys will likely remain near or below average for this time of year over the next few weeks (Figure 1).

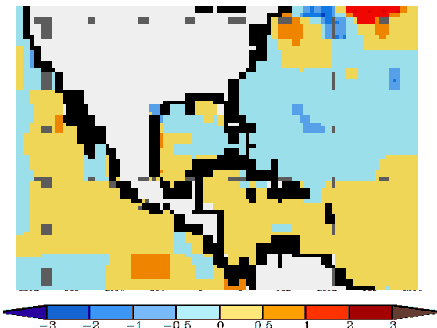


Figure 1. NOAA's Climate Prediction Center's sea surface temperature forecast for August, 2006
www.cpc.ncep.noaa.gov

However, current remote sensing analysis by NOAA's Coral Reef Watch program shows that the Florida Keys are in fact beginning to show signs of increasing sea surface temperatures. NOAA's recent Coral Bleaching HotSpot Map (Figure 2), which shows current SST's compared to the historically expected SST's for the region, shows elevated temperature anomalies developing for the Florida Keys. NOAA's *in-situ* monitoring stations confirm increasing sea temperature readings from the Upper and Middle Florida Keys, which are currently reaching or exceeding 30°C (Figure 3). However, NOAA's latest Degree Heating Weeks (DHW) map, which indicates the accumulation of elevated temperature in an area based on the previous 12 weeks, shows that although sea temperatures are increasing, accumulated temperature stress in the Florida Keys region is still low (Figure 4).

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.

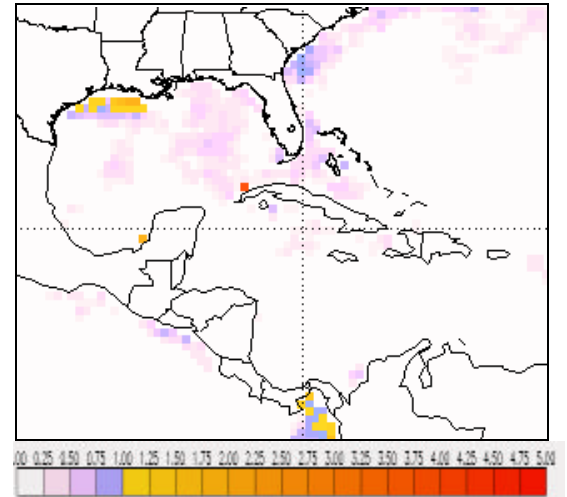


Figure 2. NOAA's Coral Bleaching HotSpot Map for July 28, 2006.
www.osdpd.noaa.gov/PSB/EPS/SST/climohot.html

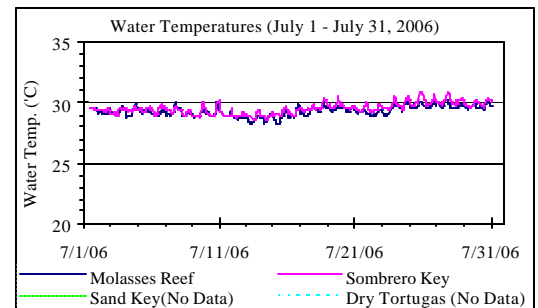


Figure 3. Summary of *in-situ* sea temperature data from NOAA/FIO monitoring stations (July 1- July 31, 2006).

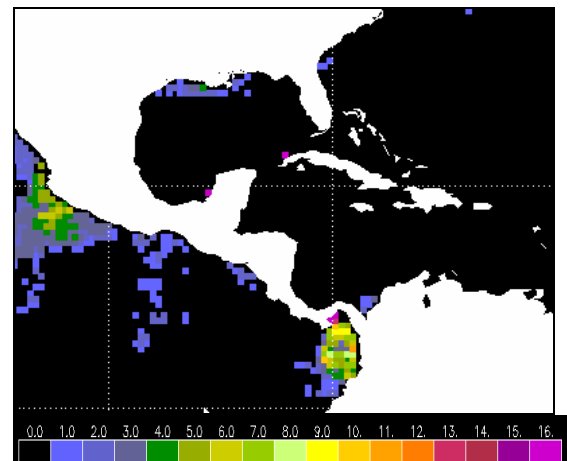


Figure 4. NOAA's Degree Heating Weeks Map for July 28, 2006.
www.osdbd.noaa.gov/PSB/EPS/SST/dhw_retro.html



Conditions of Corals

A total of 58 reports were received during the month of July, with 28 reports indicating signs of isolated paling or upper surface bleaching. However, in most cases these reports indicated only *Palythoa sp.* was affected (Figure 5). A few reports indicated minimal paling of individual, isolated colonies of star corals, *Montastraea sp.*, and brain corals, including *Colpophyllia natans* and *Diploria sp.*. Reports received were distributed throughout the Florida Keys Marine Sanctuary and included a wide range of habitats (Figure 6). Those individual colonies noted as paling do not indicate the onset of a mass bleaching event; however more widespread bleaching could develop if environmental conditions continue to be favorable.



Figure 5. *Palythoa caribaeorum* in three stages; (left to right) bleached, healthy, and paling.

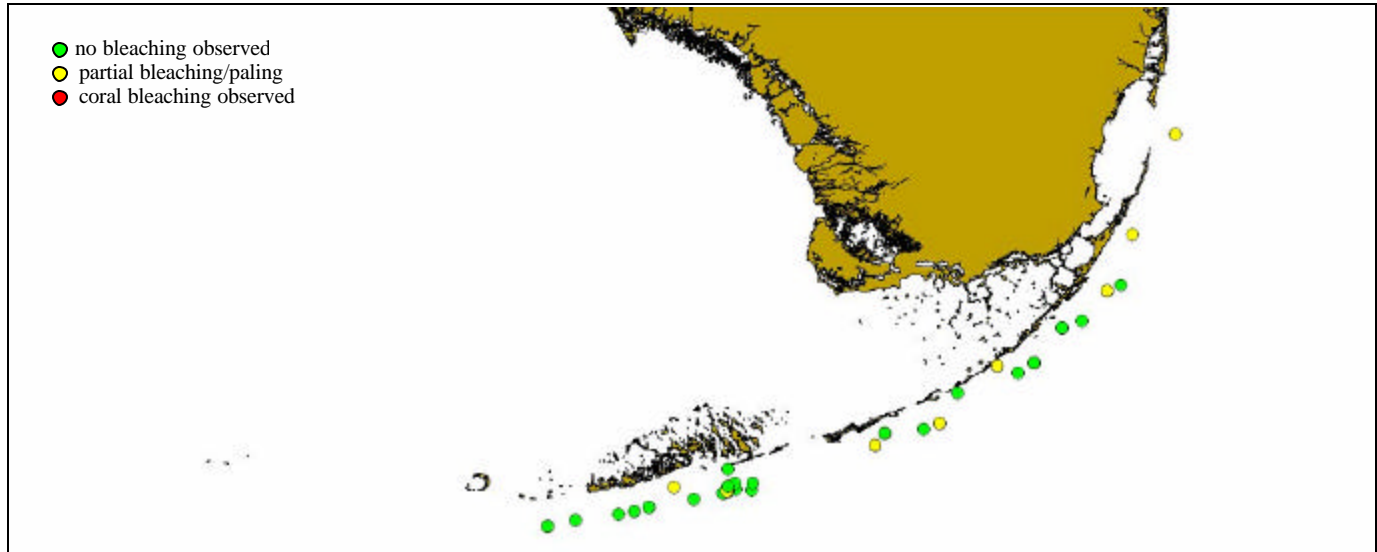


Figure 6. Overview of Bleachwatch observer reports submitted from July 1-July 26, 2006

All BleachWatch observers are encouraged to submit an observation after every reef visit, making sure to report regularly, even if no bleaching is observed.

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

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