

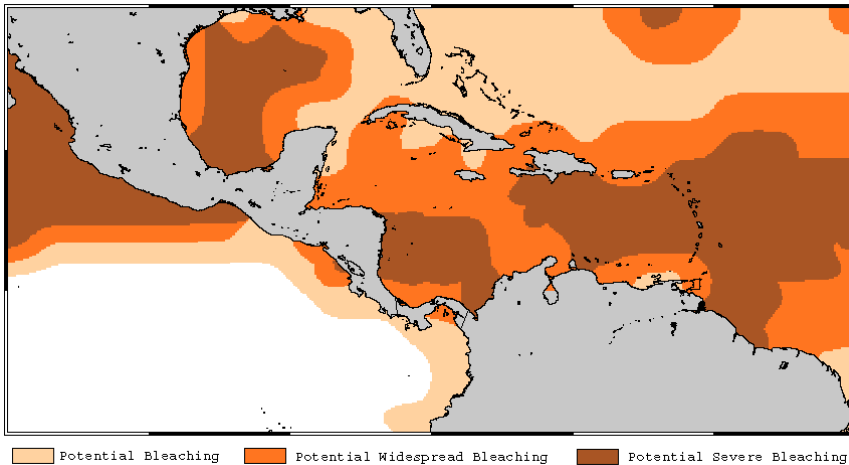


Updated August 13, 2009

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

Weather and Sea Temperatures

NOAA Coral Reef Watch Coral Bleaching Thermal Stress Outlook August -November, 2009 (Updated Aug. 11th)



According to the latest NOAA Coral Reef Watch Coral Bleaching Thermal Stress Outlook there is a significant potential for coral bleaching throughout the Caribbean in 2009 especially in the Lesser Antilles, with higher than normal thermal stress, reminiscent of that seen in July 2005. (Fig. 1).

Current remote sensing analysis by NOAA's Coral Reef Watch program indicates that the Florida Keys region is continuing to show signs of building thermal stress. NOAA's recent Coral Bleaching HotSpot Map (Fig. 2), which provides current SST's compared to the historically expected SST's for the region, reveals 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 increasing temperature stress in the Florida Keys region (Fig. 3). NOAA's Coral Reef Watch program has increased their Coral Bleaching Alert from a "Bleaching Watch" to a "Bleaching Alert Level 1", indicating that coral bleaching is expected in the Florida Keys region. Sea temperature readings at NOAA's Integrated Coral Observing Network (ICON) monitoring stations confirm that sea temperatures throughout the Florida Keys remain near or have exceeded 30°C for the past several weeks (Fig. 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.

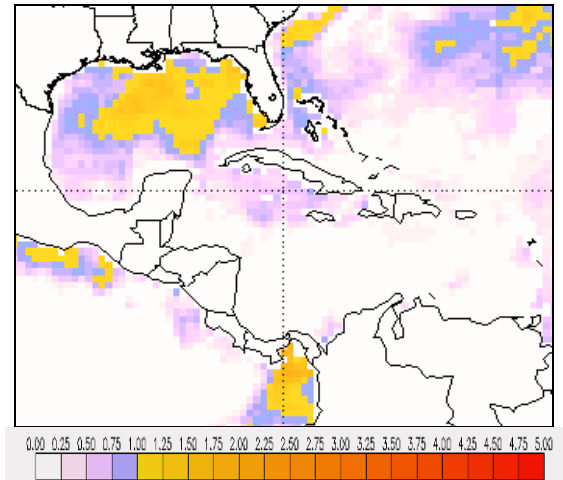


Figure 2. NOAA's Coral Bleaching HotSpot Map for August 13, 2009.
www.osdpd.noaa.gov/PSB/EPS/SST/climohot.html

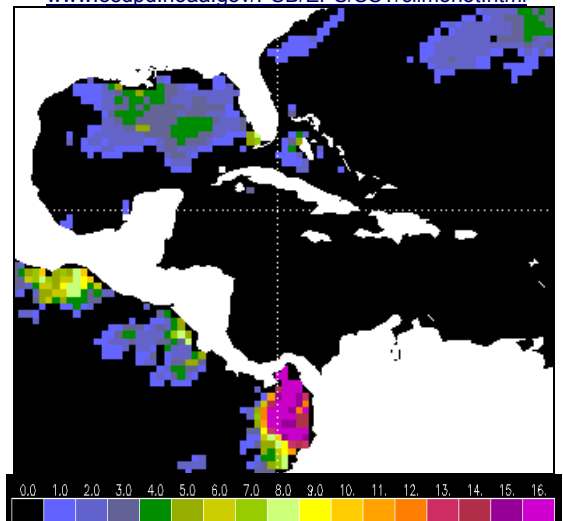
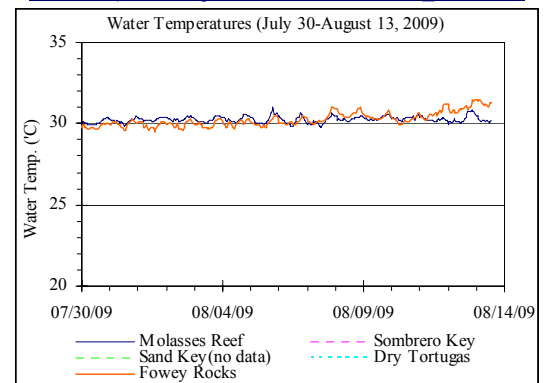


Figure 3. NOAA's Degree Heating Weeks Map for August 13, 2009.
www.osdpd.noaa.gov/PSB/EPS/SST/dhw_retro.html





Coral Bleaching Early Warning Network

Current Conditions Report #20090813



Conditions of Corals

A total of 34 BleachWatch Observer reports were received during the last two weeks, with 24 reports indicating isolated colonies exhibiting signs of paling or partial bleaching (Fig. 5 & 6). The remaining reports indicated no significant signs of coral bleaching. At those sites where partial bleaching or paling was observed (Fig. 7), the overall severity of corals showing thermal stress was typically 1-10% of corals present; however, several mid-channel reefs in the Lower Keys were reported to have up to 50% of the corals showing signs of bleaching. The majority of isolated paling/partial bleaching observations consisted of Mound and Boulder corals (*Montastraea spp.*, *Solenastrea spp.*, *Porites astreoides*, and *Siderastrea spp.*), Brain corals, (*Diploria spp.*, *Colpophyllia natans*, and *Meandrina meandrites*), Branching Corals (*Acropora cervicornis*, *Porites spp.*) and Plate Corals (*Agaricia spp.*). Other observations included paling of *Palythoa spp.*, Fire Coral and Gorgonians, as well as several reports of coral diseases.

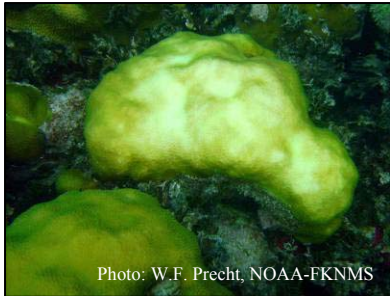


Photo: W.F. Precht, NOAA-FKNMS

Figure 5. *Montastraea annularis* paling/partially bleached at Cheeca Rocks on Aug. 4, 2009.



Photo: Erich Bartels, MML

Figure 6. *Acropora cervicornis* partially bleached at Wonderland on Aug. 11, 2009.

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 coral bleaching could develop if environmental conditions continue to be favorable.

BleachWatch Reports for July 30-August 13, 2009

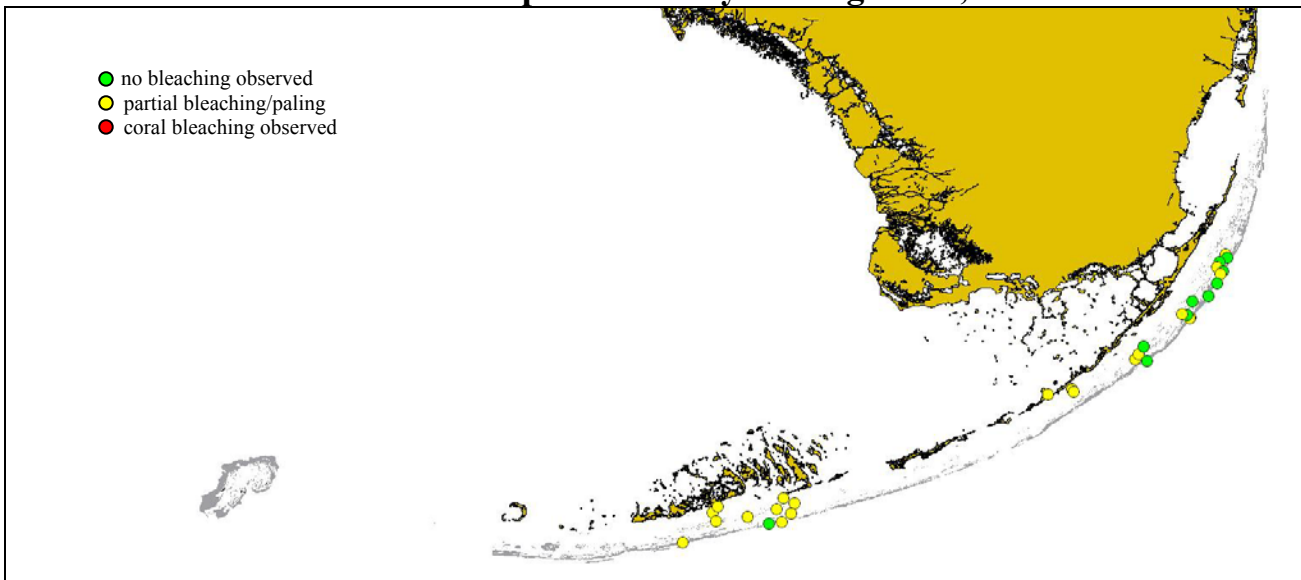


Figure 7. Overview of BleachWatch observer reports submitted from July 30-Aug 13, 2009

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>

Additional Funding Provided By:



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