



Updated August 1, 2014

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

Current Environmental Conditions

Remote sensing analysis by NOAA's Coral Reef Watch (CRW) program indicates that most of the Florida Keys region is currently experiencing limited thermal stress. NOAA's recent experimental 5 km Coral Bleaching HotSpot Map (Fig.1), which illustrates current sea surface temperatures compared to the average temperature for the warmest month, shows elevated temperatures for the Florida Keys over the last 4 weeks. Similarly, NOAA's latest experimental 5 km Degree Heating Weeks (DHW) map, which indicates how much heat stress has built up over the past 12 weeks (Fig.2), shows accumulated temperature stress is elevated in the Florida Keys region. Finally, NOAA's Integrated Coral Observing Network (ICON) monitoring stations confirms that sea temperatures throughout the Florida Keys, at least along the outer reef tract, are at or exceeding 30°C (Fig.3), likely due in part to predominantly calm conditions observed during most of the past month (Fig 4). *In-situ* sea temperature data is currently not available for Dry Tortugas, Sand Key or Sombrero Reef.

According to the latest NOAA CRW experimental 5 kilometer (km) Satellite Coral Bleaching Alert Area, there is currently a bleaching warning for the Atlantic side of the Florida Keys, with the potential for bleaching alerts if sea temperatures continue to increase (Fig. 5). 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.

NOAA Coral Reef Watch Coral Bleaching Alert Area July 31, 2014 (experimental)

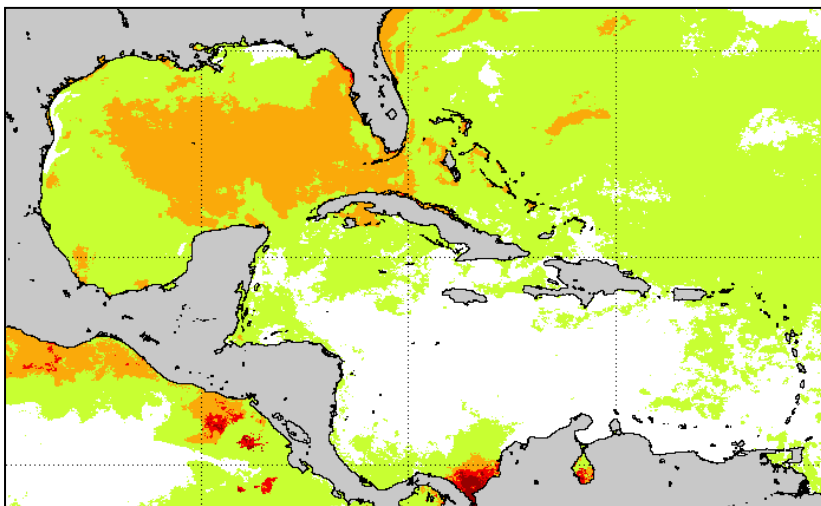


Figure 5. NOAA's 5 km Experimental Coral Bleaching Alert Areas for July 31, 2014. <http://coralreefwatch.noaa.gov/satellite/bleaching5km>

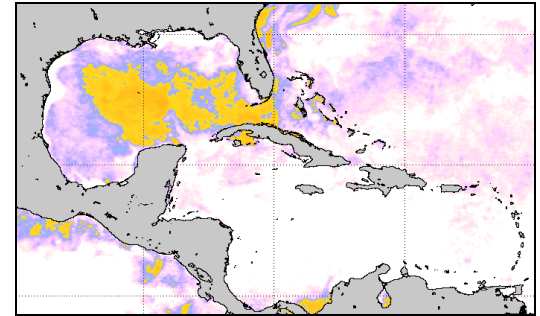


Figure 1. NOAA's Experimental 5km Coral Bleaching HotSpot Map for July 31, 2014. <http://coralreefwatch.noaa.gov/satellite/bleaching5km>

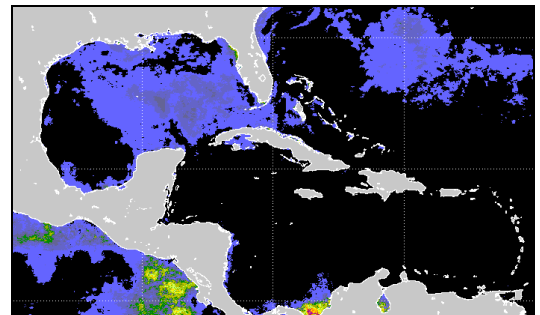


Figure 2. NOAA's Experimental 5km Degree Heating Weeks Map for July 31, 2014. <http://coralreefwatch.noaa.gov/satellite/bleaching5km>

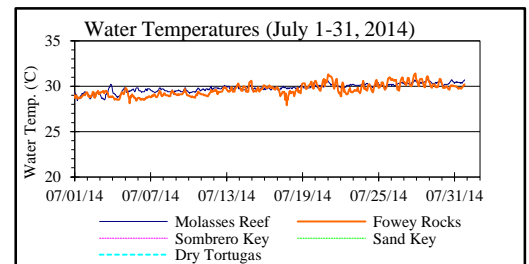


Figure 3. *in-situ* sea temperature from NOAA/ICON monitoring stations (July 1-31, 2014).

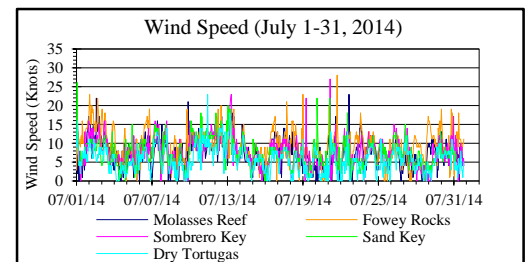


Figure 4. Wind speed data from NOAA/ICON monitoring stations (July 1-31, 2014).



Current Coral Conditions

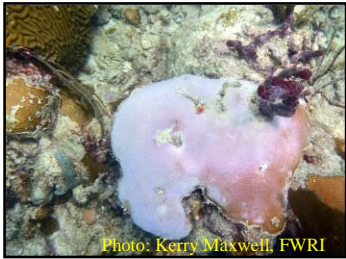


Figure 7. Partially bleached *S. siderea* off Grassy Key, July 25, 2014
Photo: Kerry Maxwell, FWRI

A total of 42 BleachWatch Observer reports were received during the month of July (Fig. 6), with 19 reports indicating isolated colonies exhibiting signs of paling or partial bleaching (Fig. 7). The remaining 23 reports indicated that no significant signs of coral bleaching were observed. At those sites where paling and partial bleaching was noted, the overall percentage of corals exhibiting signs of thermal stress was limited to 1-10%, however three inshore sites noted up to 11-30% of the coral being impacted. The majority of paling observations consisted of isolated colonies of

Encrusting/Mound/Boulder corals (*Siderastrea siderea*, *Orbicella annularis*, and *O. faveolata*), Brain corals (*Colpohyllia natans*, *Diploria labyrinthiformis* and *Pseudodiploria clivosa*), Branching corals (*Acropora cervicornis*), Flowering corals (*Eusmilia fastigiata*) and Leaf/Plate/Sheet corals. Other observations included paling of *Palythoa spp.*, Fire Coral, and Gorgonians as well as several reports of coral disease (Fig. 8).



Figure 8. Black Band Disease on *P. clivosa* off Grassy Key, July 22, 2014
Photo: Ken Nedimyer

These isolated observations of paling and partial bleaching indicate that the onset of a mass bleaching event is unlikely at this time; however, additional field observations are needed as more widespread coral bleaching could likely develop if the current environmental conditions continue.

BleachWatch Reports for July 1-31, 2014

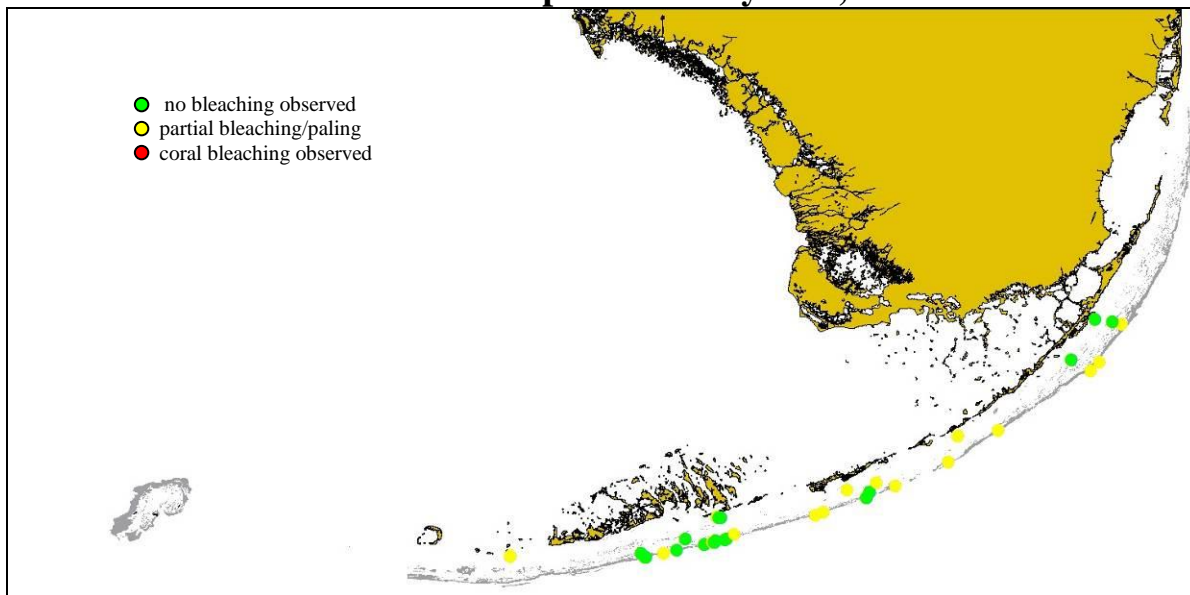


Figure 6. Overview of BleachWatch observer reports submitted from July 1-31, 2014

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

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FUNDING THANKS TO....

