



Coral Bleaching Early Warning Network

Current Conditions Report #20140814

Updated August 14, 2014



Summary: Based on climate predictions, current conditions, and field observations, the threat for mass coral bleaching within the FKNMS continues to be **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 increasing 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 2 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 building 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 above 30°C (Fig.3), likely due in part to predominantly calm conditions observed during most of the past 2 weeks (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 are currently bleaching warnings and alerts for the Florida Keys National Sanctuary, with the potential for more 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 August 13, 2014 (experimental)

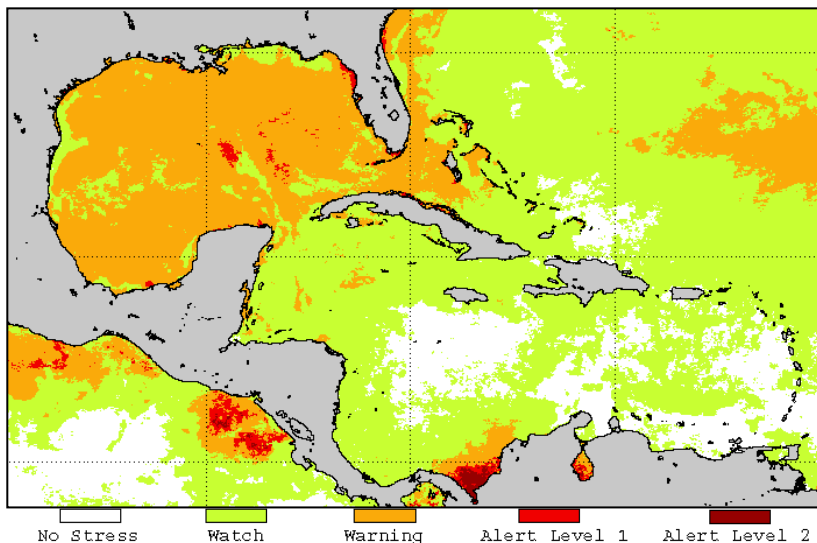


Figure 5. NOAA's 5 km Experimental Coral Bleaching Alert Areas for August 13, 2014. <http://coralreefwatch.noaa.gov/satellite/bleaching5km>

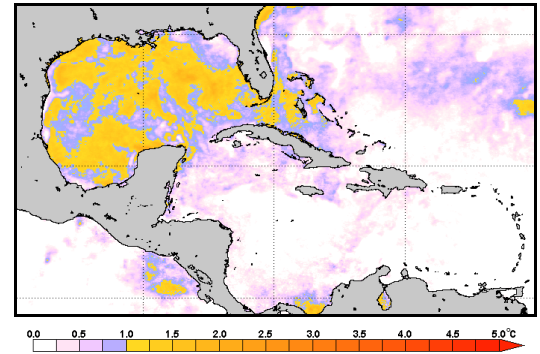


Figure 1. NOAA's Experimental 5km Coral Bleaching HotSpot Map for August 13, 2014. <http://coralreefwatch.noaa.gov/satellite/bleaching5km>

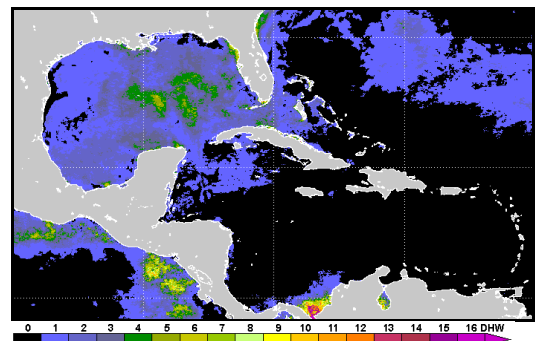


Figure 2. NOAA's Experimental 5km Degree Heating Weeks Map for August 13, 2014. <http://coralreefwatch.noaa.gov/satellite/bleaching5km>

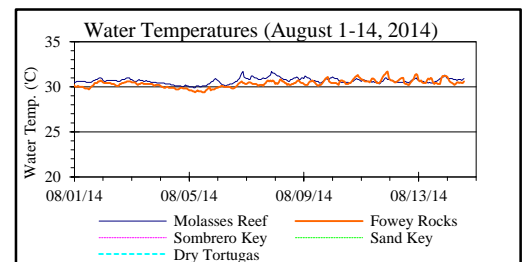


Figure 3. *in-situ* sea temperature from NOAA/ICON monitoring stations (August 1-14, 2014).

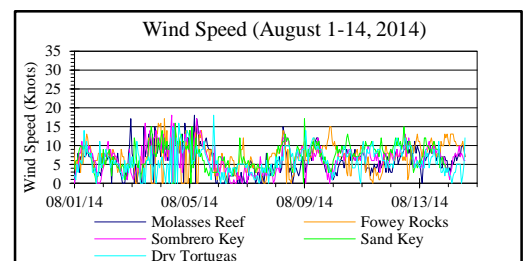


Figure 4. Wind speed data from NOAA/ICON monitoring stations (August 1-14, 2014).



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Current Coral Conditions



Figure 7. Healthy and partial bleached *C. natans* at a Lower Keys mid-channel reef, Aug. 8, 2014.

A total of 41 BleachWatch Observer reports were received during the last 2 weeks (Fig. 6), with 27 reports indicating isolated colonies exhibiting signs of paling or partial bleaching and 2 reports of bleaching (Fig. 7). The remaining 12 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 most inshore sites noted up to 11-30% of the coral being impacted and one site up to 76-100%.



Figure 8. Bleached Gorgonian off Summerland Key Aug. 8, 2014.

The majority of paling and bleaching observations consisted of isolated colonies of Encrusting/Mound/Boulder corals (*Siderastrea siderea*, *S. radians*, *Montastraea cavernosa*, *Porites astreoides*, *Orbicella annularis*, *O. franksi* and *O. faveolata*), Brain corals (*Colpohyllia natans*, *Meandrina meandrites*, *Diploria labyrinthiformis* and *Pseudodiploria clivosa*, *P. strigosa*), Branching corals (*Acropora cervicornis*, *Oculina diffusa*, and *Porites ssp.*), Flowering corals (*Eusmilia fastigiata*) and Leaf/Plate/Sheet corals (*Undaria agaricites*). Other observations included paling of *Palythoa spp.*, Fire Coral, and Gorgonians (Fig. 8) as well as several reports of coral disease.

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 will likely develop if the current environmental conditions continue.

BleachWatch Reports for August 1-13, 2014

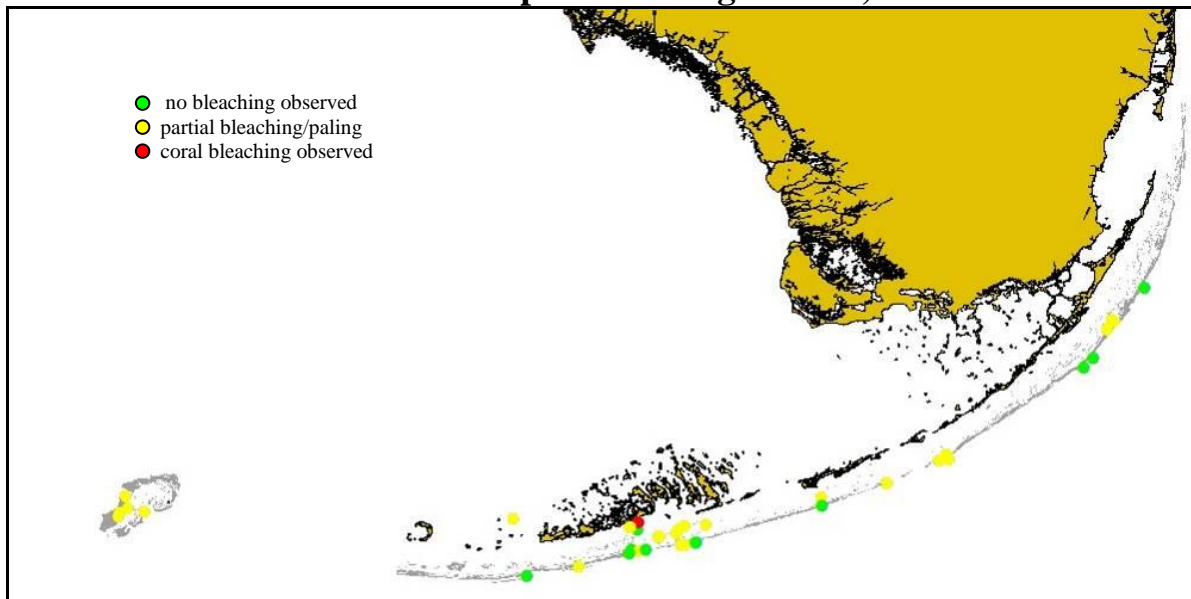


Figure 6. Overview of BleachWatch observer reports submitted from August 1-13, 2014

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

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