



Mote Marine Laboratory / Florida Keys National Marine Sanctuary
Coral Bleaching Early Warning Network
Current Conditions Report #20150925



Updated September 25, 2015

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

NOAA Coral Reef Watch Current and 60% Probability Coral Bleaching Alert Outlook September 24, 2015 (experimental)

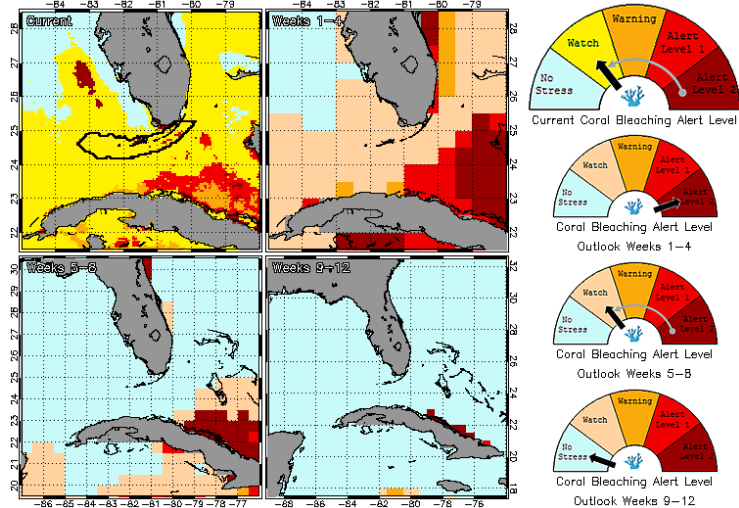


Figure 1. NOAA's 5 km Experimental Current and 60% Probability Coral Bleaching Alert Outlook Areas through November 2015 (Updated September 24, 2015).
http://coralreefwatch.noaa.gov/vs/gauges/florida_keys.php

Weather and Sea Temperatures

According to the newly released NOAA Coral Reef Watch (CRW) experimental 5 kilometer (km) Satellite Current and 60% Probability Coral Bleaching Alert Area, most areas of the Florida Keys National Sanctuary (FKNMS) has been reduced to a Bleaching Watch, indicating that although the previous thermal stress exposure may still be adversely impacting corals, recovery may be underway (Fig. 1).

Recent remote sensing analysis by NOAA's CRW program indicates that the entire Florida Keys region continues to experience decreasing thermal stress. NOAA's new experimental 5 km Coral Bleaching HotSpot Map (Fig. 2), which illustrates current sea surface temperatures compared to the average temperature for the warmest month, shows only slightly elevated temperatures for much of the Florida Keys. Similarly, NOAA's experimental 5 km Degree Heating Weeks (DHW) map, which illustrates how much heat stress has built up over the past 12 weeks (Fig.3), confirms that the level of accumulated temperature stress has not increased for the Florida Keys region.

NOAA's Integrated Coral Observing Network (ICON) monitoring stations, which provide near real time *in-situ* sea temperature data along the outer reef tract throughout the Florida Keys, confirms that sea temperatures have decreased to near 30°C or below (Fig.3), likely due in part to breezy conditions observed during most of the past 2 weeks (Fig 4) *In-situ* sea temperature data is currently only available at Molasses Reef and Fowey Rocks. Sand Key is not recording any data at this time. 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.

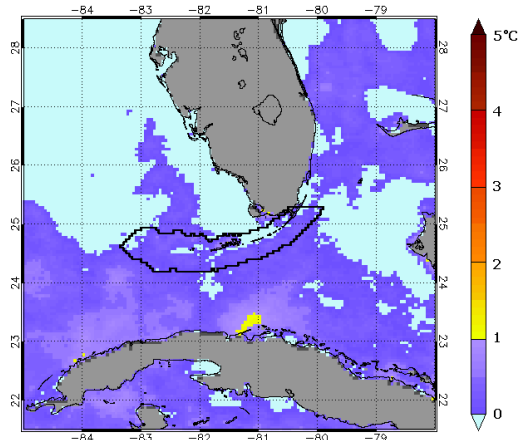


Figure 2. NOAA's Experimental 5km Coral Bleaching HotSpot Map for Florida September 24, 2015.
<http://coralreefwatch.noaa.gov/regions/florida.php>

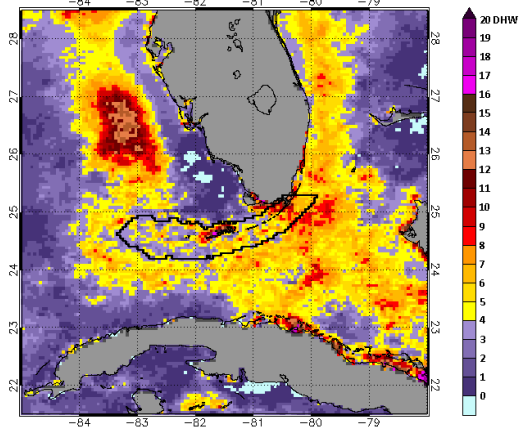


Figure 3. NOAA's Experimental 5km Degree Heating Weeks Map for Florida September 24, 2015.
<http://coralreefwatch.noaa.gov/regions/florida.php>

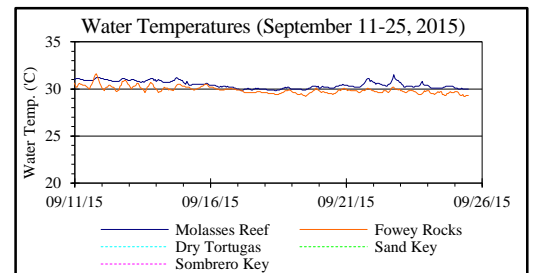


Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (September 11-25, 2015).

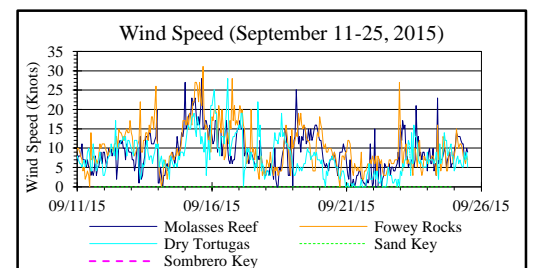


Figure 5. Wind speed data from NOAA/ICON monitoring stations (September 11-25, 2015).



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Current Coral Conditions

A total of 39 BleachWatch Observer reports were received during the last two weeks (Fig. 6), with 27 reports indicating isolated colonies exhibiting signs of paling and partial bleaching (Fig. 7) and an additional 12 reports noting significant bleaching (Fig. 8). The overall percentage of corals exhibiting signs of thermal stress at sites visited ranged from 31-75%, with several sites in the Middle and Upper Keys at 76-100% affected.



Photo: MML

Figure 7. Healthy, paling and partially bleached corals at Wonderland Reef off the Lower Keys on 9/23/15.

Paling and partial bleaching observations consisted of nearly all species including Brain corals, Encrusting/Mound/Boulder corals, Flower corals, Branching/Pillar corals, Fleshy corals, and Leaf/Plate corals. Other observations included bleached *Palythoa spp.*, Fire Coral, and Gorgonians as well as

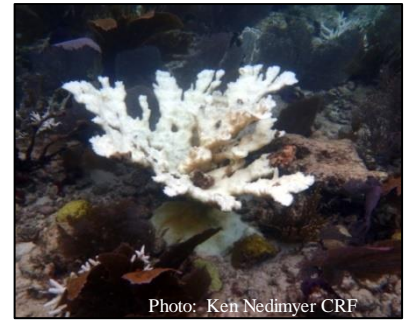


Photo: Ken Nedimyer CRF

Figure 8. Bleached *Acropora palmata* at Conch Reef on 9/14/15.

several reports of Black Band and White Plague Disease affecting various corals throughout the Florida Key's Reefs.

Despite these widespread visual observations of coral bleaching, recent changes in environmental conditions make the onset of a significant and sustained mass bleaching event unlikely at this time. However, additional field observations are needed to determine the range, duration, and severity of coral bleaching impacts throughout the remainder of the summer.

Bleach Watch Reports for September 11-25, 2015

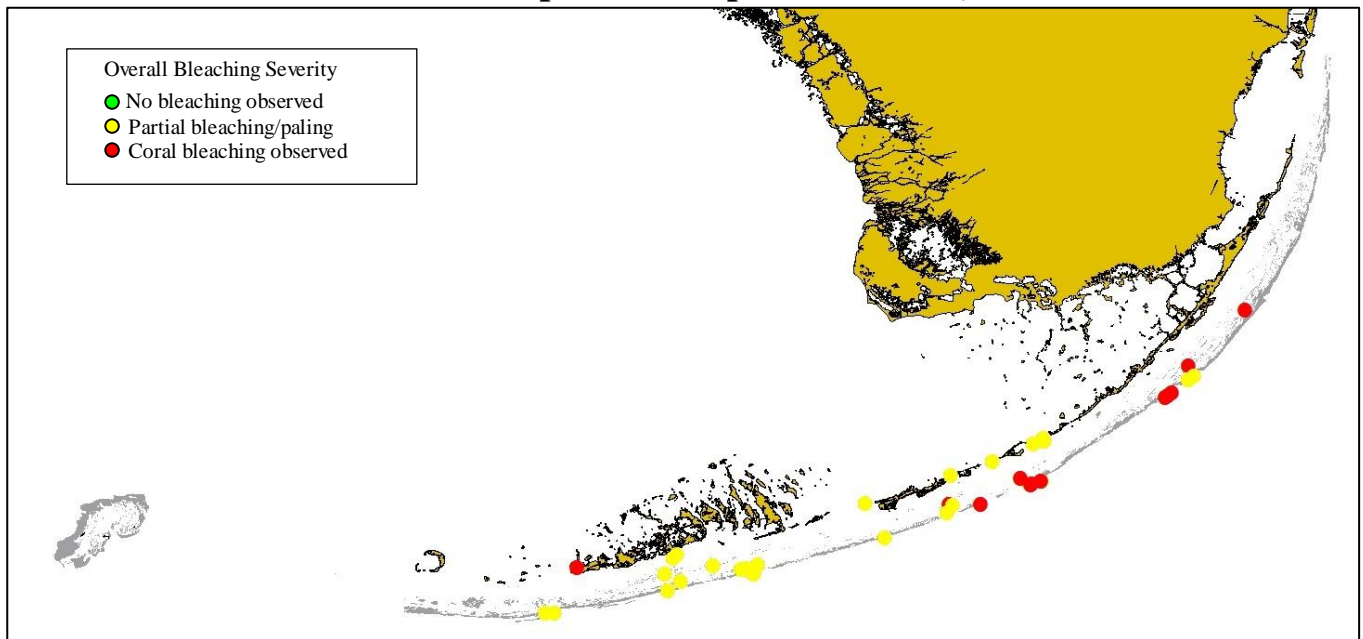


Figure 6. Overview of BleachWatch observer reports submitted from September 11-25, 2015.

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

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