

Florida Department of Environmental Protection Coral Reef Conservation Program **SEAFAN BleachWatch Program** **Current Conditions Report #20160831** **August 31, 2016**

Summary: Based on climate predictions and field observations, the threat for mass coral bleaching in southeast Florida between Miami-Dade and Martin counties is **MODERATE** as of August 31, 2016.

Environmental Monitoring

Climate predictions for this current conditions report are based on NOAA's Coral Reef Watch (CRW) satellite imagery products, which summarize sea surface temperature (SST) data and provide an indication as to when conditions are favorable for coral bleaching. The current CRW 5-kilometer (km) Coral Bleaching Alert Area indicates that the southeast Florida region is presently experiencing moderate thermal stress, the entire region is now under a bleaching warning (Figure 1):

- NOAA's experimental 5-km Bleaching Hotspot Map (Figure 2) compares current SST to the maximum monthly mean, which is the average temperature during the warmest month of the year. Corals start to become stressed when SST is 1°C greater than the highest monthly average. As of August 29, SST is still slightly elevated and has reached the 1°C Hotspot bleaching threshold particularly in Miami-Dade and Broward counties.
- Coral bleaching risk increases if the temperature stays elevated for an extended period of time. NOAA's experimental 5-km Degree Heating Weeks (DHW) Map (Figure 3) shows the accumulation of temperature stress over the previous 12 weeks, with 1 DHW equal to one week at 1°C greater than the maximum monthly mean. Currently, this map indicates that temperature stress continues to accumulate in Miami-Dade and Broward Counties.
- Near real-time data from CRW's new 5-km Satellite Regional Virtual Station for southeast Florida indicates that SST in the region is currently above the monthly average, and is continuing to hover around the bleaching threshold (Figure 4).

The Florida Department of Environmental Protection's Coral Reef Conservation Program staff will continue to monitor NOAA's Hotspot, DHW and Alert Area maps, as well as Virtual Station data for the remainder of the summer bleaching season.

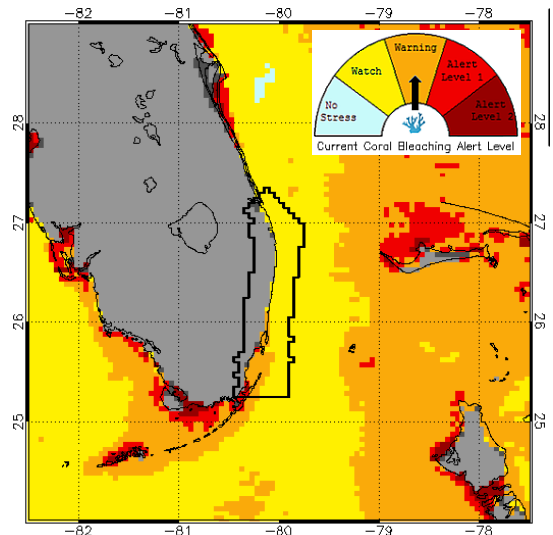


Figure 1. NOAA Coral Reef Watch Bleaching Alert Area for August 29, 2016.
<http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.php>

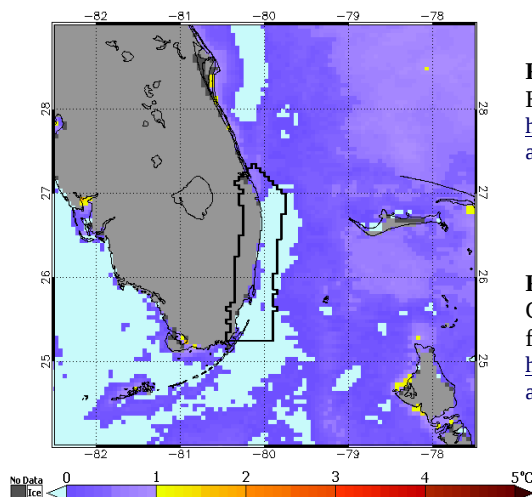
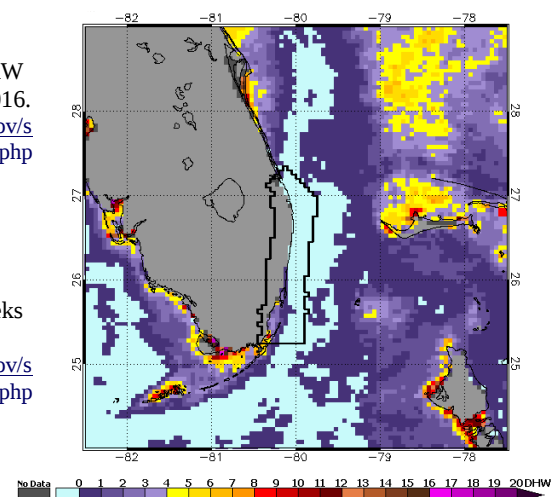


Figure 2 (left). NOAA CRW Hotspots for August 29, 2016.
<http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.php>

Figure 3 (right). NOAA CRW Degree Heating Weeks for August 29, 2016.
<http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.php>



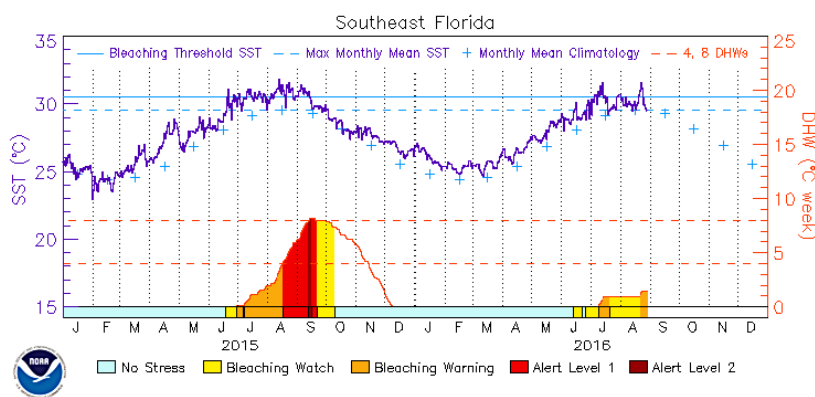


Figure 4. NOAA CRW Virtual Station Data; January 1, 2015 – August 29, 2016.
http://coralreefwatch.noaa.gov/vs/gauges/southeast_florida.php

bleaching (up to 51-75% in Broward). Five out of the seven reports also noted observations of coral disease particularly white plague disease affecting *Montastraea cavernosa* and one report of black band disease in Broward County (Figure 6).

Every report noted bleaching on Encrusting/Mound/Boulder corals (*Solenastrea bournoni*, *Porites astreoides*, *Siderastrea siderea*, *Montastraea cavernosa*, and *Stephanocoenia intersepta*). Two reports from Broward County observed bleaching in Brain corals (*Pseudodiploria strigosa* and *Meandrina meandrites*) with one noting partial bleaching in a Leaf/Plate/Sheet coral (*Undaria agaricites*). Several reports also noted bleached *Palythoa* spp, and one noted paling in Xesto sponges.

These isolated reports of paling and bleaching may indicate the onset of a mass bleaching event, however, more field observations from southeast Florida's reef are needed. The Southeast Florida Coral Bleaching Outlook indicates that the region is likely to experience reduced stress in the coming weeks. Due to the past two years of elevated thermal stress on corals throughout the region, BleachWatch Observers are encouraged to continue submitting observations on coral condition after every visit.



Figure 6. *Montastraea cavernosa* (right) with black band disease at Nursery Reef in Broward County on 8/6/16. *Siderastrea siderea* (left) is also showing signs of stress. Photo: Nikole Ordway.

Observer Network

A total of 7 BleachWatch Observer network reports were received over the last 15 days, including 2 from Miami-Dade, 4 from Broward, and 1 from Palm Beach. Of these reports, 1 reported a fully bleached colony of *Stephanocoenia intersepta*, *Solenastrea bournoni*, and *Meandrina meandrites* (Figure 5) at a site in Broward County. Three reported partially bleaching and 3 others reported paling from each county. Reports during this period have indicated a greater percentage of coral cover affected by



Figure 5. Bleached *Meandrina meandrites* at Hillsboro Ledges in Broward County on 8/25/16. Photo: Meghan Balling.

bleaching throughout the region, BleachWatch Observers are encouraged to continue submitting observations on coral condition after every visit. **Remember, reports of 'No Bleaching' are just as important as bleaching reports!** Please also note any coral diseases that you observe! To submit a report on coral condition in southeast Florida, or for more information on the SEAFAN BleachWatch program, please visit www.SEAFAN.net and click "BleachWatch".

For more information about SEAFAN BleachWatch or to organize a training session for your group to become a part of the Observer Network, please contact the Program Coordinator below.

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Program Partners

