

Summary: Based on climate predictions and field observations, the threat for mass coral bleaching in southeast Florida between Miami-Dade and Martin counties is **LOW** 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 slight thermal stress, and the entire region is under a bleaching watch (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. Current SST has dropped below the 1°C Hotspot bleaching threshold in the offshore reef habitats.
- 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 southeast Florida is still experiencing accumulated temperature stress from previously elevated temperatures in Miami-Dade and Broward Counties, although further accumulation has not occurred over the past month.
- 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).

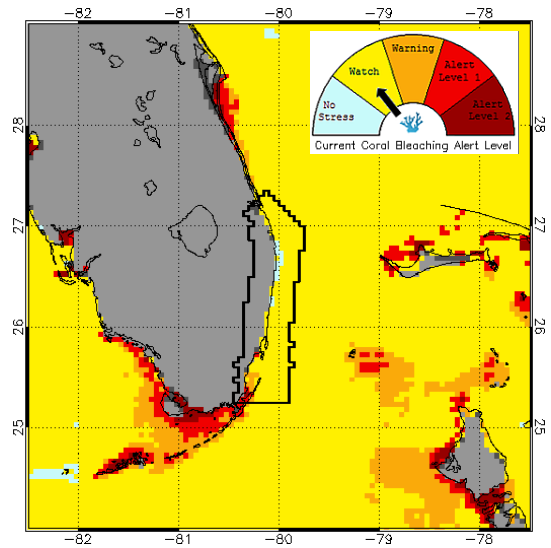


Figure 1. NOAA Coral Reef Watch Bleaching Alert Area for September 28, 2016.
<http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.php>

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.

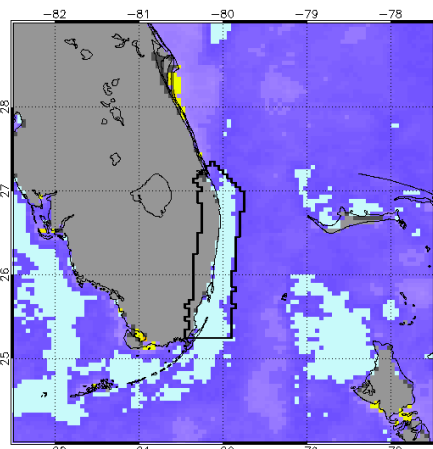
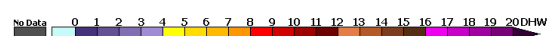
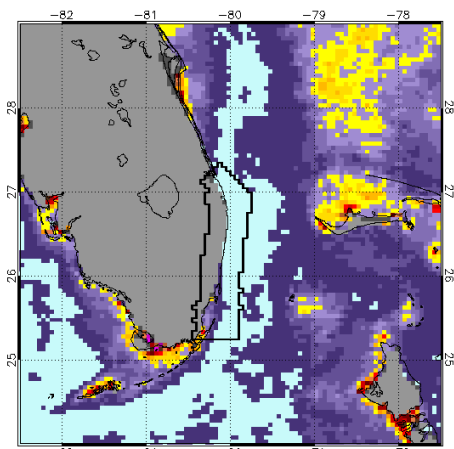


Figure 2 (left). NOAA CRW Hotspots for September 28, 2016.
<http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.php>

Figure 3 (right). NOAA CRW Degree Heating Weeks for September 28, 2016.
<http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.php>



Observer Network

A total of 24 BleachWatch Observer network reports were received over the last month, including 1 from Miami-Dade, 18 from Broward, and 5 from Palm Beach. Of these reports, 16 reported observations of partially bleaching and 6 reporting paling. Bleaching was observed in mound/boulder corals as deep as 80 ft in Palm Beach County. A single colony of *Porites furcata* and *Siderastrea radicans* were reported as fully bleached. Most of the reports during this period indicated 11-30% of the coral cover affected by bleaching with four reports in Broward County as high as 51-75% affected. One reporter did not observe signs of bleaching, however, noted that many corals were either dead or infected with disease. Fourteen other reporters also noted signs of disease,



Figure 5. Bleached and diseased *Montastraea cavernosa* at Sunkist Reef in Broward County on 8/28/16. Photo: Nikole Ordway.

particularly white plague disease in *Montastraea cavernosa*, and one colony was observed to have disease *and* bleaching (Figure 5). All reports noted bleaching on Mound/Boulder corals including, *Solenastrea bournoni*, *Porites astreoides*, *Siderastrea siderea*, *Siderastrea radicans*, *Montastraea cavernosa*, *Stephanocoenia intersepta*, *Solenastrea bournoni*, and *Orbicella faveolata*. Seven of those reports observed additional bleaching in Brain corals including, *Pseudodiploria clivosa*, *Pseudodiploria strigosa*, and *Meandrina meandrites* (Figure 6). Two reports noted paling in Leaf/Plate/Sheet corals (*Undaria agaricites* and *Agaricia lamarcki*) and two others in Branching/Pillar corals (*Porites porites* and *Porites furcata*). Reports from Broward County also noted bleaching in *Palythoa* spp, and fire corals.

While observations of coral bleaching continue, according to the Southeast Florida Coral Bleaching Outlook, this region is unlikely to experience additional thermal 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. **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.

Kristi Kerrigan
Program Coordinator
FDEP Coral Reef Conservation Program
Phone: (305) 795-1204
Email: kristi.kerrigan@dep.state.fl.us
www.SEAFAN.net

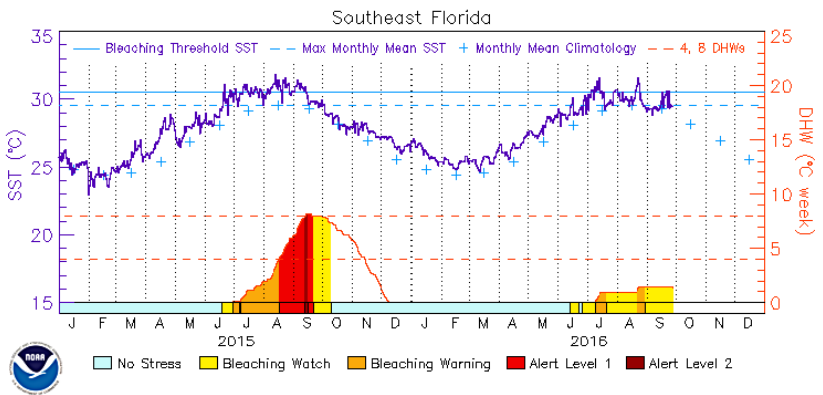


Figure 4. NOAA CRW Virtual Station Data; January 1, 2015 – September 28, 2016. http://coralreefwatch.noaa.gov/vs/gauges/southeast_florida.php

Fourteen other reporters also noted signs of disease, particularly white plague disease in *Montastraea cavernosa*, and one colony was observed to have disease *and* bleaching (Figure 5). All reports noted bleaching on Mound/Boulder corals including, *Solenastrea bournoni*, *Porites astreoides*, *Siderastrea siderea*, *Siderastrea radicans*, *Montastraea cavernosa*, *Stephanocoenia intersepta*, *Solenastrea bournoni*, and *Orbicella faveolata*. Seven of those reports observed additional bleaching in Brain corals including, *Pseudodiploria clivosa*, *Pseudodiploria strigosa*, and *Meandrina meandrites* (Figure 6). Two reports noted paling in Leaf/Plate/Sheet corals (*Undaria agaricites* and *Agaricia lamarcki*) and two others in Branching/Pillar corals (*Porites porites* and *Porites furcata*). Reports from Broward County also noted bleaching in *Palythoa* spp, and fire corals.



Figure 6. Partially bleached colony of *Meandrina meandrites* at Sunkist Reef in Broward County on 9/1/16. Photo: Nikole Ordway.

Program Partners

