

Current Conditions Report #20180730

July 30, 2018

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 July 30, 2018.

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 (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. Currently, SST is slightly elevated in south Miami-Dade County.

- 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 there is slight accumulated temperature stress in lower Miami-Dade County.

- Near real-time data from CRW’s new 5-km Satellite Regional Virtual Station for southeast Florida indicates that SST in the region is above the monthly average and right at the bleaching threshold (Figure 4).

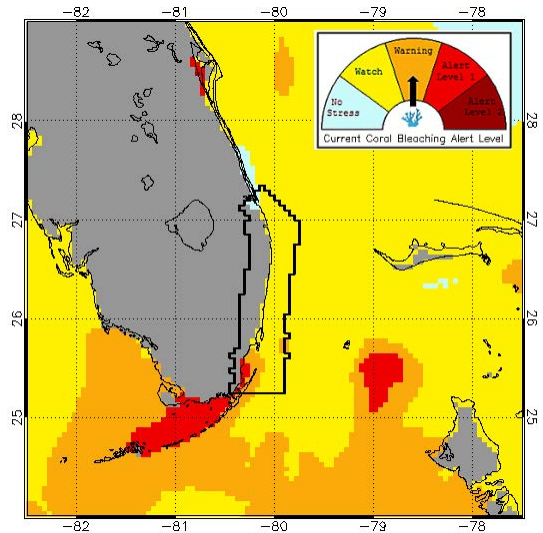


Figure 1. NOAA Coral Reef Watch Bleaching Alert Area for July 28, 2018.
https://coralreefwatch.noaa.gov/vs/gauges/southeast_florida.php

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.

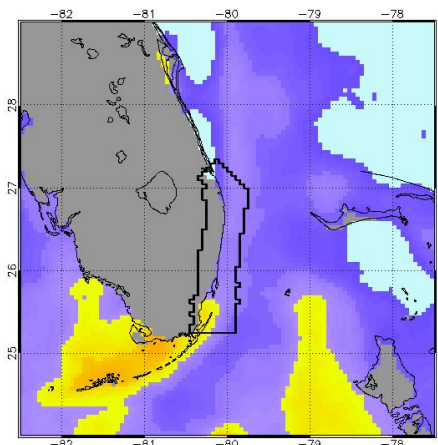


Figure 2 (left). NOAA CRW Hotspots for July 28, 2018.
<http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.php>

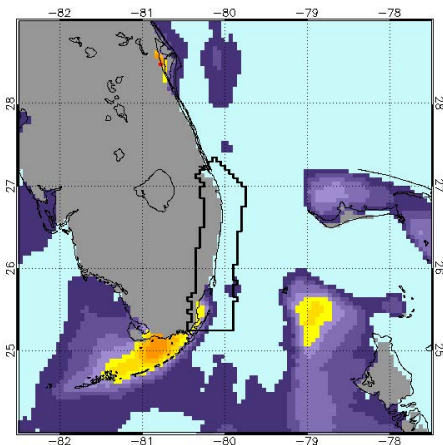


Figure 3 (right). NOAA CRW Degree Heating Weeks for July 28, 2018.
<http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.php>

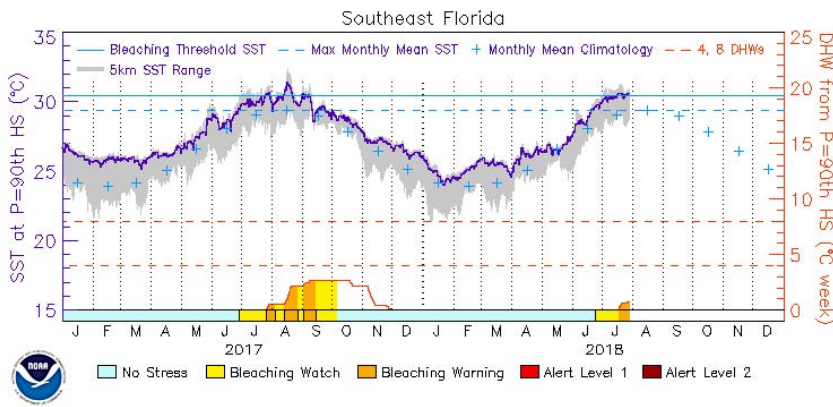


Figure 4. NOAA CRW Virtual Station Data; January 1, 2017 – July 28 2018.

http://coralreefwatch.noaa.gov/vs/gauges/southeast_florida.php

ft) across southeast Florida. Water temperature at the bottom varied from 82°F at the beginning of the month to 86°F at the end. Bleaching by type of coral did not vary as much with majority of the bleaching observed on Mound/Boulder corals and few paling observations on brains and leaf/plate/sheet corals. Commonly observed species included *Montastraea cavernosa*, *Siderastrea siderea*, and *Solenastrea bournoni* (Figure 5). Reports of coral disease were out outstanding with mostly a single report here and there. All disease reported was tissue loss (white) and were predominantly on Mound/Boulder corals (*Montastraea cavernosa*) with a single observation on a brain (*Pseudodiploria strigosa*) (Figure 6).

These isolated reports from July combined with NOAA's CRW SST projections may indicate the presence of a moderate bleaching event in southeast Florida. Water temperatures are warm enough for corals to undergo stress, particularly in Miami-Dade. If conditions continue to worsen through the region, widespread bleaching will be likely. The BleachWatch Observer Network is encouraged to



Figure 6. Tissue loss (white) disease observed on *Montastraea cavernosa* on July 7 in Palm Beach County. Photo credit: Marie Dugan.



Figure 5. Partial bleaching observed on *Undaria agaricia* on June 22 in Broward County. Photo credit: Marie Dugan.

continue submitting observations on coral condition after every visit to the reef throughout the bleaching season. Remember, reports of 'No Bleaching' and 'No Disease' are just as important as bleaching and disease reports! To submit a report on coral condition in southeast Florida, or for more information on the SEAFAN BleachWatch program, please visit www.SEAFAN.net/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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www.SEAFAN.net/BleachWatch

Program Partners



Observer Network

A total of 13 BleachWatch reports were received in July including 3 from Miami-Dade, 2 from Broward, 7 from Palm Beach, and 1 from Martin. Of these, 7 indicated observations of bleaching and 7 indicated observations of disease. Of the bleaching reports, majority indicated paling with one reporting partial bleaching and one bleached with 1-10% of the overall coral cover being affected. Corals exhibiting signs of thermal stress were observed in a broad depth range (12-70