Florida Department of Environmental Protection
Coral Reef Conservation Program

SEAFAN BleachWatch Program

Current Conditions Report #20161028

October 28, 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 **LOW** as of October 28, 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 no longer experiencing thermal stress. (Figure 1):

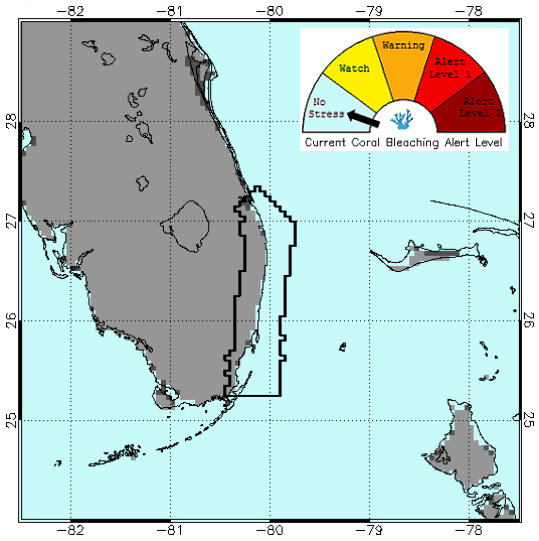

Figure 1. NOAA Coral Reef Watch Bleaching Alert Area for October 24, 2016. http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.php

- 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 remains below the 1°C Hotspot bleaching threshold and is not elevated in the region.
- 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 has continued to drop over the last 30 days and has remained below the maximum monthly mean (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 coral bleaching season.

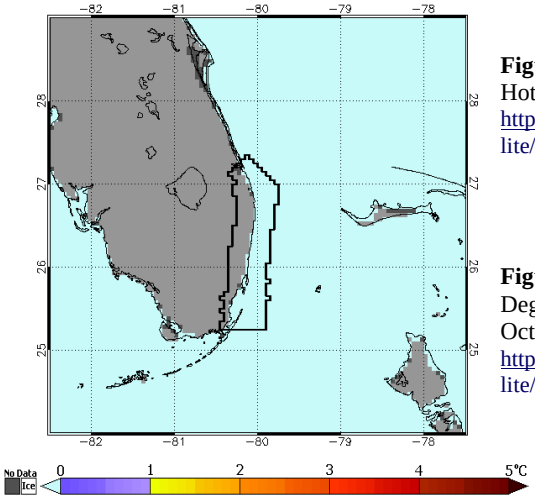

Figure 2 (left). NOAA CRW Hotspots for October 24, 2016. http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.php

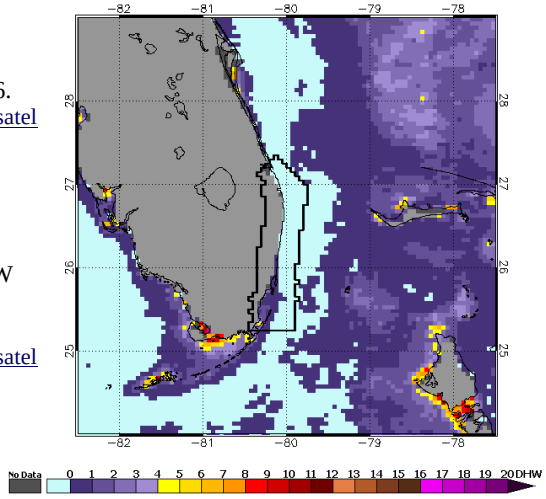

Figure 3 (right). NOAA CRW Degree Heating Weeks for October 24, 2016. http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.php

Observer Network

Only 9 BleachWatch Observer Network reports were received during the last month, three of which were submitted prior to Hurricane Matthew's arrival on October 6. Since Hurricane Matthew, severe winds and water conditions have prevented many diving activities. Of the 9 reports, 8 came from Broward and 1 from Palm Beach County. Although majority of the reports indicated paling, there were also reports of partially bleaching and fully bleaching in mound/boulder corals. Out of the 9 reports, 6 reported some variation of bleaching in less than 33% of the live coral tissue. The three most commonly observed corals affected by bleaching include, *Porites astreoides, Stephanocoenia intersepta,* and *Siderastrea siderea.* Other species include, *Dendrogyra cylindrus, Siderastrea radians, Solenastrea bournoni* (Figure 5), and *Undaria agaricites.* The depth range of reports varied from 11 to 60 feet, with the deepest observed in Palm Beach County. One report from Palm Beach County noted bleaching in the macroalgae, *Halimeda copiosa.*

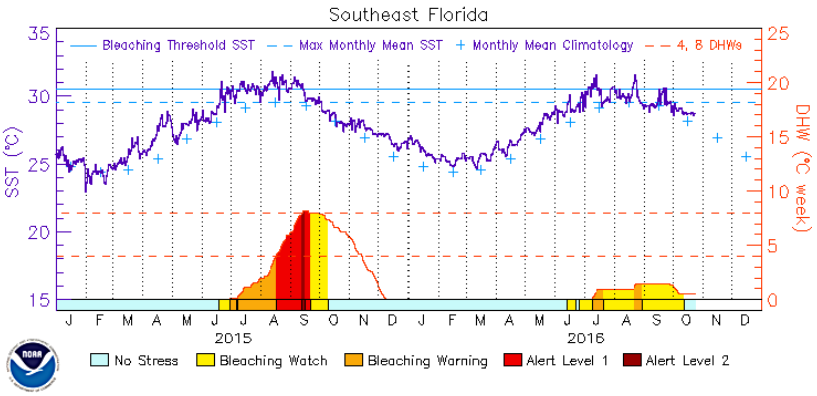

Figure 4. NOAA CRW Virtual Station Data; January 1, 2015 – October 24, 2016. http://coralreefwatch.noaa.gov/vs/gauges/southeast_florida.php

Figure 5. Paling colony of *Solenastrea bournoni* near John U Lloyd State Park in Broward County. Photo: Jarid Manos.

Disease was also noted in seven of the observer reports, particularly white plague disease in *Montastraea cavernosa,* but also in *Dendrogyra cylindrus* (Figure 6), *Porites asteroides, Solenastrea bournoni,* and *Stephanocoenia intersepta. D*ark spots disease was also noted at three separate sites in Broward County in *Siderastrea siderea.*

While observations of coral bleaching continue, the southeast Florida region is unlikely to experience additional thermal stress in the coming weeks. This current conditions report marks the end of the 2016 SEAFAN BleachWatch season. Overall, this bleaching season was not as significant when compared to 2014 or 2015, however, enough bleaching was reported that recovery is critical as conditions continue to improve.

Figure 6. Bleached and diseased colony of *Dendrogyra cylindrus* near Pompano Drop-off in Broward County. Photo: Nikole Ordway.

Many thanks to all of the BleachWatch observers and partners – see you in 2017!

For more information about SEAFAN BleachWatch or to organize a training session for your group to become a part of the Observer Network, please visit www.SEAFAN.net or 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

Program Partners