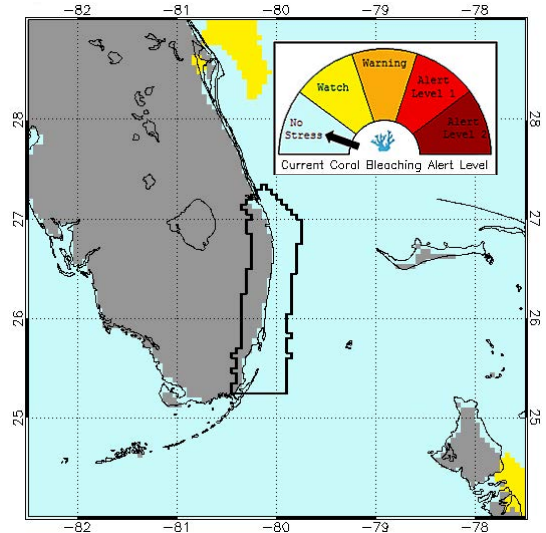


**October 11, 2019**

**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 7, 2019.

**Environmental Monitoring**

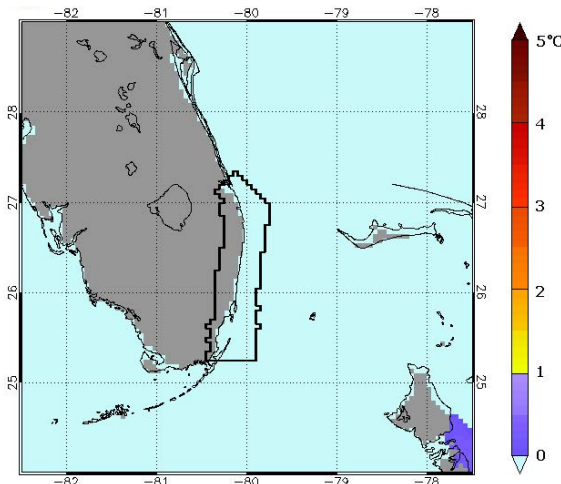
Climate predictions for this current conditions report are based on NOAA’s Coral Reef Watch (CRW) satellite imagery products, which summarize sea surface temperature (SST) data and provide an indication as to when conditions are favorable for coral bleaching. The current CRW 5-kilometer (km) Coral Bleaching Alert Area indicates that the southeast Florida region is presently experiencing no thermal stress (Fig. 1):



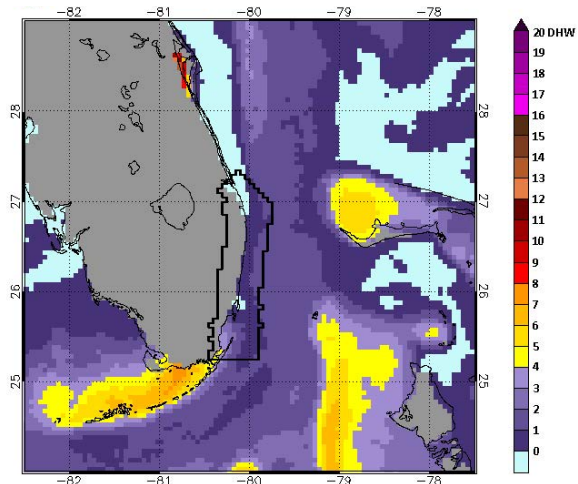
**Figure 1.** NOAA Coral Reef Watch Bleaching Alert Area for October 7, 2019. [https://coralreefwatch.noaa.gov/vs/gauges\\_southeast\\_florida.php](https://coralreefwatch.noaa.gov/vs/gauges_southeast_florida.php)

- NOAA’s experimental 5-km Bleaching Hotspot Map (Fig. 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 remains below that 1°C threshold.
- 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 (Fig. 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 has dropped below both the bleaching threshold and the maximum monthly average (Fig. 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.



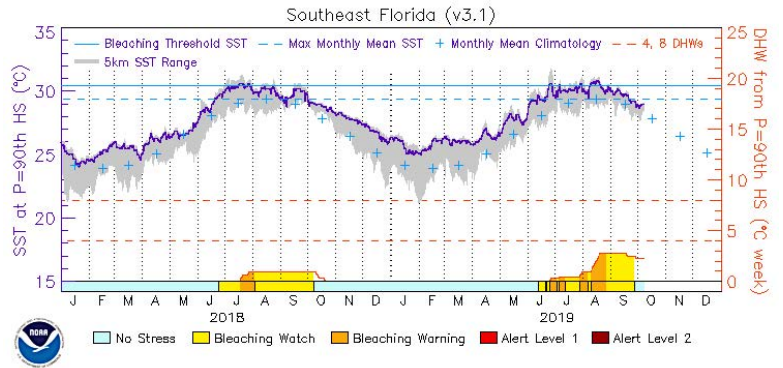
**Figure 2.** NOAA CRW Hotspots for October 7, 2019. <http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.php>



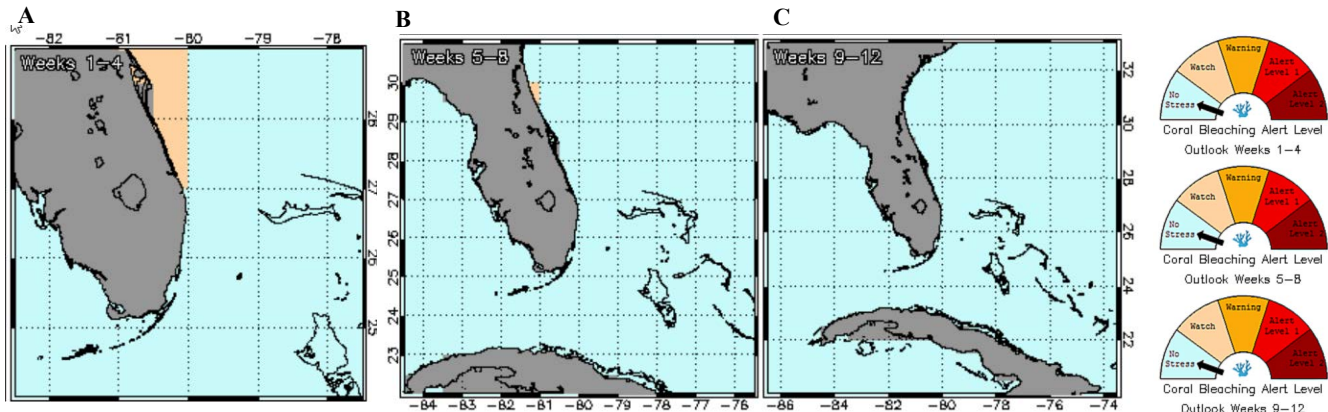
**Figure 3.** NOAA CRW Degree Heating Weeks for October 7, 2019. <http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.php>

## Observer Network

SSTs have continued to drop in southeast Florida, where they currently remain under the bleaching threshold. The Southeast Florida Satellite Coral Bleaching Alert Area Outlook for the upcoming 12 weeks predicts the coral bleaching alert level to remain at no thermal stress (Fig. 5). We have not received any reports of coral bleaching or coral disease in the southeast Florida region since the last Current Conditions Report. However, as the water temperatures start to cool, we anticipate Stony Coral Tissue Loss Disease will continue to spread in the southern-most portion of the Florida Reef Tract.



**Figure 4.** NOAA CRW Virtual Station Data; January 1, 2018 – October 7, 2019. [http://coralreefwatch.noaa.gov/vs/gauges/southeast\\_florida.php](http://coralreefwatch.noaa.gov/vs/gauges/southeast_florida.php)



**Figure 5.** NOAA CRW Southeast Florida Satellite 60% Probability Coral Bleaching Alert Outlook Areas for October 7, 2019 through December 2019. A) 1-4-Week Outlook for October 7, 2019 through November 4, 2019, B) 5-8 week outlook for November 4 through December 2, 2019, C) 9-12 week outlook for December 2, 2019 through December 30, 2019. [http://coralreefwatch.noaa.gov/vs/gauges/southeast\\_florida.php](http://coralreefwatch.noaa.gov/vs/gauges/southeast_florida.php)



**Figure 6.** Potential sponge orange band disease seen in Palm Beach County. Photo: Shana Phelan.



**Figure 7.** Condition affecting *Xestospongia muta* in Miami-Dade County. Photo: Sarah Thanner.

Although no recent reports of coral bleaching or disease have been submitted for the southeast Florida region, we have received two reports of deteriorated conditions in *Xestospongia muta*, the giant barrel sponge. Possible sponge orange band disease was observed affecting up to 70% of *X. muta* seen on recent dives (roughly September-October) by one dive operator in Palm Beach County (Fig. 6). Additionally, what appears to be partial bleaching has also been observed on September 10, 2019 in Miami-Dade County (Fig. 7). More observations are needed to determine if a sponge disease outbreak is currently affecting some of our primary habitat-forming species.

With the likelihood of little to no thermal stress in coming months and no recent submissions of coral bleaching observations, this Current Conditions Report marks the end of the 2019 SEAFAN BleachWatch season. Given the severity of the southeast Florida coral disease outbreak and recent observations of sponge incidents, we encourage the BleachWatch Observer Network to continue submitting their observations on coral condition after every dive on the reef and to report any unusual marine sightings in southeast Florida to SEAFAN: [www.SEAFAN.net](http://www.SEAFAN.net).

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

