Florida Department of Environmental Protection
Coral Reef Conservation Program

SEAFAN BleachWatch Program

Current Conditions Report #20190724

July 24, 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 July 24, 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 low thermal stress (Figure 1):

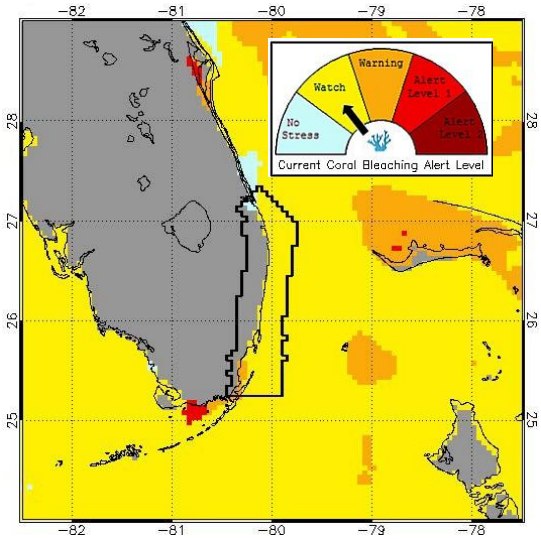

Figure 1. NOAA Coral Reef Watch Bleaching Alert Area for July 22, 2019.
https://coralreefwatch.noaa.gov/vs/gauges southeast_florida.php

- 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. 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 (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, but right below 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.

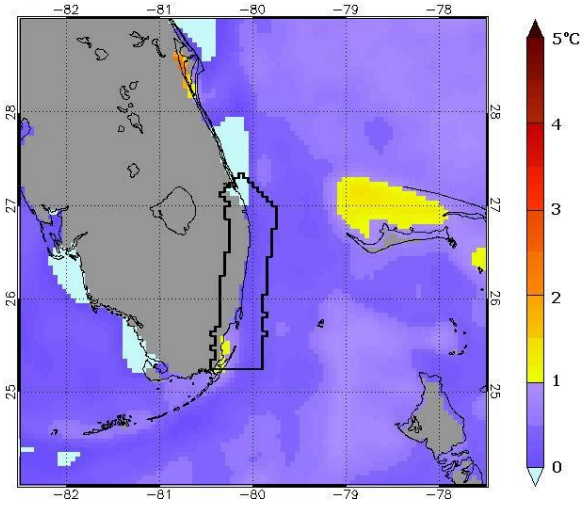

Figure 2. NOAA CRW Hotspots for July 22, 2019.
http://coralreefwatch.noaa.gov/s atellite/bleaching5km/index.php

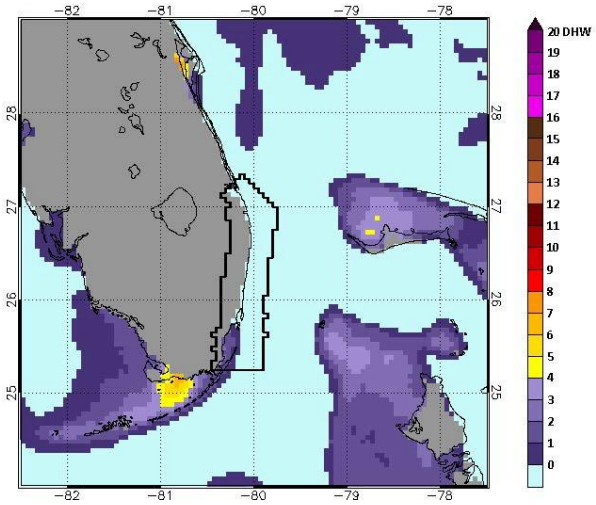

Figure 3. NOAA CRW Degree Heating Weeks for July 22, 2019.
http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.php

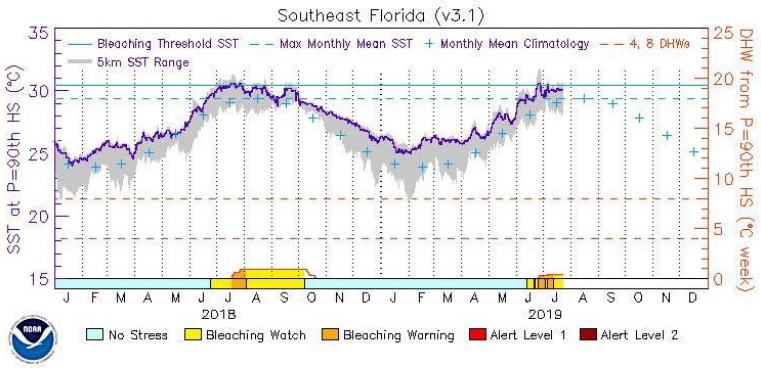

Figure 4. NOAA CRW Virtual Station Data; January 1, 2018 – July 22, 2019. http://coralreefwatch.noaa.gov/vs/gauges/southeast_florida.php

Observer Network

A total of 15 BleachWatch reports have been received for the year to date from the southeast Florida region, including 8 reports from Broward County, 5 reports from Palm Beach County, and 2 reports from Martin County. Of these reports, 9 indicated signs of bleaching and 5 indicated signs of disease. Of the 9 bleaching reports, 7 were observed in Broward County, 1 in Palm Beach County, and 1 in Martin County. The majority of bleaching observations indicated partial bleaching, with a couple of paling corals observed. The overall percentage of bleaching at the site varied from 1-75%. Bleached species included *Acropora cervicornis, Solenastrea bournoni, Montastraea cavernosa, Siderastrea siderea,* and two non- stony coral species: *Millepora* spp. (fire coral), and *Palythoa* spp.

Of the 5 reports of coral disease, all were observed in Broward County. Disease reports indicated the presence of white tissue loss diseases, black band, and growth anomalies. The overall percentage of coral cover diseased varied from 1-30% across sites. Diseased species included *Montastraea cavernosa, Colpophyllia natans, Pseudodiploria strigosa, Siderastrea siderea, Siderastrea radians*, and *Orbicella faveolata.*

Surface water temperatures in the region varied between 73-85°F from February through July, while bottom water temperatures in the region were slightly cooler, ranging from 73-83°F between January through May. Depth ranges of observed corals varied widely from 5-80'.

Figure 5. A type of white tissue loss disease observed on Montastraea cavernosa in Broward County on April 17, 2019. Photo by Evan Hovey.

Figure 6. Partial bleaching observed on *Siderastrea siderea* on June 9, 2019 in Broward County. Photo by Jason Spitz.

Currently, the likelihood of bleaching remains low throughout the southeast Florida region, however, there is potential for a greater bleaching threat if sea temperatures continue to rise over summer. With low numbers of BleachWatch reports submitted for the year, BleachWatch observers are encouraged to submit reports on coral bleaching and coral disease after every dive on the reef, particularly during the bleaching season (June-October), including reports of 'No Bleaching' and 'No Disease'. 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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Program Partners