

Summary: Based on climate predictions and field observations, the threat for mass coral bleaching in southeast Florida between Miami-Dade and Martin counties is remains **LOW**.

Environmental Monitoring

Climate predictions for this current conditions report are based satellite on NOAA Coral Reef Watch (CRW) imagery which summarize sea surface temperature (SST) products, data and provide an indication as to when conditions are favorable for coral bleaching. The current CRW 5 kilometer (km) Satellite Coral Bleaching Alert Area indicates that southeast Florida is currently experiencing No Stress (Figure 1). corals still be impacted by previous Although may thermal stress, these improved conditions will continue to allow for recovery.

NOAA's experimental 5-km Coral Bleaching Hotspots 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.



Figure 1. NOAA Coral Reef Watch Southeast Florida Satellite Coral Bleaching Alert Area. Nov. 15, 2015. <u>http://coralreefwatch.noaa.gov/vs/gauges/</u> <u>southeast_florida.php</u>

- Coral bleaching risk increases if the temperature stays elevated for an extended period of time. NOAA's 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, although further accumulation has not occurred over the past two weeks.
- Near real-time data from CRW's new 5-km Satellite Regional Virtual Station for southeast Florida indicates that SST in the region continues to drop and remains 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 reminder of the coral bleaching season.



Figure 2. NOAA CRW Southeast Florida Coral Bleaching Hotspots. November 15, 2015. <u>http://coralreefwatch.noaa.gov/vs/</u> gauges/southeast_florida.php

Figure 3. NOAA CRW Southeast Florida Degree Heating Weeks. November 15, 2015. <u>http://coralreefwatch.noaa.gov/vs/</u> gauges/southeast_florida.php

Observer Network

Only 3 reports received were from the BleachWatch Observer Network during the last month. While all reports indicated observations of stress, the predominant condition observed was paling or partial bleaching, indicating that initial recovery from the summer bleaching event may continue to be underway. The percentage of corals affected ranged from 11-30% and 31-50%. During this time frame bottom temperatures ranged from 80°F - 84°F (as opposed to a range of 80°F - 88°F during the last reporting period). which indicates that water temperatures are continuing to cool off.



Bleaching observations including were made for variety of species, Encrusting/Mound/ а Boulder corals (Stephanocoenia intersepta, Montastraea cavernosa). Brain corals (Colpophyllia natans), Fleshy corals and Branching/Pillar corals (Acropora cervicornis). Reports also noted the presence of bleached Gorgonians, Hydrocorals and *Palvthoa spp.* at the survey sites, and several reports also included ongoing observations of white plague disease.

While observations of coral bleaching continue, according to the Southeast Florida Coral Bleaching Outlook (Figure 5), the southeast Florida region is unlikely to experience additional thermal stress in the coming weeks, thus indicating that significant coral bleaching is not likely to occur during the rest of 2015. This current conditions report marks the end of the 2015 SEAFAN BleachWatch season. Overall environmental conditions and observer network reports indicated that coral bleaching was widespread throughout the southeast region, but that recovery is likely underway as conditions improve.

Many thanks to all of the BleachWatch observers and partners - see you in 2016!

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.



Figure 5. Southeast Florida 60% Probability Coral Bleaching Outlook for weeks 1-4 and 5-8; issued November 8, 2015. http://coralreefwatch.noaa.gov/vs/gauges/southeast_florida.php

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