



SEAFAN BleachWatch Program

CURRENT CONDITIONS REPORT #20220910

SEPT. 10, 2022



Summary: Based on climate predictions and field observations, the threat for mass coral bleaching in Southeast Florida between Miami-Dade and Martin counties is HIGH as of Sept. 10, 2022.

Bleaching Alert

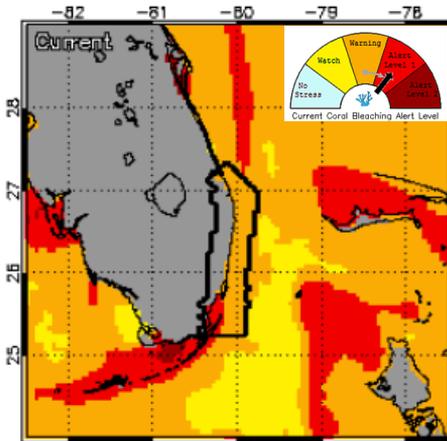


Figure 1. NOAA Coral Reef Watch Bleaching Alert Area for 9/10/2022

Hot Spot

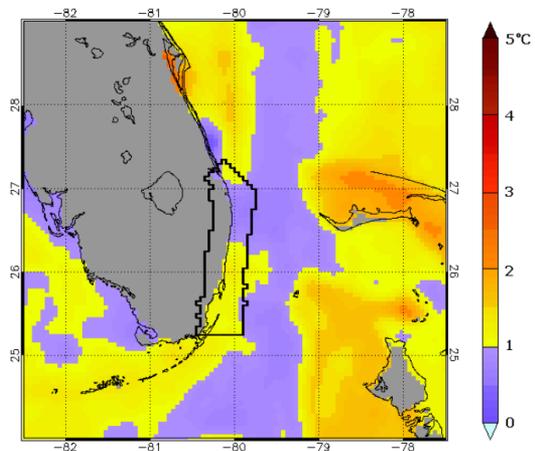


Figure 2. NOAA Coral Reef Watch Hot Spots for 9/10/2022

Degree Heating Week

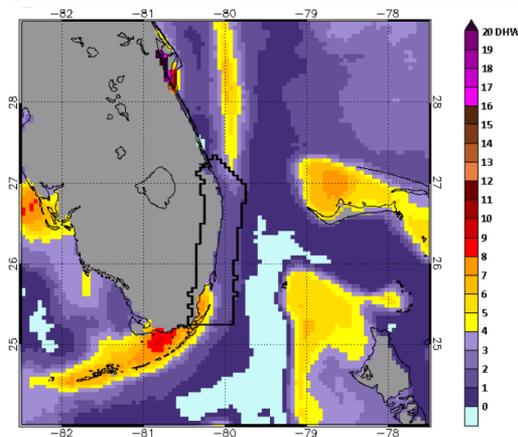


Figure 3. NOAA Coral Reef Watch Degree Heating Weeks for 9/10/2022

Virtual Station Data

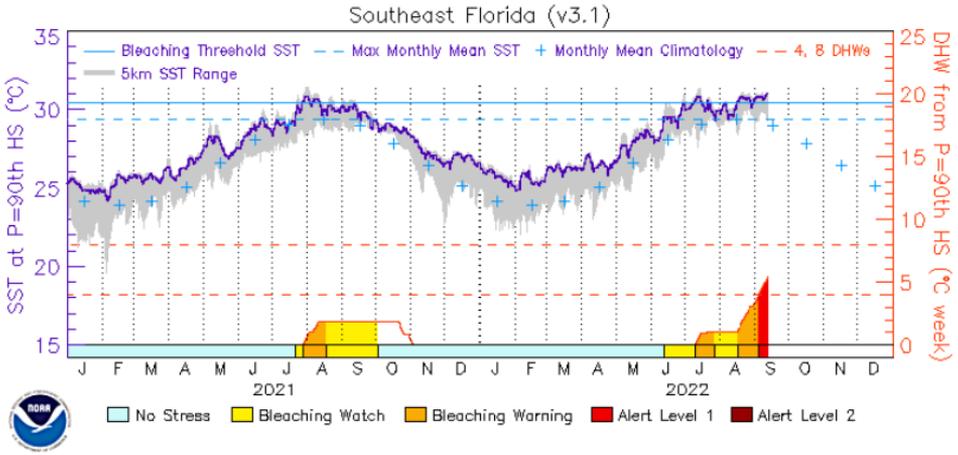


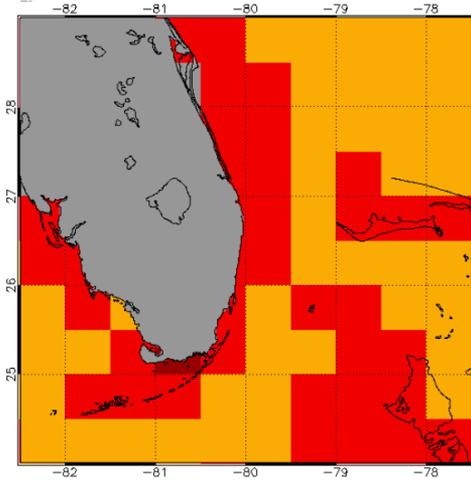
Figure 4. NOAA Coral Reef Watch Virtual Station Data
1/1/2021 – 9/10/2022

ENVIRONMENTAL MONITORING

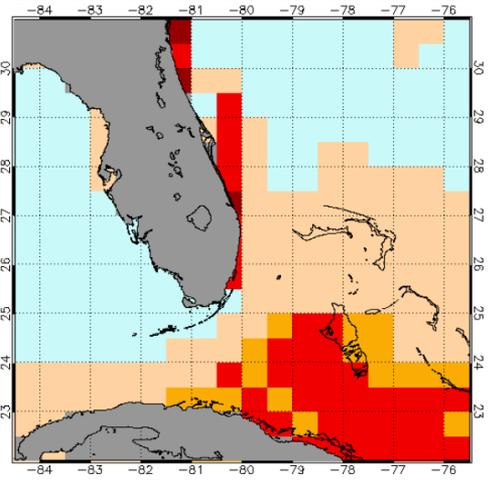
Climate predictions for this current conditions report are based on the National Oceanic and Atmospheric Administration's Coral Reef Watch (CRW) satellite imagery, which summarizes sea surface temperature (SST) data and provides an indication as to when conditions are favorable for coral bleaching. **The current CRW 5K Coral Bleaching Alert Area indicates that the Southeast Florida region is presently experiencing high thermal stress; the entire region is under an Alert Level 1 (Figure 1).**

- NOAA's experimental 5K Bleaching Hot Spot Map (**Figure 2**) compares current SST to the maximum monthly mean. Corals start to become stressed when SST is 1° C greater than the highest monthly average. **Currently, SST is elevated and has surpassed the 1° C Hot Spot bleaching threshold in much of Martin, Palm Beach, Broward and Miami-Dade counties.**
- Coral bleaching risk increases if the temperature stays elevated for an extended period of time. NOAA's experimental 5K 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 temperature stress has begun accumulating across the Southeast Florida region and is increasing at the fastest rate in Miami-Dade County.**
- Near real-time data from CRW's new 5K Satellite Regional Virtual Station for Southeast Florida indicates that **SST in the region is above the maximum monthly average and had surpassed the bleaching threshold of the region (Figure 4).**

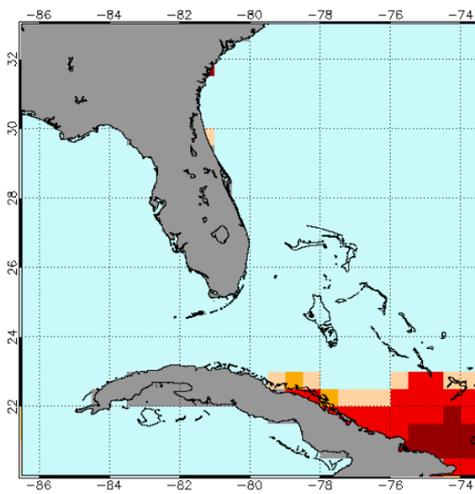
5A. One- to Four-Week Outlook



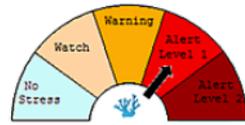
5B. Five- to Eight-Week Outlook



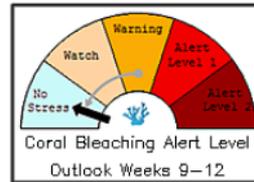
5C. Nine- to 12-Week Outlook



Coral Bleaching Alert Level
Outlook Weeks 1-4



Coral Bleaching Alert Level
Outlook Weeks 5-8



Coral Bleaching Alert Level
Outlook Weeks 9-12

Figure 5. NOAA CRW Southeast Florida Satellite 60% Probability Coral Bleaching Outlook Areas for June 28, 2022, through Sept. 10, 2022

SSTs have remained slightly higher than the monthly mean in Southeast Florida and are hovering near the bleaching threshold. The Southeast Florida Satellite Coral Bleaching Alert Area Outlook for the **upcoming four weeks** predicts that the region will be under an **Alert Level 1** (Figure 5A). The **five- to eight-week** outlook indicates that the region will be under an **Alert Level 1** (Figure 5B). The **nine- to 12-week** outlook indicates the region will be under **No Stress** (Figure 5C).

The Florida Department of Environmental Protection's Coral Reef Conservation Program will continue to monitor NOAA's Hot Spot, DHW and Alert Area maps as well as Virtual Station data for the remainder of the summer bleaching season.

OBSERVER NETWORK

The Southeast Florida Action Network (SEAFAN) BleachWatch Program has received 26 reports since Aug. 1, 2022. Of these, there were 22 reports of coral colonies exhibiting signs of paling, partial bleaching or fully bleached. The remaining four reports indicated no significant signs of coral bleaching were observed. Geographically, there were 13 reports from Palm Beach County, 10 reports from Miami-Dade County, two reports from Broward County and one report from Martin County.

At those sites where paling/partial bleaching/fully bleached was observed, the overall percentage of coral exhibiting signs of thermal stress was 1% to 30%. Most of the paling/partial bleaching/fully bleached observations included colonies of encrusting/mound/boulder corals (*Siderastrea spp.*, *Stephanocoenia intersepta*, *Orbicella spp.* and *Porites astreoides*) and leaf/plate/sheet corals (*Agaricia spp.*). There were also observations of bleached *Palythoa spp.* and fire coral.

Coral disease continues to pose a threat to [Florida's Coral Reef](#). There were no observations submitted for tissue loss, black band or growth anomalies this past month, but it is important to stay vigilant for observing disease while diving.

The next Current Conditions Report will be issued in early October. Given the rising temperatures over the next eight weeks and current Bleaching Alert Level 1, SEAFAN encourages the BleachWatch network to [submit reports](#) on coral bleaching and disease after every dive on the reef. This includes reports of "No Bleaching" and "No Disease."

For more information about [SEAFAN BleachWatch](#) or to take a [BleachWatch Training](#) and become a part of the observer network, please contact the Reef Resilience Coordinator at 561-681-6631 or email Coral@FloridaDEP.gov.

August Observation
Broward County



Figure 6. Partially bleached mustard hill coral (*Porites astreoides*), photo by Jenny Wuenschel

August Observation
Miami-Dade County



Figure 7. Bleached mustard hill coral (*Porites astreoides*), photo by Jack Benham

Observation
Broward County



Figure 8. Healthy great star coral (*Montastraea cavernosa*),
photo by Rachel Skubel

Program Partners



Florida Department of Environmental Protection
Southeast Florida Action Network (SEAFAN) BleachWatch