



SEAFAN BleachWatch Program

CURRENT CONDITIONS REPORT #20231009

OCT. 9, 2023



Summary: Based on climate predictions and field observations, the ongoing threat for severe heat stress that causes mass coral bleaching in the Kristin Jacobs Coral Reef Ecosystem Conservation Area (Miami-Dade to Martin counties) is **DECREASING**.

Bleaching Alert Area

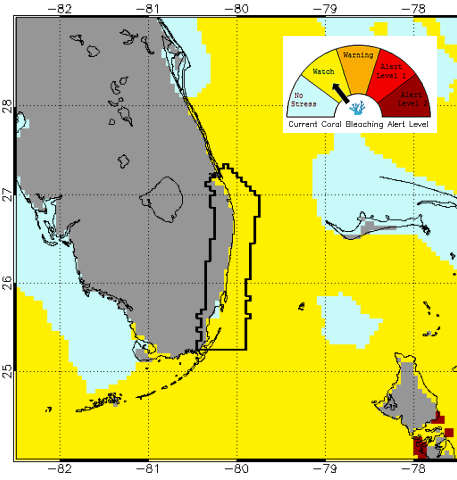


Figure 1. NOAA Coral Reef Watch Bleaching Alert Area for 10/9/2023

HotSpot

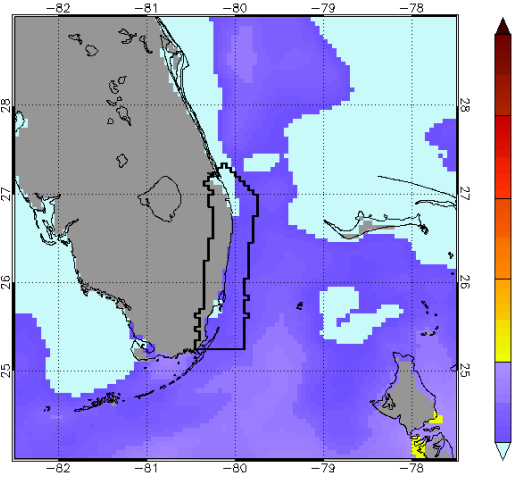


Figure 2. NOAA Coral Reef Watch Bleaching HotSpots for 10/9/2023

Degree Heating Week

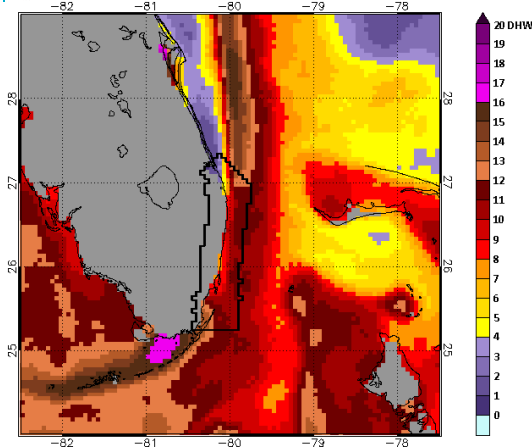
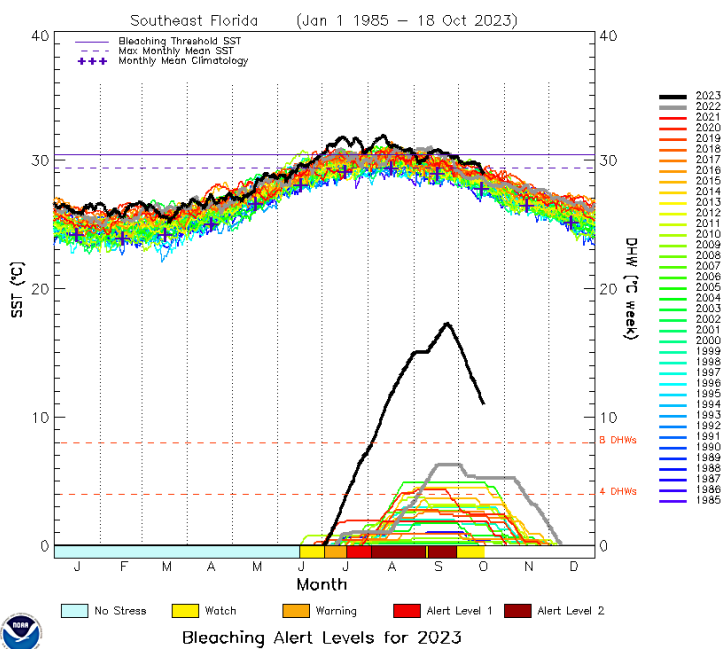
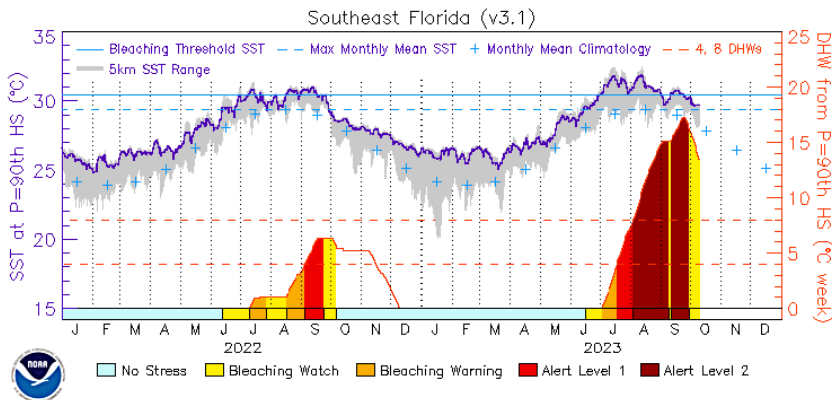


Figure 3. NOAA Coral Reef Watch Degree Heating Week for 10/9/2023

Regional Virtual Station Data



Bleaching Alert Levels for 2023

Figure 4. NOAA Coral Reef Watch Southeast Florida Regional Virtual Station Data. Top: Two-year time series graph of 1/1/2022 - 10/9/2023. Bottom: Multi-year time series graph of 1/1/1985 - 10/9/2023. In the multi-year time series graph, note that the black line is data from 2023; sea surface temperatures (SSTs) have been among the hottest on record all year, and the most recent spike is unprecedented in the satellite record (dating back to 1985).



ENVIRONMENTAL MONITORING

Climate predictions for this Current Conditions Report are based on the National Oceanic and Atmospheric Administration's (NOAA) Coral Reef Watch (CRW) satellite imagery, which summarizes coral bleaching heat stress conditions derived from satellite sea surface temperature (SST) data and provides an indication of when conditions are favorable for coral bleaching.

As of Oct. 9, 2023, NOAA CRW's daily 5km Coral Bleaching Alert Area indicates that the the Kristin Jacobs Coral Reef Ecosystem Conservation Area (Coral ECA) is under a "Bleaching Watch" and experiencing low thermal stress (Figure 1).

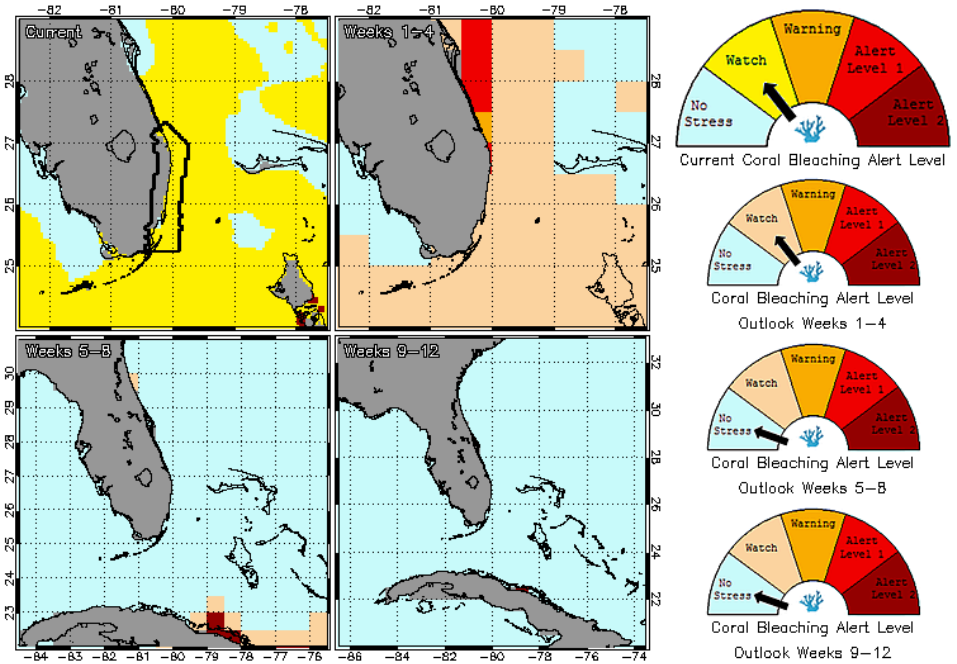
- NOAA CRW's daily 5km Coral Bleaching HotSpots map (Figure 2) compares the current SST to the maximum monthly mean (MMM) SST climatology. Corals can start to become stressed and show signs of bleaching when the SST is at least 1 degree Celsius greater than the MMM (i.e., HotSpot is ≥ 1 degree Celsius). **Currently, the SST is under the 1 degree Celsius HotSpot threshold.**
- Coral bleaching risk increases if the temperature stays elevated for an extended period of time. NOAA CRW's daily 5km Degree Heating Week (DHW) map (Figure 3) shows the accumulated heat stress over the previous 12 weeks, with 1 DHW (1 degree Celsius-week) equivalent to one week at 1 degree Celsius greater than the MMM. **Currently, this map indicates that temperature stress did accumulate across Southeast Florida and the maximum DHW since the beginning of July was ≥ 9 across most reefs.**
- Near real-time data from CRW's daily 5km satellite Regional Virtual Station for Southeast Florida, and CRW's new Single-pixel Virtual Stations (of which there are six for Southeast Florida) indicate that the **SST is still above the MMM climatology but has decreased below the bleaching threshold for the region since late September (Figure 4).**

The Southeast Florida Coral Bleaching Alert Area Outlook indicates that coral bleaching heat stress is concluding in the region and that this year's bleaching season should come to a close by the end of October.

The Florida Department of Environmental Protection's Coral Reef Conservation Program will continue to monitor NOAA's Coral Bleaching HotSpot, DHW, Bleaching Alert Area, and Outlook maps as well as the Regional and Single-Pixel Virtual Station data through the end of November.



Bleaching Alert Area Outlooks



NOAA CRW Southeast Florida Coral Bleaching Alert Area Outlook (60% Probability) for the weeks of October 9, 2023, through January 1, 2024.



OBSERVER NETWORK

BleachWatch has received 61 reports since Aug. 9, 2023. Geographically, there were six reports from Martin County, 19 reports from Palm Beach County, 14 reports from Broward County and 17 reports from Miami-Dade County. Five reports were submitted from Monroe County and referred to Mote Marine Laboratory's [Florida Keys BleachWatch Program](#).

Of the 56 reports for the Coral ECA, 35 indicated coral colonies were exhibiting signs of paling, partial bleaching or full bleaching. Geographically, there were two reports from Martin County, five reports from Palm Beach County, 11 from Broward County and 17 from Miami-Dade County. At those sites where paling/partial bleaching/full bleaching was observed, the overall percentage of coral exhibiting signs of thermal stress was 1-75%. Bleaching was observed on all coral types including brain, branching, fleshy, flowering/cup, leaf/plate/sheet and mound/boulder/encrusting corals. There were also observations of bleaching gorgonians (soft corals), *Palythoa* (spp), and fire coral.

Coral disease continues to pose a threat to Florida's Coral Reef. Of the 56 reports received for the Coral ECA since early August, there were 14 reports noting coral disease. Geographically, there were five from Palm Beach County, five from Broward County and four from Miami-Dade County. At those sites where disease was observed, the overall percentage of coral exhibiting signs of disease was 1-10%. Brain, branching, leaf/plate/sheet and mound/boulder/encrusting corals were showing signs of black band and/or tissue loss diseases. No reports of growth anomalies or unidentified diseases were recorded within the Coral ECA.

The next Current Conditions Report will be issued in November. While the heat stress is decreasing, ongoing impacts, including bleaching and disease are expected. The Southeast Florida Action Network (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". Frequent observer reports will be critical to help determine where coral colonies are recovering from bleaching stress and how long it takes to recover.

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. To view submitted SEAFAN BleachWatch reports, visit [the BleachWatch Dashboard](#).





Figure 6. Symmetrical brain coral (*Pseudodiploria strigosa*) experiencing tissue loss disease in Broward County. Photo by BleachWatch Observer Jenny Wuenschel.



Figure 7. Healthy mountainous star coral (*Orbicella faveolata*) colony in Miami-Dade County, Photo by BleachWatch Observer Dalton Hesley.

The threat for mass coral bleaching for the southern portion of Florida's Coral Reef, between Miami-Dade and Monroe counties, reached its peak in late September 2023 and has continued into the beginning of October.

[Learn more about the current conditions for this portion of the reef.](#)

Please note the date of this Current Conditions Report is Oct. 9, 2023. For up-to-date, near real-time monitoring and predictions of heat stress in southern Florida, please visit the [NOAA Coral Reef Watch website](#). Please also contact coralreefwatch@noaa.gov with any questions or comments.

Program Partners

