



Mote Marine Laboratory / Florida Keys National Marine Sanctuary
Coral Bleaching Early Warning Network
Current Conditions Report #20230630



Updated June 30, 2023

Summary: Based on climate predictions, current conditions, and field observations, the threat for mass coral bleaching within the FKNMS is currently **MODERATE**.

NOAA Coral Reef Watch Current and 60% Probability Coral Bleaching Alert Outlook June 29, 2023 (experimental)

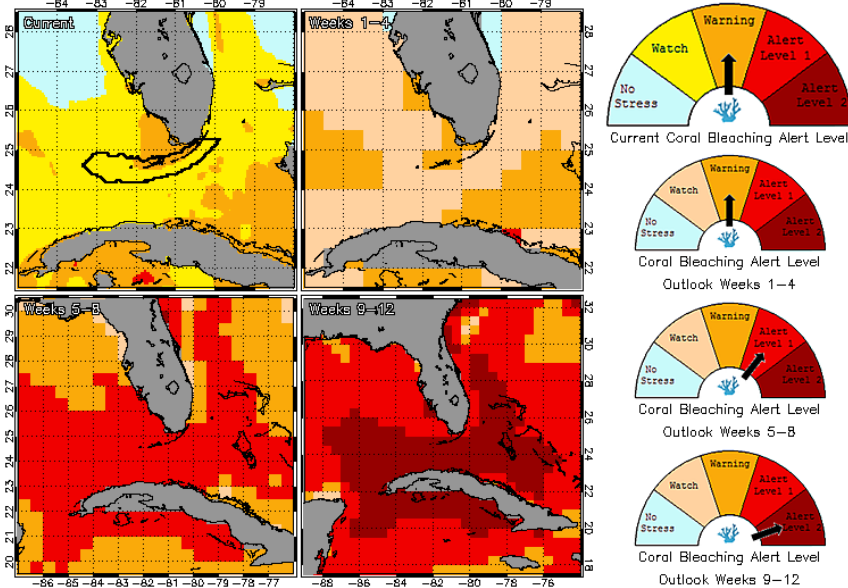


Figure 1. NOAA's 5 km Experimental Current and 60% Probability Coral Bleaching Alert Outlook Areas through September 2023. Updated June 29, 2023.

https://coralreefwatch.noaa.gov/product/vs/gauges/florida_keys.php

Weather and Sea Temperatures

According to the newly released NOAA Coral Reef Watch (CRW) experimental 5-kilometer (km) Satellite Current and 60% Probability Coral Bleaching Alert Area, some areas of the Florida Keys National Marine Sanctuary are under a bleaching Warning, with the potential for more bleaching warnings and alerts if sea temperatures continue to increase in the next few weeks (Fig. 1).

Recent remote sensing analysis by NOAA's CRW program indicates that most of the Florida Keys region is currently experiencing thermal stress. NOAA's new experimental 5 km Coral Bleaching HotSpot Map (Fig. 2), which illustrates current sea surface temperatures compared to the average temperature for the warmest month, shows sea surface temperatures are currently elevated above normal in the Florida Keys. Similarly, NOAA's experimental 5 km Degree Heating Weeks (DHW) map, which illustrates how much heat stress has built up over the past 12 weeks (Fig.3), indicates accumulating temperature stress currently evident in the Florida Keys region.

NOAA's Integrated Coral Observing Network (ICON), which provides near real time *in-situ* wind data at Sombrero Reef, as well as Mote Marine Laboratory (MML) and Pacific Marine Environmental Laboratory (PMEL) *in-situ* temperature data confirm that temperatures have been steadily increasing over the past four weeks, with several areas at 30°C or well above (Fig.4), likely due in part to lighter wind conditions during this period (Fig. 5). Mote Marine Laboratory will continue to monitor the NOAA HotSpot maps, DHW maps, and ICON sea temperature data from NOAA monitoring stations on a weekly basis for the remainder of the bleaching season.

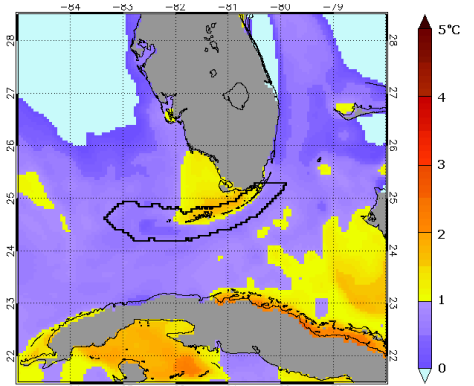


Figure 2. NOAA's Experimental 5km Coral Bleaching HotSpot Map for Florida June 29, 2023.

[NOAA Coral Reef Watch Website](https://coralreefwatch.noaa.gov)

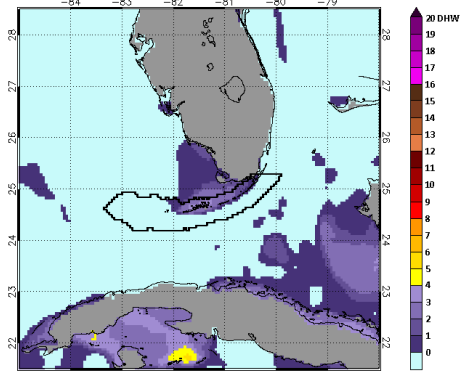


Figure 3. NOAA's Experimental 5km Degree Heating Weeks Map for Florida June 29, 2023.

[NOAA Coral Reef Watch Website](https://coralreefwatch.noaa.gov)

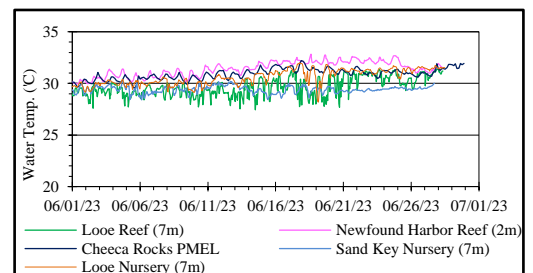


Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (June 1-30, 2023).

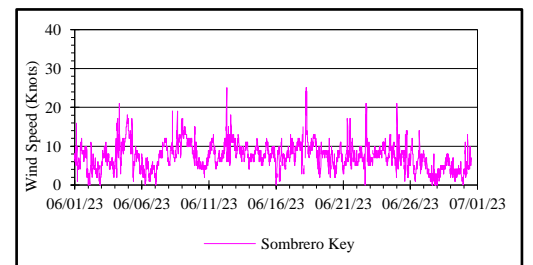


Figure 5. Wind speed data from NOAA/ICON monitoring stations (June 1-30, 2023).



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Current Coral Conditions

A total of 36 BleachWatch Observer reports were received during the month of June (Fig. 6), with 11 reports indicating isolated colonies exhibiting signs of paling or partial bleaching (Fig. 7). The remaining 25 reports indicated that no significant signs of coral bleaching were observed. At those sites where paling/partial bleaching was noted, the overall percentage of corals exhibiting signs of thermal stress was 1-10% and the majority of paling/partial bleaching observations consisted of isolated colonies of Encrusting/Mound/Boulder corals (*Siderastrea spp.*) and Brain corals. Other observations included paling of *Palythoa spp.*, as well as several reports of coral disease, mainly the Stony Coral Tissue Loss Disease (SCTLD) (Fig. 8).



Photo: Megan Gardner, BSA
 Figure 7. Paling *Colpophyllia natans* at Newfound Harbor on 6/23/2023.



Photo: Norah Mendoza, I.C.A.R.E.
 Figure 8. *Orbicella faveolata* with SCTLD at Rocky Top on 6/23/2023.

Continued field observations are needed as widespread coral bleaching could potentially develop if environmental conditions continue to be favorable. Please remember to report even if there is no bleaching at your site. Report at www.mote.org/bleachwatch.

BleachWatch Reports for June 1-30, 2023

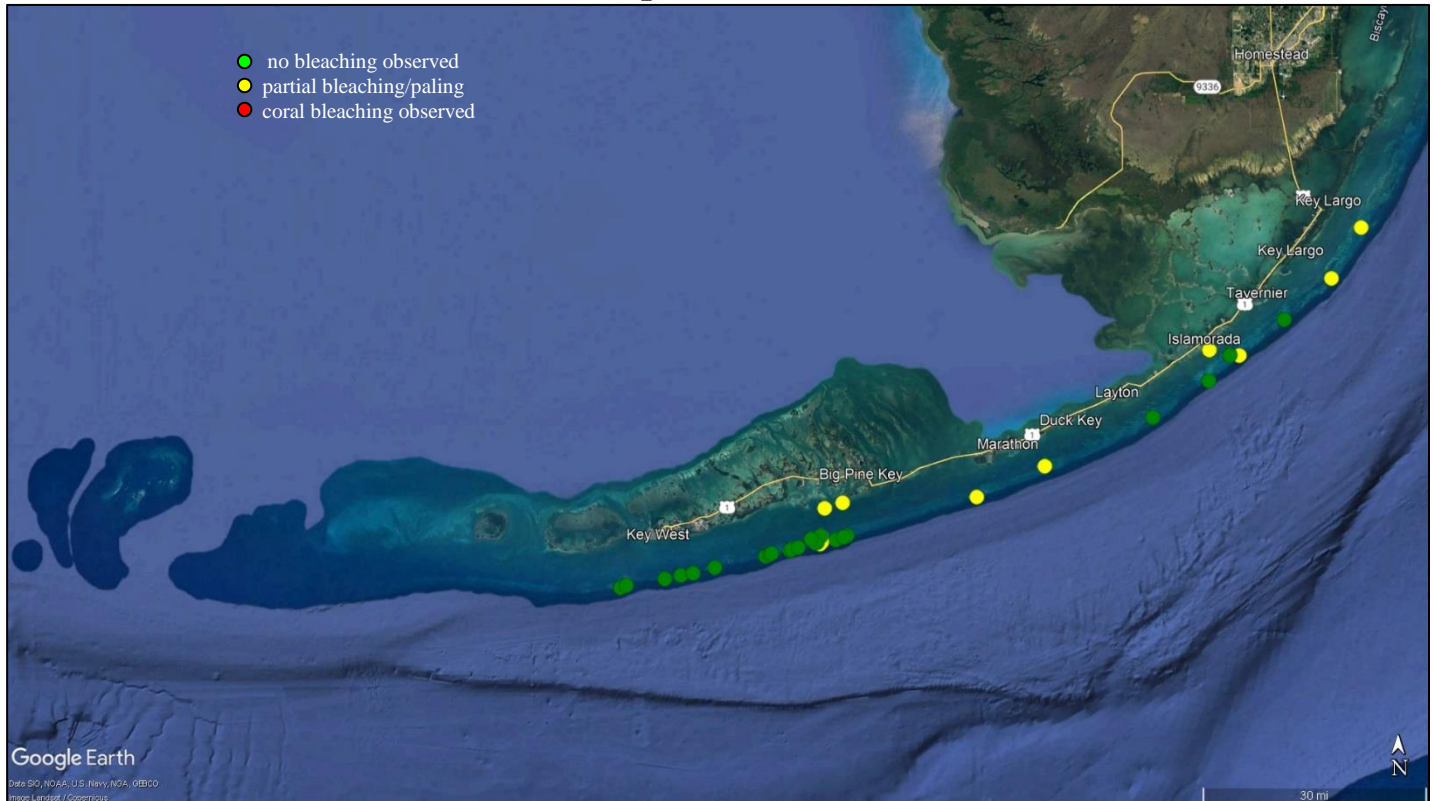


Figure 6. Overview of BleachWatch observer reports submitted from June 1-30, 2023

**For more information about the BleachWatch program,
 or to submit a bleaching observation, contact:**



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<http://www.mote.org/bleachwatch>

FUNDING THANKS TO....

