

Mote Marine Laboratory / Florida Keys National Marine Sanctuary

Coral Bleaching Early Warning Network

Current Conditions Report #20210818



Updated August 18, 2021

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

NOAA Coral Reef Watch Current and 60% Probability Coral Bleaching Alert Outlook August 16, 2021 (experimental)

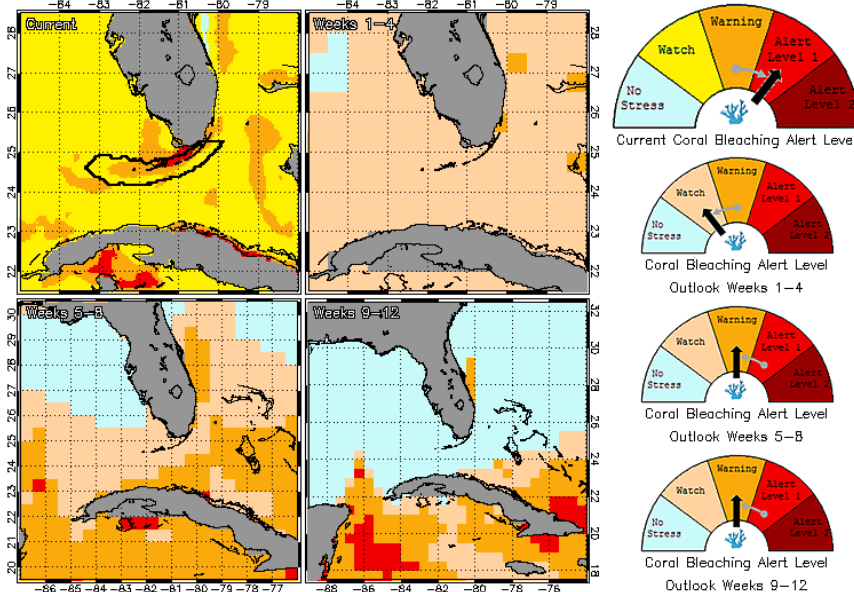


Figure 1. NOAA's 5 km Experimental Current and 60% Probability Coral Bleaching Alert Outlook Areas through November 2021. Updated August 16, 2021. http://coralreefwatch.noaa.gov/vs/gauges/florida_keys.php

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, most areas of the Florida Keys National Marine Sanctuary are under a bleaching Warning or Alert Level 1, which means significant bleaching likely and the potential exists 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 the Florida Keys region is currently experiencing elevated 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 accumulated temperature stress currently evident in the Florida Keys region. NOAA's Integrated Coral Observing Network (ICON) and Pacific Marine Environmental Laboratory (PMEL) monitoring stations, which provide near real time *in-situ* sea temperature and wind data along the outer reef tract throughout the Florida Keys as well as Mote Marine Laboratory (MML) *in-situ* temperature collected at Looe Key SPA, Newfound Harbor SPA, and Sand Key Nursery confirm that temperatures have been steadily at or well above 30°C over the past two weeks (Fig.4), with the exception of Tropical Storm Fred's winds slightly cooling seas temperatures (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.

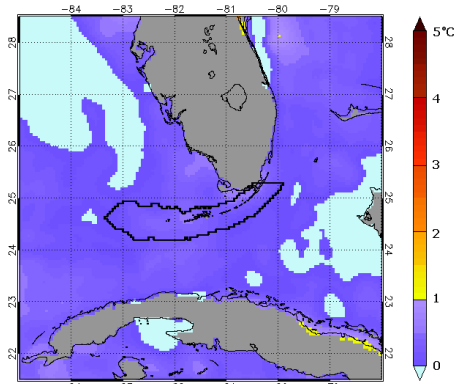


Figure 2. NOAA's Experimental 5km Coral Bleaching HotSpot Map for Florida August 16, 2021. https://coralreefwatch.noaa.gov/vs/gauges/florida_keys.php

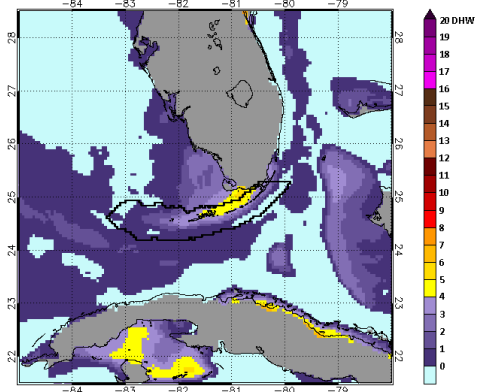


Figure 3. NOAA's Experimental 5km Degree Heating Weeks Map for Florida August 16, 2021. https://coralreefwatch.noaa.gov/vs/gauges/florida_keys.php

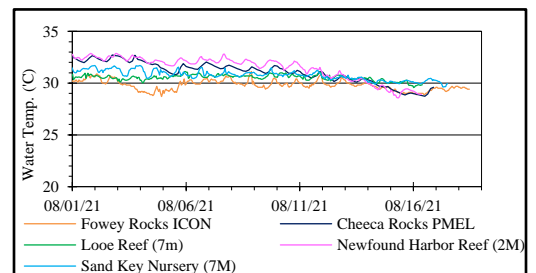


Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (August 1-18, 2021).

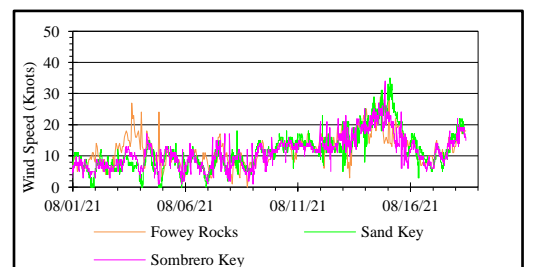


Figure 5. Wind speed data from NOAA/ICON monitoring stations (August 1-18, 2021).



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Current Coral Conditions

A total of 25 BleachWatch Observer reports were received the past two weeks (Fig.6), with 13 reports indicating isolated colonies exhibiting signs of paling or partial bleaching. The remaining 12 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%, with a few sites noted 11-30%. The majority of paling/partial bleaching observations consisted of isolated colonies of Encrusting/Mound/Boulder corals (*Siderastrea spp.*), Leaf/Plate/Sheer (*Agaricia spp.*) and Brain corals (*Colpohyllia natans*). Other observations included paling of *Palythoa spp.*, and Fire Coral (Fig. 7) as well as several reports of coral disease, mainly the Stony Coral Tissue Loss Disease (SCTLD) (Fig. 8).



Figure 7. Paling/bleaching fire coral at an inshore patch off Islamorada 8/1/2021.

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



Figure 8. *Siderastrea sidera* with Stony Coral Tissue Loss Disease at Eastern Dry Rocks on 8/5/2021.

BleachWatch Reports for August 1-17, 2021

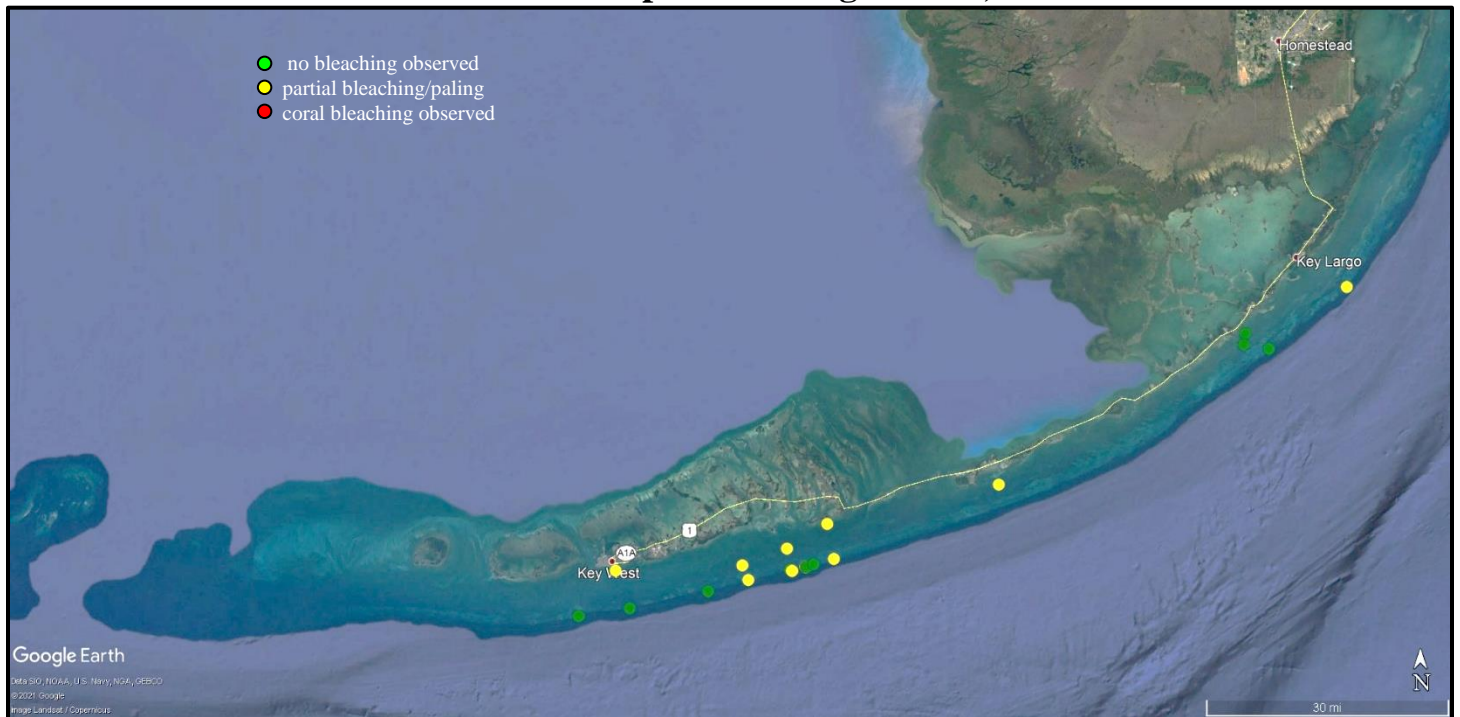


Figure 6. Overview of BleachWatch observer reports submitted from August 1-17, 2021

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



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FUNDING THANKS TO....

