



Mote Marine Laboratory / Florida Keys National Marine Sanctuary

Coral Bleaching Early Warning Network

Current Conditions Report #20220728



Updated July 28, 2022

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 July 27, 2022 (experimental)

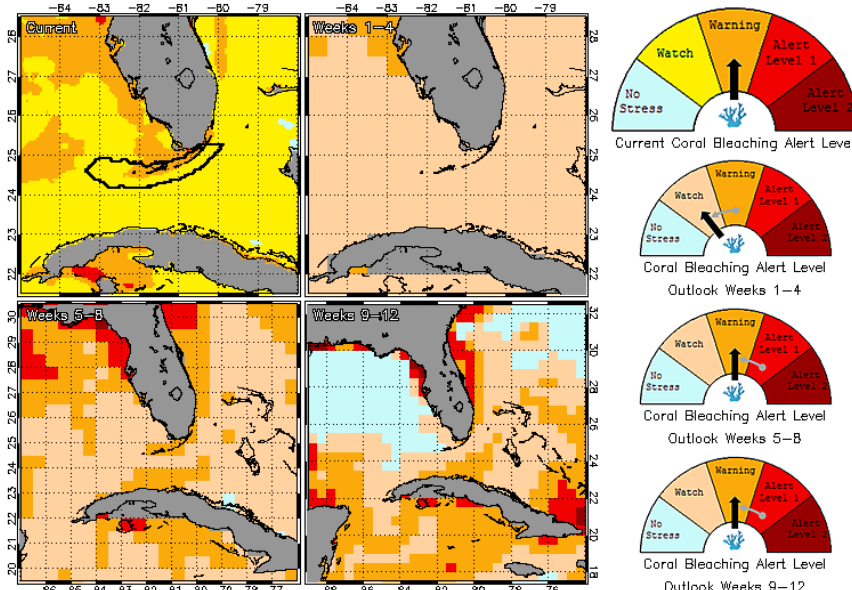


Figure 1. NOAA's 5 km Experimental Current and 60% Probability Coral Bleaching Alert Outlook Areas through October 2022. Updated July 27, 2022.
http://coralreefwatch.noaa.gov/vs/gauges/florida_keys.php

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, which means heat stress is accumulating 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 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's (MML) *in-situ* temperature collected at Looe Key SPA and Newfound Harbor SPA confirm that temperatures have been hovering around 30°C over the past two weeks (Fig.4), likely due in part to moderate to high winds 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.

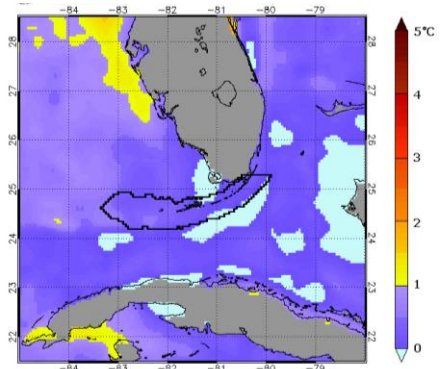


Figure 2. NOAA's Experimental 5km Coral Bleaching HotSpot Map for Florida July 27, 2022.
https://coralreefwatch.noaa.gov/vs/gauges/florida_keys.php

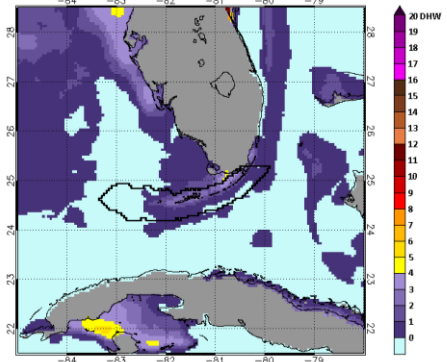


Figure 3. NOAA's Experimental 5km Degree Heating Weeks Map for Florida July 27, 2022.
https://coralreefwatch.noaa.gov/vs/gauges/florida_keys.php

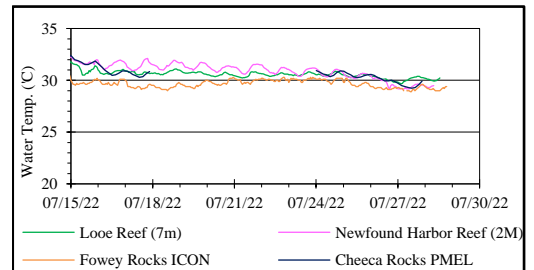


Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (July 15-28, 2022).

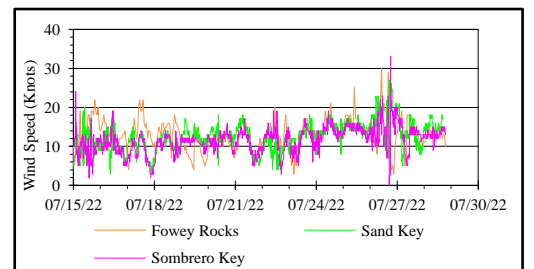


Figure 5. Wind speed data from NOAA/ICON monitoring stations (July 15-28, 2022).



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Current Coral Conditions



Photo: MML
 Figure 7. Paling/partial bleaching *C. natans* at an inshore patch reef off Big Pine 7/20/2022.

A total of 16 BleachWatch Observer reports were received the past two weeks (Fig.6), with 7 reports indicating isolated colonies exhibiting signs of paling or partial bleaching (Fig. 7 & 8). The remaining 9 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 *Porites astreoides*) and Brain Corals (*Colpophyllia natans*). Other observations included paling of *Palythoa spp.* and Fire Coral as well as several reports of coral disease, mainly the Stony Coral Tissue Loss Disease (SCTLD).



Photo: MML
 Figure 8. Paling *Siderastrea siderea* at a patch reef near Looe Key SPA on 7/28/2022.

(*Colpophyllia natans*). Other observations included paling of *Palythoa spp.* and Fire Coral as well as several reports of coral disease, mainly the Stony Coral Tissue Loss Disease (SCTLD).

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 July 15-28, 2022

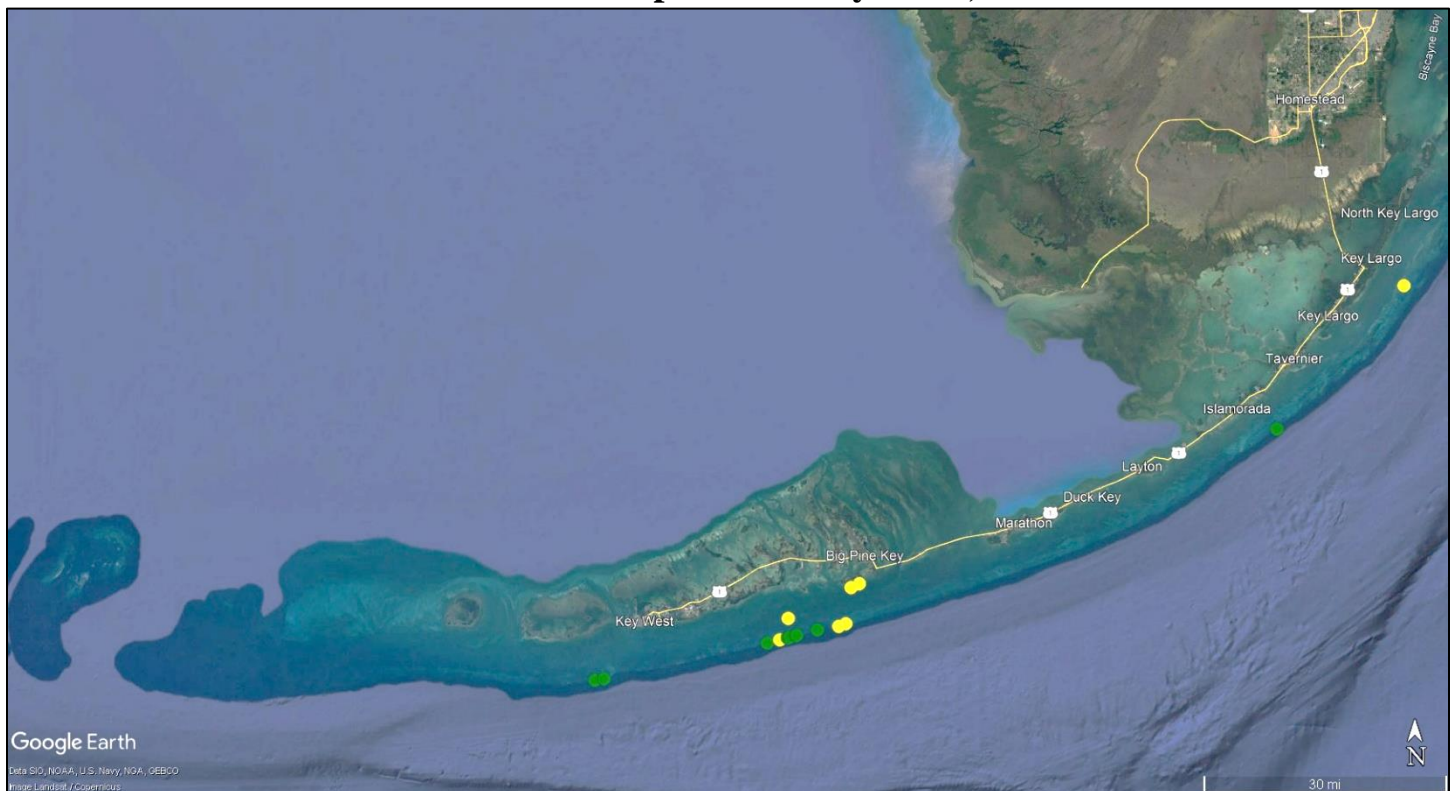


Figure 6. Overview of BleachWatch observer reports submitted from July 15-28, 2022

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



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