



Updated August 14, 2020

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

NOAA Coral Reef Watch Current and 60% Probability Coral Bleaching Alert Outlook August 13, 2020 (experimental)

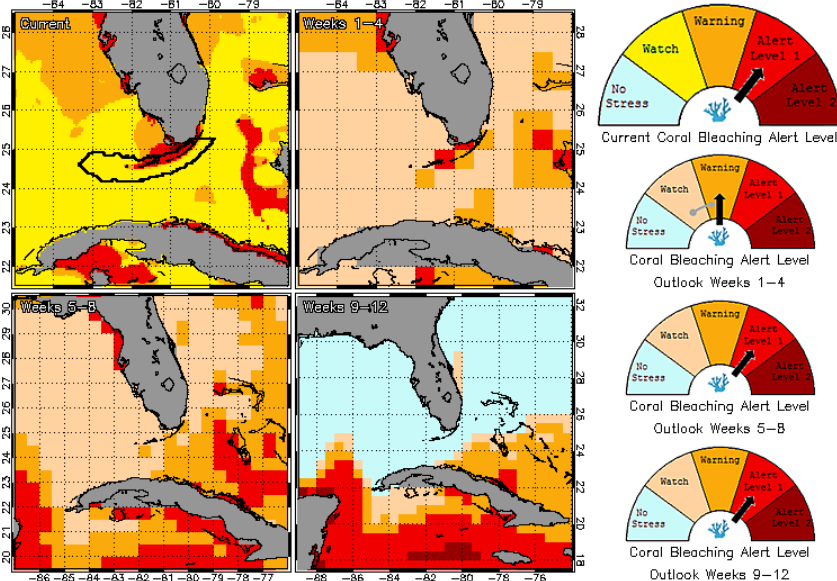


Figure 1. NOAA's 5 km Experimental Current and 60% Probability Coral Bleaching Alert Outlook Areas through November 2020. Updated August 13, 2020.

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 "Bleaching Alert Level 1", which means bleaching is likely, and the potential exists for more bleaching warnings and alerts if sea temperatures continue to be elevated in the next few weeks (Fig. 1).

Recent remote sensing analysis by NOAA's CRW program indicates that all of the Florida Keys region is currently experiencing increasing 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 elevated temperatures for parts of 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 throughout the Florida Keys reefs 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 increased over the past two weeks to at or well above 30°C (Fig.4), likely due in part to light wind conditions observed during the same 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.

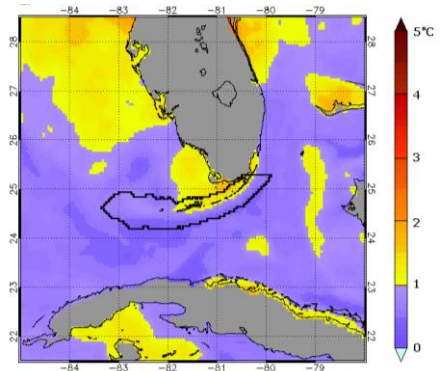


Figure 2. NOAA's Experimental 5km Coral Bleaching HotSpot Map for Florida August 13, 2020.

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

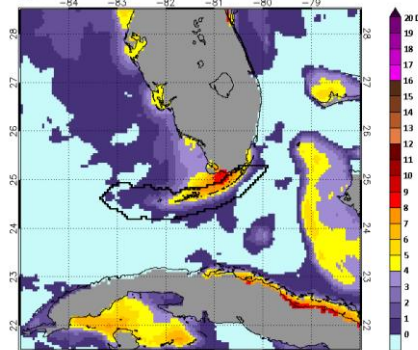


Figure 3. NOAA's Experimental 5km Degree Heating Weeks Map for Florida August 13, 2020.

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

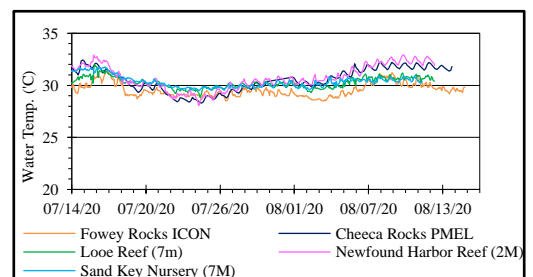


Figure 4. *in-situ* sea temperature from NOAA/ICON, MML, PMEL monitoring stations (July 14-August 14, 2020).

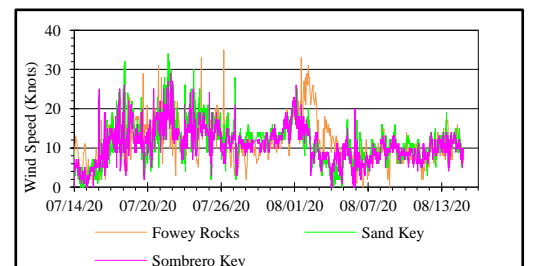


Figure 5. Wind speed data from NOAA/ICON monitoring stations (July 14-August 14, 2020).



Coral Bleaching Early Warning Network

Current Conditions Report #200814



Current Coral Conditions

A total of 54 BleachWatch Observer reports were received during the first 2 weeks of August (Fig. 6), with 15 reports indicating isolated colonies exhibiting signs of paling (Fig. 7) or partial bleaching.



Figure 7. Partially bleached *Siderastrea siderea* with old mortality at Sand Key 8/4/2020.

The remaining 39 reports indicated that no significant signs of coral bleaching were observed (Fig. 8). At those sites where paling/partial bleaching was noted, the overall percentage of corals exhibiting signs of thermal stress was mostly 1-10%, however several inshore reefs noted over 75% of corals affected. The majority of paling/partial bleaching observations consisted of isolated colonies of Encrusting/Mound/Boulder corals (*Siderastrea* spp.,

Orbicella spp. and *Dichocoenia stokesi*), Leaf/Plate/Sheet (*Agaricia* spp.) and Brain corals (*Colpohyllia natans* and *Pseudodiploria* spp.). Other observations included paling of *Palythoa* spp., and Fire Coral as well as abundant reports of coral disease.

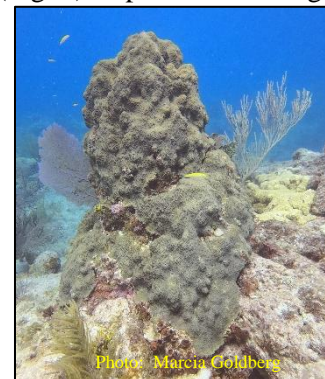


Figure 8. Healthy *Orbicella faveolata* at Looe Key SPA, 8/3/20.

These isolated observations of paling and partial bleaching do not necessarily indicate that the onset of a mass bleaching event is currently underway; however, continued field observations are needed as more widespread coral bleaching could potentially develop if environmental conditions continue to be favorable.

BleachWatch Reports for August 1-13, 2020

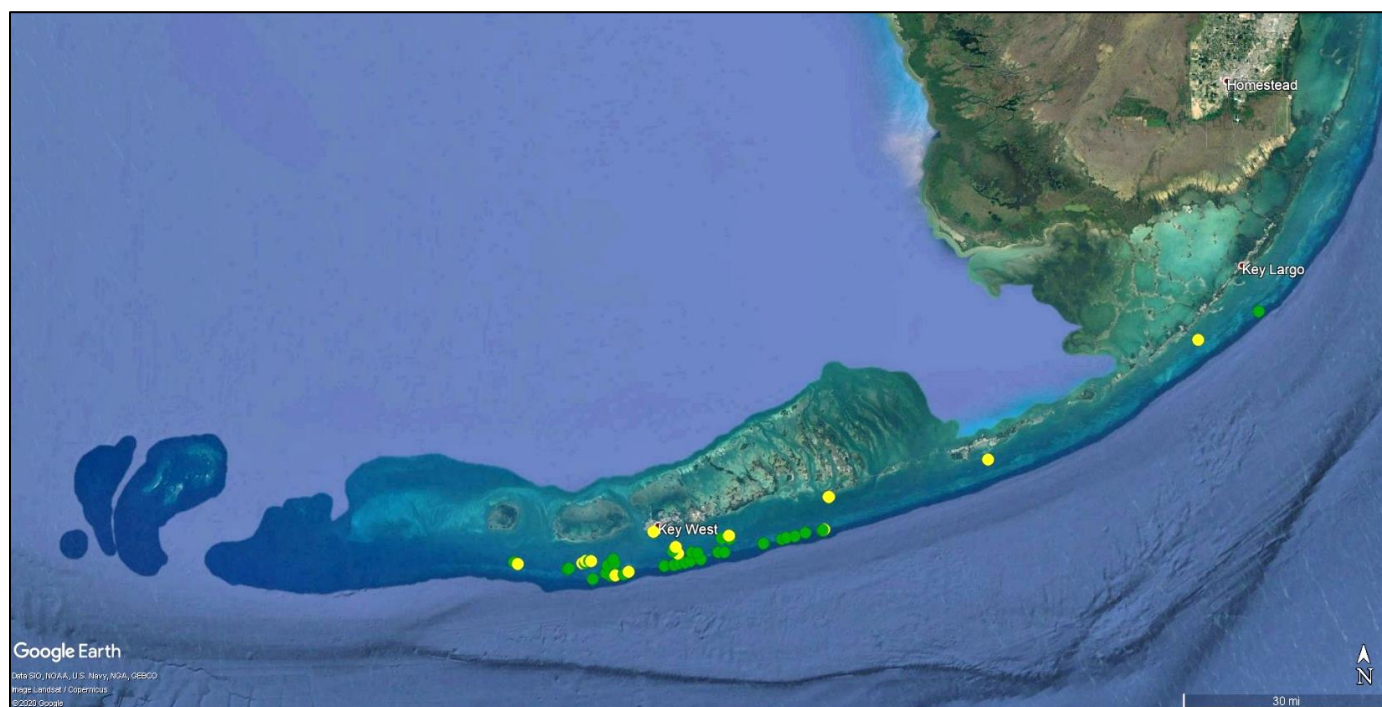


Figure 6. Overview of BleachWatch observer reports submitted from August 1-13, 2020



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

Cory Walter
Mote Marine Laboratory
24244 Overseas Highway
Summerland Key, FL 33042
(305) 395-8730

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

FUNDING THANKS TO....

