



Mote Marine Laboratory / Florida Keys National Marine Sanctuary  
**Coral Bleaching Early Warning Network**  
**Current Conditions Report #20210903**



Updated September 3, 2021

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

**NOAA Coral Reef Watch Current and 60% Probability Coral Bleaching Alert Outlook September 1, 2021 (experimental)**

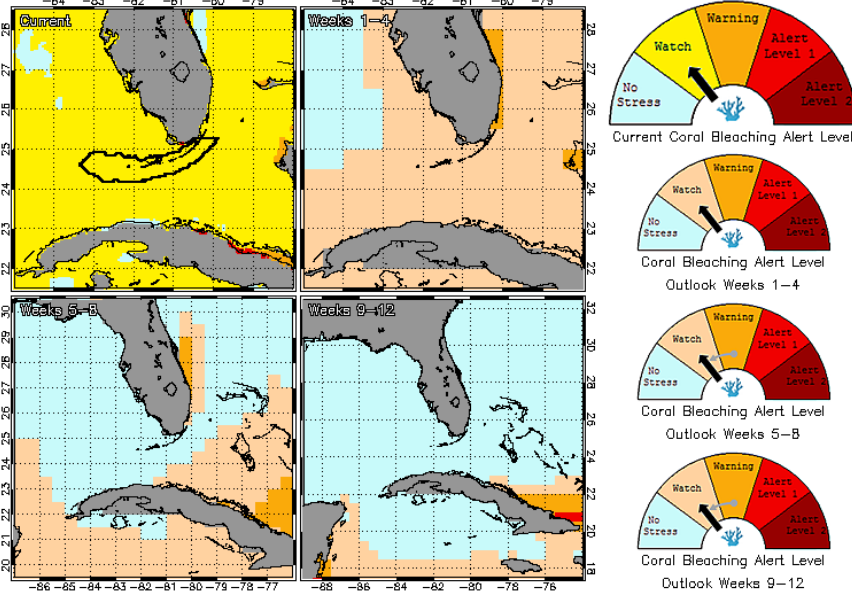


Figure 1. NOAA's 5 km Experimental Current and 60% Probability Coral Bleaching Alert Outlook Areas through November 2021. Updated September 1, 2021.  
[http://coralreefwatch.noaa.gov/vs/gauges/florida\\_keys.php](http://coralreefwatch.noaa.gov/vs/gauges/florida_keys.php)

**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 Watch, which means low thermal stress; however, 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 minimal 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 slightly 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 hovering around 30°C over the past two weeks (Fig.4), likely due in part to moderate to high wind conditions (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.

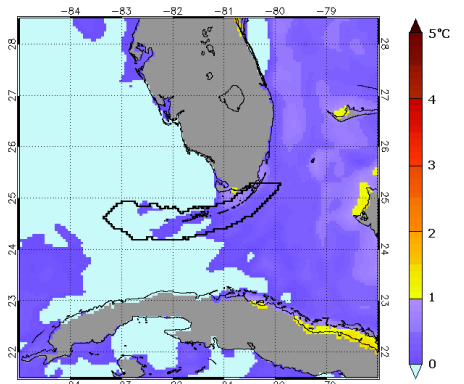


Figure 2. NOAA's Experimental 5km Coral Bleaching HotSpot Map for Florida September 1, 2021.  
[https://coralreefwatch.noaa.gov/vs/gauges/florida\\_keys.php](https://coralreefwatch.noaa.gov/vs/gauges/florida_keys.php)

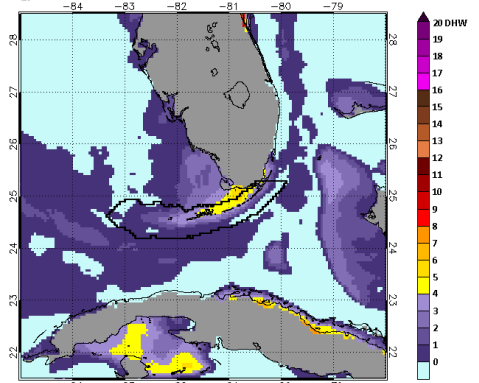


Figure 3. NOAA's Experimental 5km Degree Heating Weeks Map for Florida September 1, 2021.  
[https://coralreefwatch.noaa.gov/vs/gauges/florida\\_keys.php](https://coralreefwatch.noaa.gov/vs/gauges/florida_keys.php)

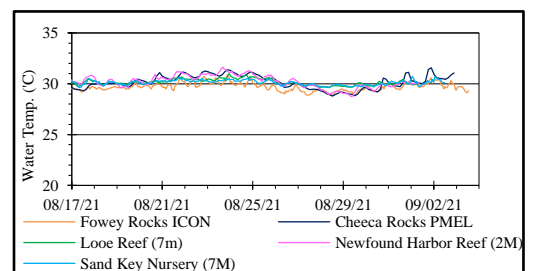


Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (Aug. 17- Sept 3, 2021).

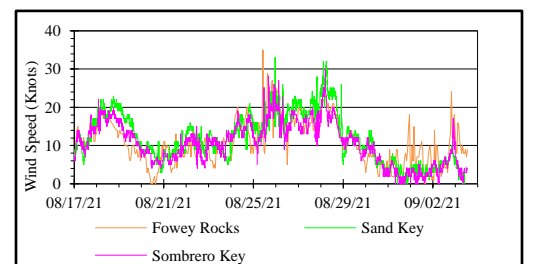


Figure 5. Wind speed data from NOAA/ICON monitoring stations (Aug. 17 - Sept. 3, 2021).



### Current Coral Conditions



Photo: James Cohen

Figure 7. Partially bleached *Colpohyllia natans* at an inshore patch off Islamorada 8/22/2021.

A total of 32 BleachWatch Observer reports were received the past two weeks (Fig.6), with 14 reports indicating isolated colonies exhibiting signs of paling or partial bleaching (Fig. 7). The remaining 12 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 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).

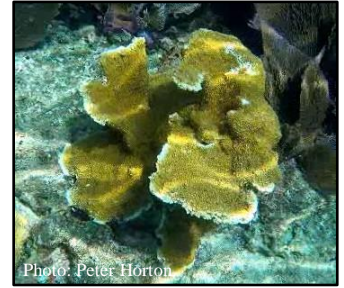


Photo: Peter Horton

Figure 8. Healthy *Acropora palmata* at Western Dry Rocks on 8/31/21.

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](http://www.mote.org/bleachwatch)

### BleachWatch Reports for August 17 - September 3, 2021

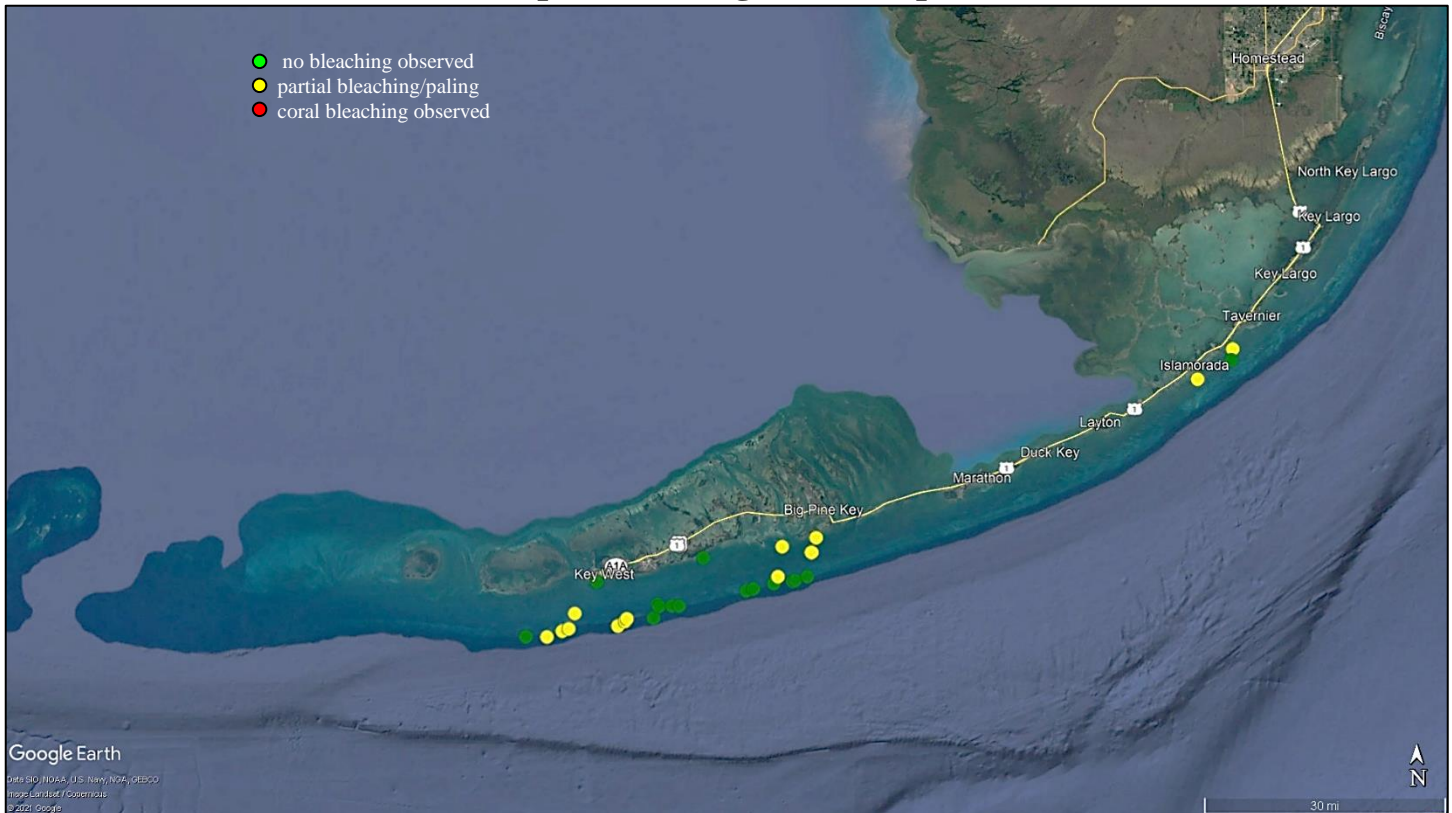


Figure 6. Overview of BleachWatch observer reports submitted from August 17 – September 3, 2021

**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....

