



Updated October 8, 2018

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

### NOAA Coral Reef Watch Current and 60% Probability Coral Bleaching Alert Outlook October 6, 2018 (experimental)

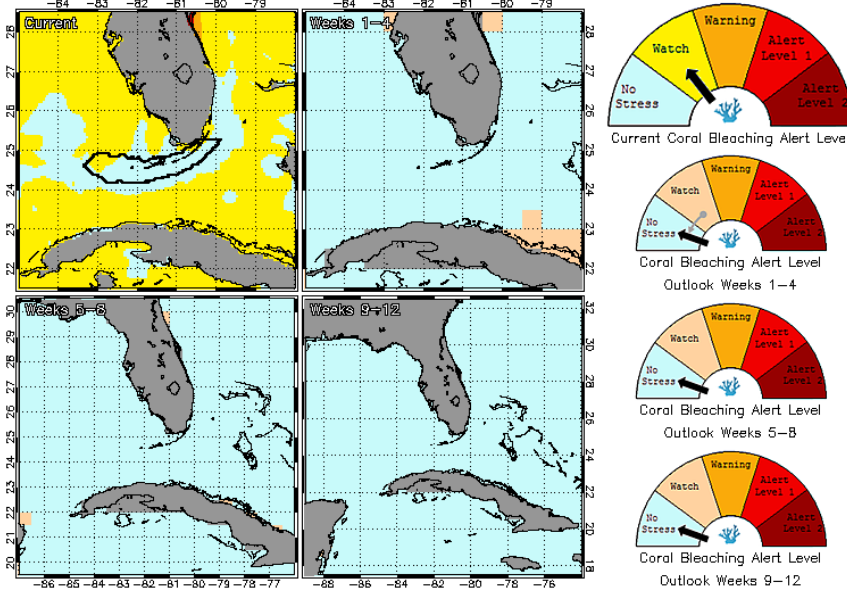


Figure 1. NOAA's 5 km Experimental Current and 60% Probability Coral Bleaching Alert Outlook Areas through January, 2019. Updated October 6, 2018. [coralreefwatch.noaa.gov/vs/gauges/florida\\_keys.php](http://coralreefwatch.noaa.gov/vs/gauges/florida_keys.php)

### 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, only the Upper Keys reefs of the Florida Keys National Marine Sanctuary are under a watch for coral bleaching, leaving the rest of the Sanctuary reefs under no stress. The coral bleaching outlook conditions are currently not favorable for a mass bleaching event (Fig. 1).

Recent remote sensing analysis by NOAA's CRW program indicates that most of 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 no elevated temperatures for 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 limited temperature stress currently evident in the Florida Keys region.

NOAA's Integrated Coral Observing Network (ICON) monitoring stations, which provide near real time in-situ sea temperature data along the outer reef tract throughout the Florida Keys, confirms that temperatures have recently dropped below 30°C over the past few weeks (Fig. 4), likely due in part to moderate to high wind conditions (Fig. 5). In-situ sea temperature data is currently only available at Fowey Rocks and intermittently at Molasses Reef. Sand Key is not recording wind data at this time. 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.

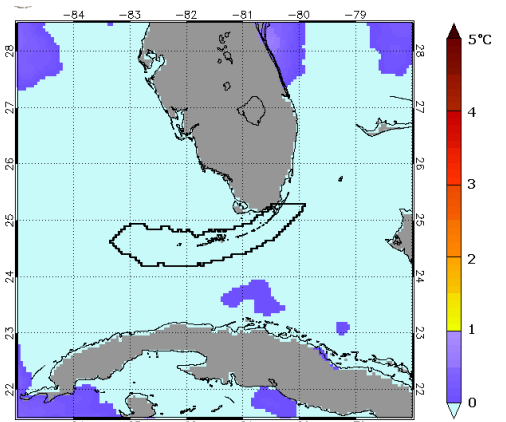


Figure 2. NOAA's Experimental 5km Coral Bleaching HotSpot Map for Florida October 6, 2018. [coralreefwatch.noaa.gov/vs/gauges/florida\\_keys.php](http://coralreefwatch.noaa.gov/vs/gauges/florida_keys.php)

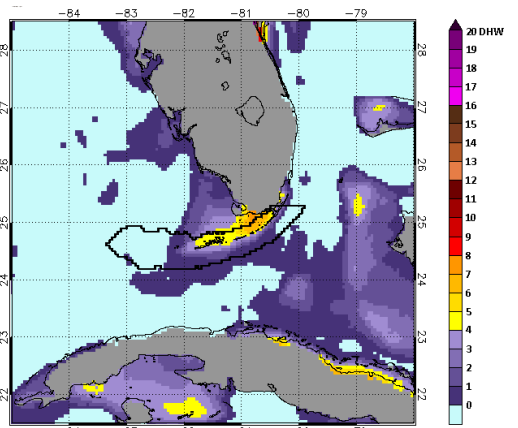


Figure 3. NOAA's Experimental 5km Degree Heating Weeks Map for Florida October 6, 2018. [coralreefwatch.noaa.gov/vs/gauges/florida\\_keys.php](http://coralreefwatch.noaa.gov/vs/gauges/florida_keys.php)

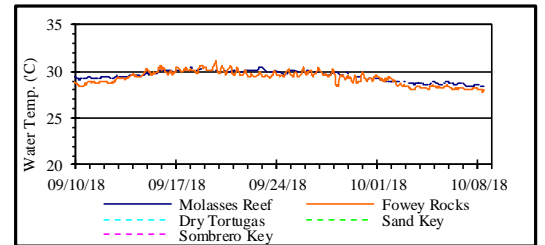


Figure 4. *in-situ* sea temperature from NOAA/ICON monitoring stations (September 10-October 8, 2018).

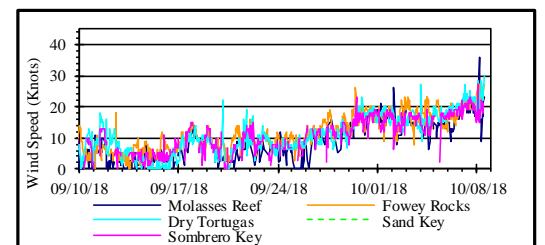


Figure 5. Wind speed data from NOAA/ICON monitoring stations (September 10-October 8, 2018).



### Current Coral Conditions

A total of 83 BleachWatch Observer reports were received during the past month (Fig. 6), with 64 reports indicating isolated colonies exhibiting signs of paling or partial bleaching, and the remaining 19 reports



Figure 7. Paling *O. annularis* at Looe Reef SPA on 9/28/18. Photo: MML

indicated no significant signs of coral bleaching or paling observed. At those sites where paling was noted, the overall percentage of corals exhibiting signs of thermal stress was mainly 1-10%. The majority of paling/partial bleaching observations consisted of isolated colonies of Encrusting/Mound/Boulder corals; *Siderastrea siderea*, *Porites astreoides* *Stephanocoenia intersepta* *Montastraea cavernosa*, *Orbicella faveolata*, *Orbicella annularis* (Fig. 7), *Dichocoenia stokesii*, and *Siderastrea radians*, Brain corals; *Colpohyllia natans* and



Figure 8. Diseased *D. stokesii* at a mid-channel reef south of Ramrod on 9/28/18. Photo: MML

*Pseudodiploria strigosa* and Branching Corals; *Porites porites* and *Oculina spp.* Other observations included paling/bleaching of *Palythoa spp.*, as well as numerous reports of coral disease (Fig. 8). Due to increase in coral disease observations in the Lower Keys area, observers are encouraged to report presence or absence of disease at their sites.

These isolated observations of paling and partial bleaching indicate that the onset of a mass bleaching event is unlikely; however, continued field observations are needed as more widespread coral bleaching could potentially develop if environmental conditions change.

### BleachWatch Reports for September 10-October 8, 2018

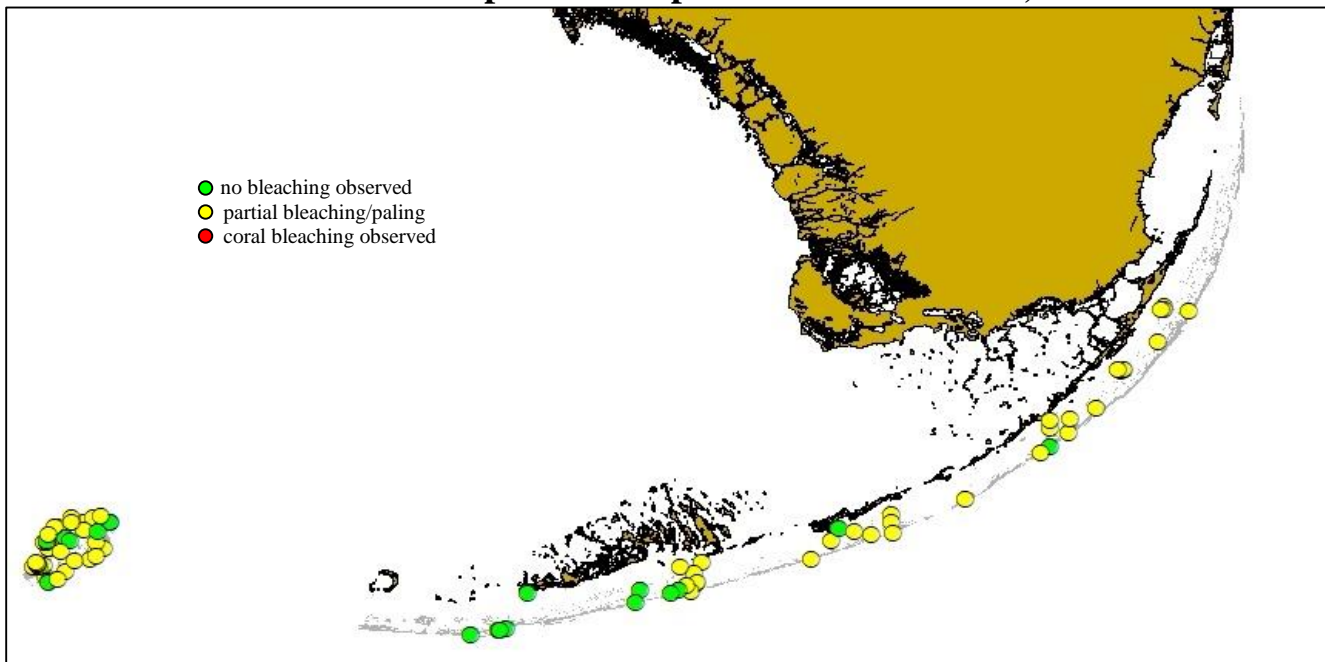


Figure 6. Overview of BleachWatch observer reports submitted from September 10-October 8, 2018



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

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### FUNDING THANKS TO....

