

**Current Conditions Report #20140916**

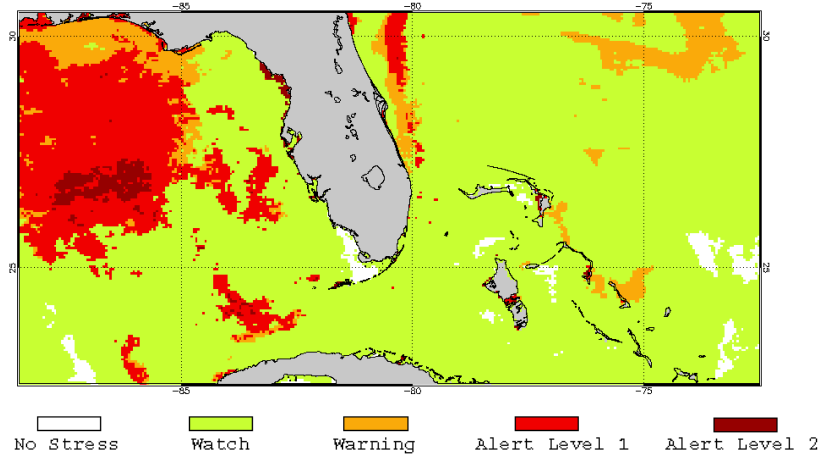
**September 16, 2014**

**Summary:** Based on climate predictions and field observations, the threat for mass coral bleaching in southeast Florida, between Miami-Dade and Martin counties is currently **MODERATE**.

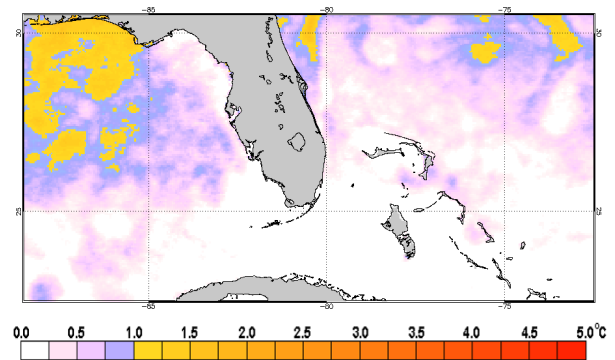
**Environmental Monitoring**

The latest CRW experimental 5 kilometer (km) Daily Coral Bleaching Alert Area (Figure 1) indicates that southeast Florida is currently experiencing a moderate level of thermal stress, with a Bleaching Watch present throughout the majority of the region. While conditions have improved somewhat over the last 2 weeks, bleaching is still likely in southeast Florida if water temperature increases.

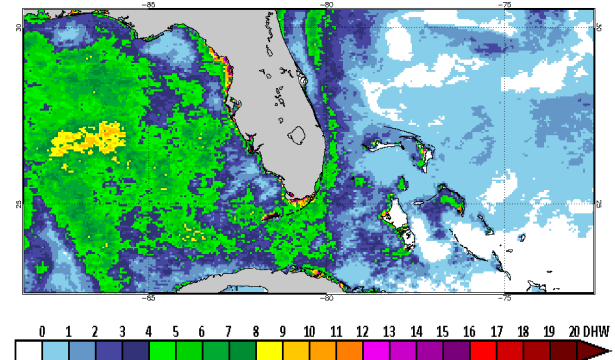
- NOAA's Bleaching Hotspot Map compares current SST to the maximum monthly mean, which is the average temperature during the warmest month of the year. Corals start to become stressed when SST is 1°C greater than the highest monthly average. Currently SST is slightly elevated, but has fallen below the 1°C Hotspot bleaching threshold throughout southeast Florida (Figure 2).
- Coral bleaching risk increases if the temperature stays elevated for an extended period of time. NOAA's experimental 5km Degree Heating Weeks (DHW) map shows the accumulation of temperature stress over the previous 12 weeks (3 months). The most recent DHW map (Figure 3) indicates that temperature stress has accumulated offshore of southeast Florida, with some areas reaching 3 – 6 degree C-weeks. In those areas where thermal stress has reached 4 degree C-weeks or above, significant coral bleaching may be likely.
- Near real-time data from CRW's Satellite Virtual Stations indicate that SST has dropped over the past several days at Broward, Palm Beach and Martin reef sites, and is currently below the bleaching threshold (Figure 4).



**Figure 1.** NOAA CRW Experimental Daily 5 km Blended Geo-Polar Nighttime Blended Bleaching Alert Area; September 14, 2014  
<http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.php>



**Figure 2.** NOAA CRW Experimental Daily 5km Blended Geo-Polar Nighttime Hotspot; September 14, 2014



**Figure 3.** NOAA CRW Experimental Daily 5km Blended Geo-Polar Nighttime DHW; September 14, 2014  
<http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.php>

The Florida Department of Environmental Protection's Coral Reef Conservation Program staff will continue to monitor NOAA's Hotspot, DHW and Alert Area maps, as well as Virtual Station data for the remainder of the summer bleaching season.

## Observer Network

A total of 14 coral bleaching reports were received during the first two weeks of September. Of these, 12 reports indicated partial to full bleaching at sites across Miami-Dade and Broward counties (Figure 5). The overall percentage of corals exhibiting signs of thermal stress at four sites in Miami-Dade County was 31 - 75% at depths from 20 – 40 feet. In Broward County, between 50 – 100% of observed coral was bleached at shallow, nearshore reefs that ranged in depth from 8 – 20 feet. Reported water temperatures ranged from 82° to 88°F. Two ‘No Bleaching’ reports were both from northern Palm Beach County where water temperatures were reported to be between 73°F and 75°F.

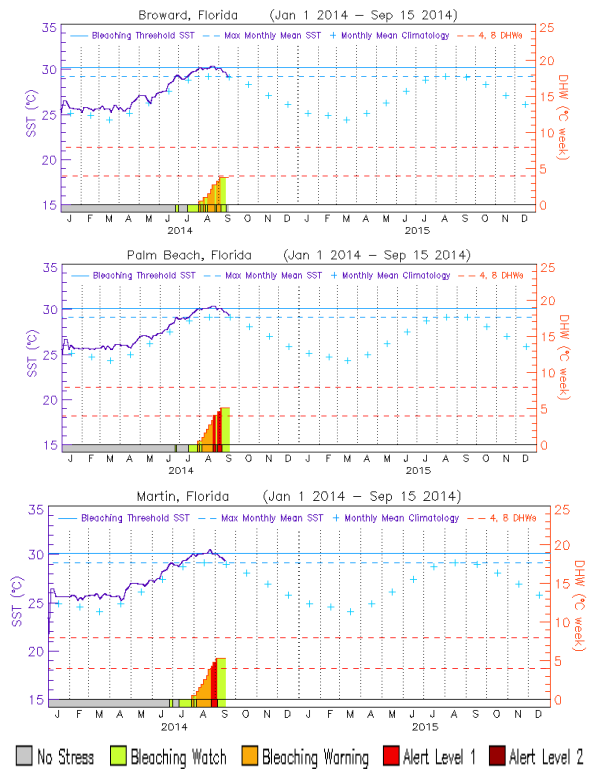
Partial bleaching and bleaching observations were noted for a range of species, including Encrusting/Mound/Boulder corals, Brain corals, Fleishy corals, Branching/Pillar corals, Flowering/Cup corals and Leaf/Plate/Sheet corals. Additional observations included bleached *Palythoa spp.*, fire coral and gorgonians, as well as disease.

Although coral bleaching is currently being observed in Miami-Dade and Broward counties, recent changes in environmental conditions may help to alleviate the region from substantial continued bleaching at this time. Additional field observations from southeast Florida’s reefs are needed to better assess the duration, extent, and severity of bleaching.

The BleachWatch Observer Network is encouraged to submit observations on coral condition after every visit to the reef for the remainder of the summer season. **Remember, reports of ‘No Bleaching’ are just as important as bleaching reports!** To submit a report on coral condition in southeast Florida, or for more information on the SEAFAN BleachWatch Program, please visit [www.SEAFAN.net](http://www.SEAFAN.net) and click “BleachWatch.”

*For more information about SEAFAN BleachWatch or to organize a training session for your group to become a part of the Observer Network, please contact the Program Coordinator below.*

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**Figure 4.** NOAA CRW Virtual Station Data; January 1, 2014 – September 15, 2014. <http://coralreefwatch.noaa.gov/satellite/vs.php>



**Figure 5.** Bleached coral in Miami Dade County on 9/11/2014. Photo: FDEP CRCP.

## Program Partners:

