Florida Department of Environmental Protection
Coral Reef Conservation Program

SEAFAN BleachWatch Program

Current Conditions Report #20140801

August 1, 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 **MODERATE.**

Environmental Monitoring

The latest CRW experimental 5 kilometer (km) Daily Coral Bleaching Alert Area (Figure 1a) indicates that the majority of southeast Florida is presently experiencing a low level of thermal stress, although there is a moderate level of stress along Miami-Dade and Palm Beach County reefs. The CRW operational 50km Alert Area (Figure 1b) also indicates that Palm Beach and Martin counties are likely experiencing moderate thermal stress. Coral bleaching in the southeast Florida region is possible if current conditions continue or worsen.

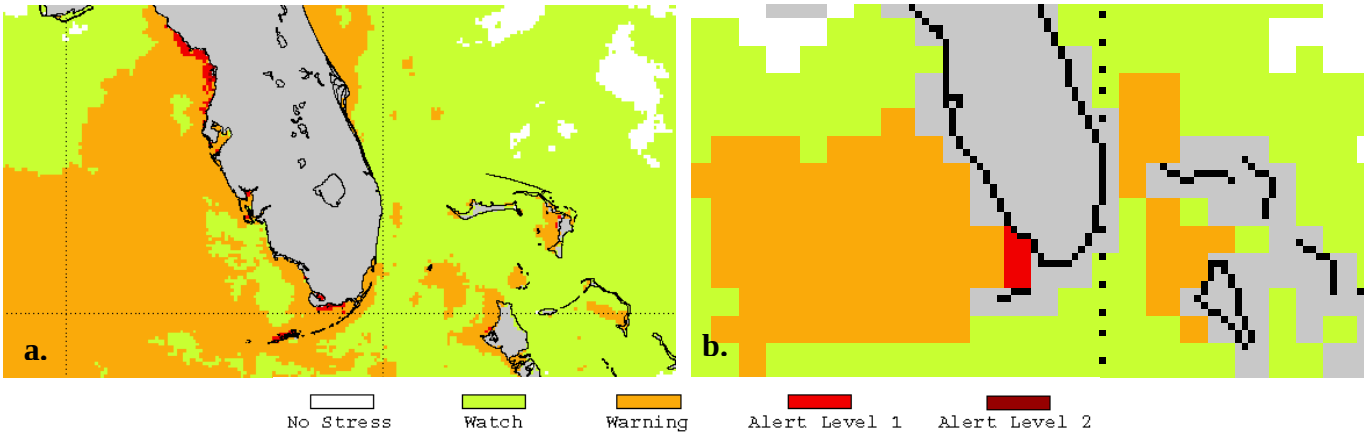

Figure 1. NOAA CRW Experimental Daily 5 km Blended Geo-Polar Nighttime Blended Bleaching Alert Area; July 30, 2014 (a) and NOAA CRW Operational Satellite Coral Bleaching Area; July 31, 2014 (b).
(a) http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.html, (b) http://coralreefwatch.noaa.gov/satellite/index.php

- NOAA's Bleaching Hotspot Maps compare 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 elevated, and has surpassed the 1°C Hotspot bleaching threshold in Miami-Dade (Figure 2a) as well as in Palm Beach and Martin counties (Figure 2b). SST in the remainder of the southeast Florida region is elevated but remains below the bleaching threshold.

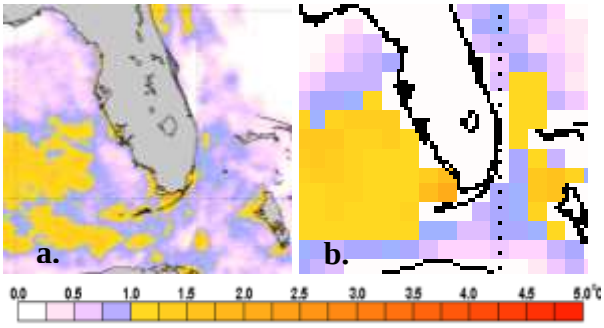

Figure 2. NOAA CRW Experimental Daily 5km Blended Geo-Polar Nighttime Hotspot; July 30, 2014 (a) and NOAA CRW Operational Coral Bleaching Hotspot; July 31, 2014 (b).
http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.html
http://coralreefwatch.noaa.gov/satellite/index.php

- Coral bleaching risk increases if the temperature stays elevated for an extended period of time. NOAA's degree Heating Weeks (DHW) Maps (Figure 3) show the accumulation of temperature stress over the previous 12 weeks, with 1 DHW equal to one week at 1°C greater than the maximum monthly mean. Currently, the experimental 5km DHW map (Figure 3a) and the operational 50km DHW map (Figure 3b) indicate that there is a slight accumulation of temperature stress in Miami-Dade County, Palm Beach and Martin counties.

- Near real-time data from CRW's Satellite Virtual Stations indicate that SST at Broward, Palm Beach and Martin reef sites is currently above the maximum monthly mean, and in Palm Beach and Martin counties has surpassed the bleaching threshold, thus triggering a 'Bleaching Warning' at those locations (Figure 4).

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 reminder of the summer bleaching season.

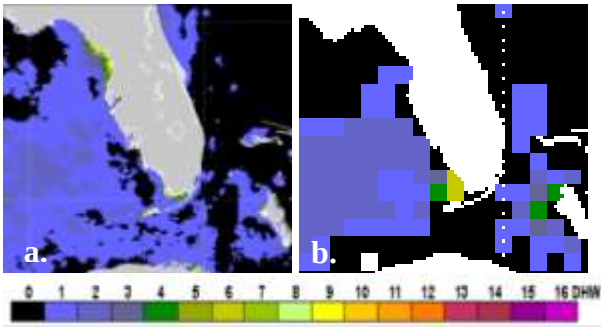

Figure 3. NOAA CRW Experimental Daily 5km Blended Geo-Polar Nighttime DHW; July 30, 2014 (a) and NOAA CRW Operational DHW; July 31, 2014 (b).
http://coralreefwatch.noaa.gov/satellite/bleaching5km/index.html
http://coralreefwatch.noaa.gov/satellite/index.php

Observer Network

A total of six BleachWatch Observer Network reports were received during the month of July. Two reports in Miami-Dade County indicated that isolated colonies exhibited signs of paling or bleaching. At these sites, the overall percentage of corals exhibiting signs of thermal stress was 1 – 10%, and included Brain coral, *Meandrina meandrites* (Figure 5), and Branching coral, *Acropora palmata*. Additionally, three reports indicated signs of disease on *Acropora palmata* in Miami-Dade County.

These isolated observations do not necessarily indicate the onset of a mass bleaching event, however more field observations from southeast Florida's reefs are needed.

Figure 5. Bleached *Meandrina meandrites* at Rainbow Reef in Miami-Dade County on July 3, 2014.

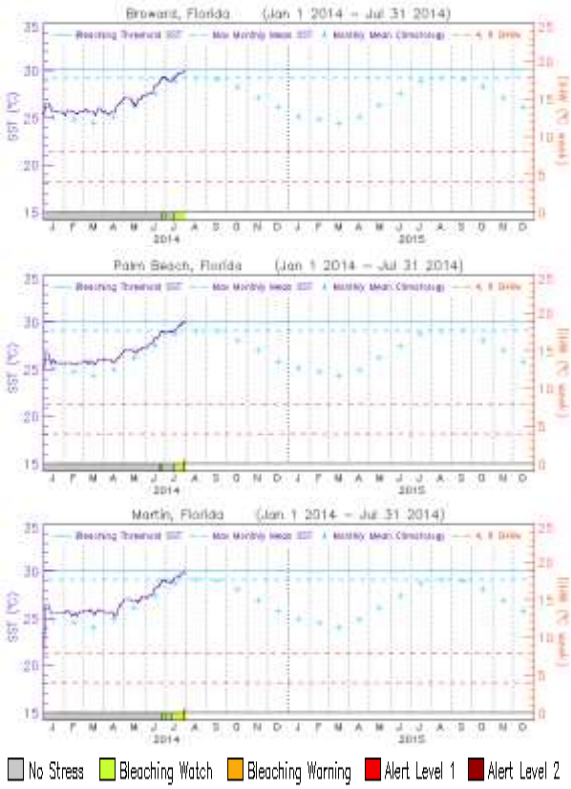

Figure 4. NOAA CRW Virtual Station Data; January 1, 2014 – July 31, 2014.
http://coralreefwatch.noaa.gov/satellite/current/products_vs.html

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.

Karen Bohnsack
Program Coordinator
FDEP Coral Reef Conservation Program
Phone: **(305) 795-1204**
Email: karen.bohnsack@dep.state.fl.us
www.SEAFAN.net

Program Partners: