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

**Weather and Sea Temperatures**

According to the newly released NOAA Coral Reef Watch (CRW) experimental 5 kilometer (km) Satellite Coral Bleaching Alert Area, there is a moderate level of thermal stress throughout the Florida Keys and the potential for coral bleaching if current conditions continue (Fig. 1).

Recent remote sensing analysis by NOAA’s CRW program indicates that the Florida Keys region is presently experiencing 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 that sea surface temperatures are elevated for this time of year in the Florida Keys. Similarly, NOAA’s new 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 that a low level of temperature stress has accumulated in the Florida Keys region. However, 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, suggests that temperatures have decreased to below 30°C over the past two weeks (Fig.4), likely due in part to increased wind speeds observed during Tropical Storm Isaac (Fig. 5). *In-situ* sea temperature data is currently not available for Sand Key or Sombrero. Dry Tortugas is not recording any data at this time.

Mote Marine Laboratory will continue to monitor the NOAA HotSpot maps, DHW maps, and ICON sea temperature data from monitoring stations on a weekly basis for the remainder of the bleaching season.
Conditions of Corals

A total of 23 BleachWatch Observer reports were received during the last three weeks (Fig. 6), with 12 reports indicating isolated colonies exhibiting signs of paling or surface bleaching (Fig. 7). The remaining 8 reports indicated that no significant signs of coral bleaching were observed. At most sites where partial bleaching or paling was noted, the overall percentage of corals exhibiting signs of thermal stress was only 1-10% of corals at each site except one Lower Key inshore reef where 11-30% of corals were affected.

The majority of isolated paling observations consisted of Encrusting/Mound/Boulder corals (Montastraea spp. and Siderastrea spp.) and Brain Corals (Diploria spp., Colpophyllia natans, and Meandrina meandrites). Other observations included paling of Palythoa spp. and Fire Coral, as well as several reports of coral diseases and some minor damage from Tropical Storm Isaac (Fig. 8) throughout Upper, Middle, and Lower Keys as well as the Dry Tortugas National Park.

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

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