Mote Marine Laboratory / Florida Keys National Marine Sanctuary

Florida Keys BleachWatch Program

PROGRAM OVERVIEW


Photo: MML

Coral bleaching, which is the corals' loss of their symbiotic algae called zooxanthellae, has increased in frequency and severity since the 1980's in the Florida Keys National Marine Sanctuary (FKNMS). These bleaching events gave rise to public, media, and scientific concern for the reef. A program was required to monitor bleaching before, during, and after each event to help improve our understanding of this phenomenon. In coordination with FKNMS and Mote Marine Laboratory, an Early Warning Network was created in 2005 to collect, consolidate, and interpret observations collected from a team of trained divers, collectively called the *BleachWatch* program.

The most common environmental factor observed during mass bleaching events are doldrum-like condition which includes elevated sea temperatures and calm weather. The Early Warning System was developed to monitor these conditions and provide an early warning for mass bleaching events. The Early Warning System was developed to monitor climate, sea temperatures and to alert the *BleachWatch* team of potential bleaching.

Weather and Sea Temperature Monitoring

Weather conditions such as calm winds and clear sunny days can lead to an increase in sea temperatures. Small increases in sea temperatures over several weeks or large increases over a few days stress the corals. If these conditions persist, it could lead to mass bleaching.

NOAA/NESDIS Hotspot and Degree Warming Maps, NOAA National Data Buoy Center and NOAA's Integrated Coral Observing Network (ICON) stations plus other in-situ and real time data help in predicting the onset of environmental conditions favorable for bleaching and determine if an alert must be sent out to the *BleachWatch* team for observation of the coral conditions.


Photo: MML

BleachWatch

The initial onset of mass coral bleaching can vary among different species, geographic locations, types of reef zones and a fluctuation of severity, which makes it very difficult to predict where or when it will occur. The Florida Keys *BleachWatch* Program, modeled after Great Barrier Reef's *BleachWatch*, is a team of trained recreational, commercial and scientific divers who help monitor and report on conditions at the reefs. After each visit to the reef, the divers complete a data form, either printed or online, and send it to the *BleachWatch* coordinator. The divers will be provided with an underwater wristband to use as a reference and a reminder key below and above the water. A "Current Conditions Report" will be available online monthly, weekly, or biweekly depending on the severity of the climate conditions and extent of coral bleaching observations which will provide a summary of all available data being collected.

If you have any questions or are interested in becoming part of the *BleachWatch* team, please contact:

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