

BleachWatch Program Abstract

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 are provided with an underwater wristband to use as a reference and a reminder key below and above the water. Information from NOAA's remote sensing and in-situ monitoring projects are reviewed routinely and summarized along with BleachWatch volunteer observations in the field to provide a comprehensive overview of current conditions throughout the Florida Keys National Marine Sanctuary. Florida Keys Coral Bleaching Current Condtions Reports include a summary of relevant weather information, NOAA Coral Bleaching "HotSpot" and "Degree Heating Weeks" analysis, and updated in-situ monitoring data, along with BleachWatch observer reports for each region during a given period.

BleachWatch Data Abstract

As the occurrence and severity of coral bleaching has increased in the Florida Keys National Marine Sanctuary (FKNMS) since the 1980’s, The U.S. National Oceanic and Atmospheric Administration (NOAA) and other scientists have developed remote sensing products and a network of environmental monitoring stations in order to try to more accurately predict coral bleaching in the Florida Keys. However, although remote sensing and *in-situ* data collection can provide an indication of when environmental conditions are ideal for the onset of coral bleaching, the actual onset of bleaching can be a gradual process, and effects can vary over an area as large as the FKNMS. In order to accurately assess the initial affects of bleaching events, and to assess coral condition during and after bleaching events, the Florida Keys BleachWatch program coordinates a large network of trained observers to provide regular reports of actual coral conditions on the reefs.

Each BleachWatch observer receives a packet containing information on the project and FAQ’s on coral bleaching, report forms complete with detailed instructions, and an underwater visual aid. The report form has been designed to minimize the effort needed to make observations and report on conditions, and the underwater visual aids are designed to minimize gear for the diver to carry yet be easily accessible and available when needed to help make mental notes on coral condition throughout the dive. The underwater visual aid provides a summary of the important information needed from the monitoring form such as environmental conditions as well as images to help deteriine percent of bleached live coral cover and major growth types for ease of coral identification. After exiting the water, observers simply enter these and any other notable observations on the report form provided. Observers are asked to report as regularly as possible, and are made to understand that observations of no bleaching present are equally as important.

By interpreting observations of coral condition from various areas within a geographic zone of concern during potential bleaching events, additional insight can be gained toward determining natural resilience, both for habitat types, geographical location, and species of coral. This information will allow researchers to further develop the accuracy of available coral bleaching early warning products and assist resource managers to better communicate the condition of the reefs as potential bleaching events occur, as well as potentially integrating the information into existing management plans.