ANALYZING THE EFFECTS OF CLIMATE CHANGE ON SEA SURFACE TEMPERATURE IN MONITORING CORAL REEF HEALTH IN THE FLORIDA KEYS USING SEA SURFACE TEMPERATURE DATA

This presentation discusses use of 4 kilometer satellite-based sea surface temperature (SST) data to monitor and assess coral reef areas of the Florida Keys. There are growing concerns about the impacts of climate change on coral reef systems throughout the world. Satellite remote sensing technology is being used for monitoring coral reef areas with the goal of understanding the climatic and oceanic changes that can lead to coral bleaching events. Elevated SST is a well-documented cause of coral bleaching events. Some coral monitoring studies have used 50 km data from the Advanced Very High Resolution Radiometer (AVHRR) to study the relationships of sea surface temperature anomalies to bleaching events. In partnership with NOAA's Office of National Marine Sanctuaries and the University of South Florida's Institute for Marine Remote Sensing, this project utilized higher resolution SST data from the Terra's Moderate Resolution Imaging Spectroradiometer (MODIS) and AVHRR. SST data for 2000-2010 was employed to compute sea surface temperature anomalies within the study area. The 4 km SST anomaly products enabled visualization of SST levels for known coral bleaching events from 2000-2010.

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