A High-Resolution Decision Support System for Ecosystem-Based Management of Tropical Coral Reef Environments

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Through NASA Applied Science funding, the University of South Florida, NOAA Coral Reef Watch (CRW), NASA Ames, and the University of Colorado developed a next-generation near-real-time satellite decision support system to monitor conditions leading to coral bleaching. New products transition the CRW global system from 50-km to 5-km resolution, with 100 X greater spatial resolution and 25-100 X greater data density per pixel. These products are moving toward operational status at NOAA/NESDIS and are already being applied by resource managers. Regional 1-km products are being run at USF and CONABIO for regional applications.

New Coral Reef Watch 5-km Early Warning System for Mass Coral Bleaching Events
(Current system: 50-km, twice-weekly; Next-generation system: 5-km, daily)

http://coralreefwatch.noaa.gov/satellite/bleaching5km

New high-resolution products meeting #1 need identified in user surveys - higher resolution

Florida users have already adopted the new 5-km CRW products to direct coral bleaching monitoring activities

http://www.dep.state.fl.us/coralbleaching/index.html
http://www.coralreefwatch.noaa.gov/

http://coralreefwatch.noaa.gov
The only satellite-based system available for U.S. and global coral reef management

SST
HotSpots
Degree Heating Weeks

All products based on CRW Satellite Bleaching Thermal Stress Algorithms

CONABIO (Mexico) has already adopted new 1-km USF products from MODIS for monitoring thermal stress

USF 1-km HotSpot for the West Florida Shelf

CONABIO 1-km SST for the western Caribbean

NASA MODIS
Based on 1-km true color

http://nccs.nasa.gov/highlights/2008/05/11/new-5km-coral-bleaching-dss
http://www.coralreefwatch.noaa.gov/satellite/bleaching5km
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