

NATIONAL CENTERS FOR COASTAL OCEAN SCIENCE

Center for Coastal Monitoring and Assessment

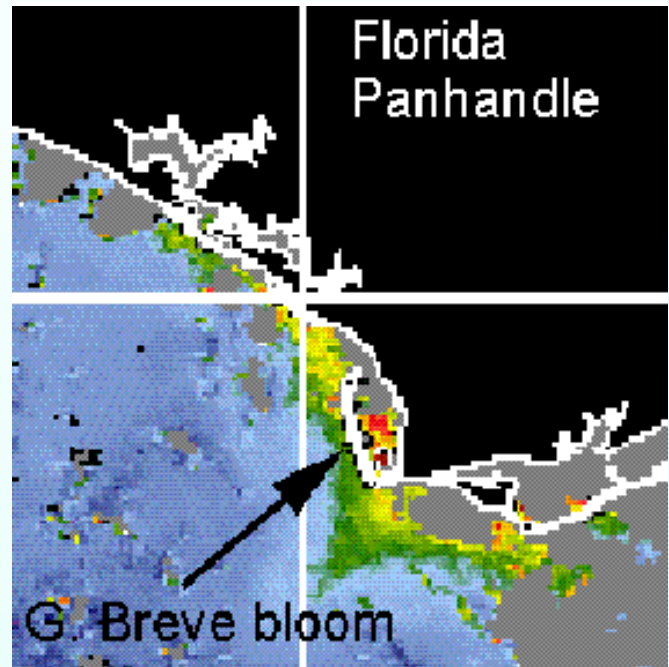


NOAA
Ocean Service

The Center for Coastal Monitoring and Assessment (CCMA), located in Silver Spring, Maryland, monitors, surveys, and assesses coastal environmental quality, habitats, and resource distribution. The Center manages the National Status and Trends Program which conducts long-term contaminant monitoring at more than 350 estuarine and coastal sites. Information from the Center's monitoring and assessment studies are used to help determine the impacts of contaminant exposure and changes in coastal habitats on the distribution and abundance of living marine resource. Science activities at CCMA focus on the following:

Coastal Characterization and Assessment

CCMA's Biogeography Program provides managers and scientists with information on living marine resource distribution. The Program integrates information on the distribution and abundance of species, distribution of habitats, and defines the strength of species habitat affinities using a suite of technologies including Geographic Information Systems (GIS) and modeling tools. The Program's goal is to develop a knowledge base of living marine resource distributions and ecology throughout the Nation's estuarine and coastal environments to provide resource managers with an improved ecosystem basis for decision-making. In addition, CCMA scientists also conduct analyses on estuarine and coastal physical and hydrological features. This information helps to understand the influence of freshwater inflow, sa-

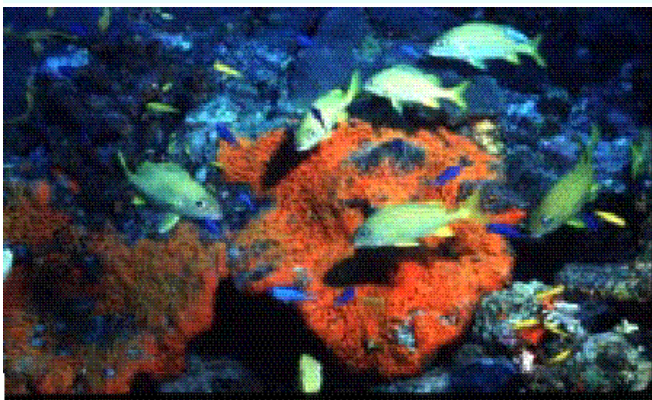


Remote sensing technology is an important tool for observing changes in coastal ecosystems, including monitoring for the presence of harmful algal blooms, and forecasting this landfall.

linity, and nutrient inputs on the health of estuarine and coastal waters, including impacts from harmful algal blooms and eutrophication.

Coastal Ecosystem Monitoring

CCMA conducts regional and national long-term monitoring projects under the auspice of the National Status and Trends Program. The goal of these projects is to monitor and document the current condition of and trends in U.S. coastal environmental



Characterizing the habitat types and marine life associated with coral reefs is important for effective managements of these unique systems.

“Science Serving Coastal Communities.”



Shellfish and sediment samples are collected in estuarine and coastal areas to test for the presence of many different types of toxic chemicals.

quality. Specifically, the Mussel Watch Project periodically collects surface sediment and annually collects mussels and oysters from sites around the Nation. Resulting data are used to compare contaminant concentrations across space and time to determine which coastal regions are at greatest risk. Other activities include assessing the relationship between contaminated sediments and toxicity in fish, historical analysis of sediment contamination, and determining impacts of natural and anthropogenic stressors on coastal resources. CCMA's coastal ecosys-

tem monitoring activities are also supported by regional field offices in Seattle and Charleston, South Carolina.

Bioeffects of Contaminants

CCMA's Bioeffects Program determines the incidence, severity, and spatial extent of biological effects of contamination in coastal waters. Related studies, performed over a two-to-four year period, are based on analyzing levels of chemical contaminants, sediment toxicity, and composition of benthic biological communities. Study areas are selected in locations monitored by NOAA's Mussel Watch Project and in areas where adverse biological effects from contamination are present. Information from the bioeffects studies is used by resource managers to assess impacts of sediment contamination on ecosystem health.

Remote Sensing

The Remote Sensing Development Program develops and applies new remote sensing techniques for assessment of estuarine and coastal environmental problems. Emphasis is on standard sensors, particularly those on satellites, integrated with field and instrumented observations. Applications include monitoring coastal water quality, tracking harmful algal blooms, and assessing coastal habitat changes, including those in and around coral reefs. Use of remote sensing technology allows resource managers to respond rapidly to conditions which may be negatively impacting coastal habitats and living marine resources.

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