



National Centers for Coastal Ocean Science  
...science serving coastal communities

Center for Sponsored Coastal Ocean Research

<http://www.cop.noaa.gov/>



## Center for Sponsored Coastal Ocean Research (CSCOR)

### CSCOR Mission Statement

***Lead the development of predictive, multi-disciplinary, regional ecosystem-scale research to support sound coastal management decisions***



### Research Strategy

CSCOR research priorities are based on Congressional direction, Administration priorities, NOAA mandates and strategic plans, and engagement of stakeholders and the scientific community.

Research projects are selected through a competitive, merit-based process that identifies the most qualified teams of scientists in the Nation, drawing from academia, governmental agencies, and other research, management, and conservation organizations. Research is often coordinated with other offices within NOAA and other agencies of the Federal Government since important components of the targeted regional ecosystems, such as the watershed and airshed, are often being addressed through other programs.

Through strategic targeting of research priorities, management of research, and synthesis of results, CSCOR produces outcomes that are transitioned to application for improved decision-making on important coastal management issues.

### Center Overview

The Center for Sponsored Coastal Ocean Research (CSCOR) supports research programs that provide the critical information and predictive capabilities required to manage the Nation's coastal resources in an ecosystem context. CSCOR identifies National research priority issues on behalf of the National Centers for Coastal Ocean Science (NCCOS) and the National Ocean Service and addresses these issues via a stressor-based or regional ecosystem approach. These issues typically require multi-disciplinary research teams and a significant long-term commitment of resources because of their complexity and the effort required to reach a new level of understanding sufficient to drive future coastal management decisions.

### CSCOR Sponsors Research and Development to Enhance NOAA's Forecasting Capabilities

CSCOR funds research on the interactive effects of stressors on coastal ecosystems. Enhanced understanding of these processes will lead to better predictions of their impacts on coastal communities and economies and will assist in developing appropriate management actions.

### Ecosystem Approach

CSCOR typically supports regional-scale projects that address issues in a comprehensive way, considering multiple aspects of ecosystems. The "ecosystem approach", coupled with the development of predictive capabilities, provides the broader understanding and critical tools needed to pursue effective management of ecosystems.

### Research to Application

CSCOR funds research that will support more informed decision-making related to the coastal environment. CSCOR strives to carry the high quality research it supports into real-world application and to disseminate scientific data and information to the management community through peer-reviewed publications, synthesis reports, and interactive workshops. In many cases, these outcomes are predictive tools that form the scientific underpinnings of an ecosystem approach to management.



# Center for Sponsored Coastal Ocean Research

## Approaches to Support Coastal Management

### Ecosystem Stressors Research

CSCOR addresses a large portion of its research priorities from the perspective of the major stressors affecting the Nation's coastal and Great Lakes resources. These stressors include nutrient and other types of pollution, hypoxia, harmful algal blooms, climate change, invasive species, and "multiple stressors" (i.e. the combined effects of several stressors). Studies involve investigators from multiple disciplines to understanding the nature of these critical threats and the options by which these threats could be controlled or mitigated to lessen impacts on our Nation's resources.

Legislative statutes, such as the Harmful Algal Bloom and Hypoxia Research and Control Act, are important drivers for CSCOR Ecosystem Stressors Research programs.

Outcomes of this research follow two tracks to real-world application that improve coastal resource management. The first track is through development of ready to use products, such as sensors, models, and other tools and information, that can be used by coastal managers. The second track to application is via CSCOR's Regional Ecosystem Research projects.

### Regional Ecosystem Research

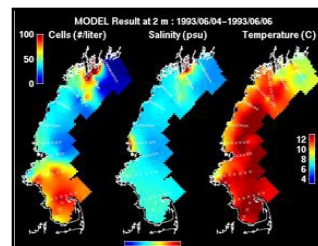
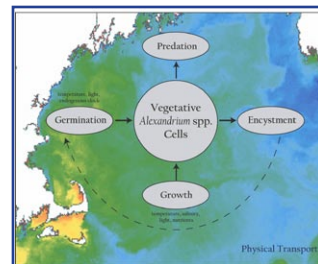
CSCOR Regional Ecosystem Research addresses research priorities in a regional context for the major coastal ecosystems of concern to NOAA, including coastal estuaries, National Marine Sanctuaries, coral reefs, the coastal ocean, and Great Lakes. Regional ecosystem research is multidisciplinary and considers the major components of the regional ecosystem, including human dimensions, with a focus on the identified threats to the health of the ecosystem and the information needed to manage them.

Regional ecosystem research products primarily target ecological forecasts. Forecasts can include long-term scenarios of alternative management options or short-term forecasts of ecosystem condition for more limited issues and immediate response. The long-term scenarios are important for a scientifically informed ecosystem approach to management. Short-term forecasts are particularly useful in mitigating the impacts of recurring threats such as harmful algal blooms. Forecasts are typically developed with the assistance of prior research and monitoring programs, including CSCOR's Ecosystem Stressors Research programs

and other centers within NCCOS, as

well as other non- NCCOS research programs.

Similarly, the transitioning of ecological forecasts to application requires close coordination with those using or operating the forecasts in the future.



Linking monitoring, research and modeling

## Highlighting CSCOR Accomplishments

NCCOS' Center for Sponsored Coastal Ocean Research has excelled at synthesizing research findings, providing scientific research that is directly relevant to resource management needs, and developing forecasts for use by resource managers. Some of the more recent program area achievements include:

### Coral Reef Research

Accomplishments of the coral program include the development of a watershed model to predict the effects of land-based pollutants on coral reef ecosystems and the building of a regional capacity in the U.S. Pacific Islands.

### Hypoxia & Nutrient Pollution

In an effort to better understand the "Dead Zone" in the Gulf of Mexico, CSCOR has funded research on modeling and predicting the zone of hypoxic waters, which has led to an interagency Action Plan that targets a reduction in nutrient loads.

### Harmful Algal Blooms

CSCOR has produced harmful algal bloom (HAB) monitoring products and formed partnerships with local organizations to monitor HAB outbreaks. State-of-the-art models describing and predicting bloom events have been developed to mitigate and eventually prevent blooms.

More detailed CSCOR accomplishments can be found at: <http://www.cop.noaa.gov/aboutus/accomplishments.html>

For more information, please contact: Dr. Robert Magnien, Director  
National Oceanic and Atmospheric Administration, National Ocean Service  
National Centers for Coastal Ocean Science, Center for Sponsored Coastal Ocean Research  
1305 East-West Hwy, Silver Spring, MD 20910  
(301) 713-3338 x159, Rob.Magnien@noaa.gov

We're on the Web! [www.cop.noaa.gov](http://www.cop.noaa.gov)