



# FY2010: Regional Integrated Ocean Observing System Development

## NATIONAL CROSS-CUTTING IOOS DEVELOPMENT

NOAA continued a merit-based funding process in 2010 to enhance regional coastal ocean observing systems (RCOOSs) and achieve three long-term outcomes: establishing coordinated regional observing and data management infrastructures, developing applications and products for regional stakeholders, and crafting regional and national data management and communications protocols. The projects below represent technical support that provide service to all IOOS regions by contributing fundamental research, analysis, and communications that expand the foundation for a national system.

### Project Title:

Alliance for Coastal Technologies (ACT)

### Funding:

FY 2010 - \$3,439,500

FY 2009 - \$1,200,000

FY 2008 - \$1,200,000

FY 2007 - \$1,100,000

### Point of Contact:

- Mario Tamburri, Executive Director ([tamburri@cbl.umces.edu](mailto:tamburri@cbl.umces.edu))
- [www.act-us.info](http://www.act-us.info)

### Project Priorities and Objectives:

ACT is a partnership of research institutions, resource managers, and private sector companies dedicated to fostering development and adoption of effective and reliable sensors and sensor platforms for environmental monitoring and long-term stewardship of coastal ocean resources. ACT addresses the need for rapid technology integration into operational ocean observing systems and monitoring programs. The program is designed to facilitate creation and application of knowledge of current and emerging ocean observing technologies to improve the capabilities of existing observations and deliver new technological solutions to address specific global environmental issues and operational ocean observing challenges. The overall objectives of ACT are to:

- Rapidly and effectively transition emerging technologies to operational use;
- Maintain a dialogue among technology users, developers, and providers;
- Identify technology needs and novel tools and approaches to meet those needs;
- Document the performance and potential of each technology; and;
- Provide the Integrated Ocean Observing System (IOOS<sup>®</sup>) with information required for the deployment of reliable and cost-effective networks.

ACT has made advancements in support of NOAA's efforts to validate and exploit new ocean observing approaches by serving as:

1. A third-party testbed for quantitatively evaluating the performance of new and existing coastal technologies, both in the laboratory and under diverse environmental conditions;

*(over)*



## FY2010 National IOOS Development

---

2. A forum for capacity-building through technology-specific workshops that review the current state of instrumentation, build consensus on identification of future trends, and enhance communications between users and developers; and;
3. An information clearinghouse, provided through a searchable, online database of environmental technologies and community discussion boards.

In 2010, ACT will complete the technology demonstration of in situ (in-the-water) pCO<sub>2</sub> sensors, begun in 2009, and establish the foundation for a new verification – in coordination with IOOS regions – for 2011. ACT will also conduct three workshops on topics including in situ measurements of pCO<sub>2</sub>, sensor needs for climate monitoring, and technologies for environmental sample concentration. In addition, ACT will conduct a high-level process and outcome/impact attribution evaluation of its technology verification and validation program. The procedures and findings from the evaluation, including lessons learned, will be disseminated to relevant audiences.

In addition, ACT will:

- Implement the initial steps of a Technology Testing and Evaluations program for operational and pre-operational wave measurement systems, as described in the document “IOOS: A National Operational Wave Observation Plan (2009)”;
- Hold a one-day international symposium in Alaska on technologies to quantify impacts of climate change on coastal habitats, and;
- Expand the ACT coastal ocean observing technology database, and link it with the National Water Quality Monitoring Network (NWQMN) National Environmental Methods Index (NEMI) searchable database on chemical, microbiological, biological, toxicity, and physical methods, in a new web portal organized around the numerous environmental parameters required for comprehensive earth observations.

---

### Project Title:

NOAA Testbed: A Super-Regional Testbed to Improve Models of Environmental Processes on the U.S. Atlantic and Gulf of Mexico Coasts

### Funding:

FY 2010 - \$3,526,000

### Point of Contact:

- Doug Levin, Federal testbed project lead ([doug.levin@noaa.gov](mailto:doug.levin@noaa.gov))

### Project Priorities and Objectives:

The goal of this activity is to create a multi-disciplinary, community-modeling testbed that will facilitate improved operational coastal ocean prediction. The testbed will allow scientists to share models, observations, and tools needed to elucidate, prioritize, and resolve issues associated with interoperable coupling of models. The goal includes: improving and evaluating models already in operational use within the Atlantic and Gulf Coast super-region; assessing metrics for model skill and system performance, and; facilitating the transition of models from research to operations. Pilot testbed projects will address three chronic issues of high relevance within the super-region: (1) coastal inundation; (2) estuarine hypoxia, and; (3) shelf hypoxia. An overarching theme will involve the design and implementation of cyberinfrastructure (CI) to support the three issue-motivated science themes.

Scientists with ongoing modeling projects on the Atlantic and Gulf Coasts will specify, design, develop, implement, and assess testbed capabilities. Commonalities will be addressed so that the testbed will be broadly applicable in other geographic domains. The testbed will leverage and extend CI being developed by IOOS and OOI-CI to store,

## **FY2010 National IOOS Development**

---

manage, and retrieve shared data sets. Teams will conduct the end-to-end modeling process of data access and assimilation, model coupling, model output delivery, model testing and evaluation, analysis, visualization, skill assessment and super-user evaluation. A primary benefit of the testbed will be the ability to better elucidate, prioritize, and resolve issues associated with interoperable coupling of processes by quantifying model error attributes. Software tools and toolkits will be made available for transition into at least one of three federal operational facilities (NOAA, Navy and USACE) to advance an operational capability to predict acute and chronic environmental events. Federal partners will guide transitions to operations. Testbed teams will work closely with federal partners to ensure that a feasible transition plan is in place by the completion of the activity. Beneficiaries will include research scientists, coastal resource managers, emergency managers, federal agencies, Regional Associations and industry.

---

### **NOAA IOOS Program Office Contacts:**

Gabrielle Canonico ([Gabrielle.Canonico@noaa.gov](mailto:Gabrielle.Canonico@noaa.gov)), Regional Coordination

Dave Easter ([Dave.Easter@noaa.gov](mailto:Dave.Easter@noaa.gov)), Regional Coordination

Regina Evans ([Regina.Evans@noaa.gov](mailto:Regina.Evans@noaa.gov)), Grants Administrator



# FY2010: Regional Integrated Ocean Observing System Development

NOAA continued a merit-based funding process in 2010 to enhance regional coastal ocean observing systems (RCOOS) and achieve three long-term outcomes: establishing coordinated regional observing and data management infrastructures, developing applications and products for regional stakeholders, and crafting regional and national data management and communications protocols. In addition, regional associations received planning grant awards designed to assist them in stakeholder engagement, education and outreach, and long-range planning activities.

## ALASKA REGION

The Alaska Ocean Observing System (AOOS) is the regional association for the statewide coastal and ocean observing system and three regional observing systems (Gulf of Alaska, Bering Sea/Aleutian Islands and Arctic) that are being developed for the Alaska region as part of the national Integrated Ocean Observation System (IOOS®). The AOOS proposal to IOOS was endorsed by the AOOS Board, which includes representatives of nearly all federal agencies in Alaska, the three State of Alaska resource agencies, and the major research institutes in Alaska including the University of Alaska.

### Funding:

The FY 2010 RCOOS award to AOOS is \$1,400,000. The 2010 Regional Association (RA) Planning Grant award is \$399,985.

FY 2009 - \$1,000,000 RCOOS, \$399,969 RA

FY 2008 - \$1,000,000 RCOOS, \$399,976 RA

### Point of Contact:

- Molly McCammon, Executive Director ([mccammon@aoos.org](mailto:mccammon@aoos.org))
- [www.aoos.org](http://www.aoos.org)

### Regional Priorities and Objectives:

The Alaska Ocean Observing System (AOOS) is focused on four key issues:

- Climate change and its impacts;
- Sustainability of fisheries and marine ecosystems;
- Mitigation of natural hazards, especially coastal erosion; and
- Safety of marine operations and health of coastal communities.

Regional IOOS objectives are developed through close engagement with stakeholders. Key AOOS Board objectives for 2010 are identified as follows:

- Establish the AOOS data and web portal as the regional coastal and ocean information system for Alaska, increasing statewide capacity in data management, modeling and product visualization;
- Expand ocean literacy in Alaska and stakeholder use of ocean observing products, including specific tools for educators, by leveraging other coastal and ocean education and outreach activities in Alaska;

*(over)*



- Continue to test and assess enhanced observations and a suite of regional ocean, wave and weather forecast models as a demonstration of an end-to-end observing system in Alaska's Prince William Sound;
- Improve regional forecasts in Cook Inlet and Resurrection Bay by adding new observing platforms and expanding models established in PWS to the northern Gulf of Alaska (GOA) and continue long time series ocean monitoring in the Gulf of Alaska, including monitoring for ocean acidification;
- Continue testing a prototype ocean and weather station for use at Alaska harbors and add two new locations to improve safety at sea; and
- Provide real-time information on Arctic Ocean conditions (physical, biological and chemical) with the addition of new observing platforms to develop near-shore weather and ocean forecasts and monitor climate change impacts.

Limited funding has precluded a number of components originally proposed by AOOS, specifically: major expansion of AOOS in Cook Inlet, contributions to Southeast Alaska and Bering Sea ocean circulation models, passive acoustic monitoring in the Bering Sea and sea ice thickness and motion measurements in the Arctic.

---

**NOAA IOOS Program Office Contacts:**

Gabrielle Canonico ([Gabrielle.Canonico@noaa.gov](mailto:Gabrielle.Canonico@noaa.gov)), Regional Coordination  
Dave Easter ([Dave.Easter@noaa.gov](mailto:Dave.Easter@noaa.gov)), Regional Coordination  
Regina Evans ([Regina.Evans@noaa.gov](mailto:Regina.Evans@noaa.gov)), Grants Administrator



# FY2010: Regional Integrated Ocean Observing System Development

NOAA continued a merit-based funding process in 2010 to enhance regional coastal ocean observing systems (RCOOS) and achieve three long-term outcomes: establishing coordinated regional observing and data management infrastructures, developing applications and products for regional stakeholders, and crafting regional and national data management and communications protocols. In addition, regional associations received planning grant awards designed to assist them in stakeholder engagement, education and outreach, and long-range planning activities.

## CARIBBEAN REGION

The Caribbean Regional Association (CaRA) is the regional association for the coastal and ocean observing system that is being developed for Puerto Rico and the U.S. Virgin Islands. Initial implementation of the Caribbean Integrated Coastal Ocean Observing System (CarICOOS) is focused on meeting identified stakeholder needs for improved real time data products and forecasts of coastal weather (winds), currents, waves, water quality and hurricane-driven inundation for the U.S. Caribbean Exclusive Economic Zone (EEZ).

### Funding:

The FY 2010 RCOOS award to CaRA is \$1,000,000. The 2010 Regional Association (RA) Planning Grant award is \$399,824.

FY 2009 - \$527,016 RCOOS, \$399,826 RA

FY 2008 - \$499,999 RCOOS, \$399,699 RA

### Point of Contact

- Julio M. Morell ([julio.morell@upr.edu](mailto:julio.morell@upr.edu))
- [www.caricoos.org](http://www.caricoos.org)

### Regional Priorities and Objectives:

CaRA has engaged stakeholders from various sectors pertaining to tourism and marine recreation, maritime transportation, security, and human and ecosystem health as well as economics, and whose decisions are based on coastal seas and weather information. To meet both stakeholder needs and national program requirements, CaRA will focus on the following activities:

- Enhancement or installation of essential in situ (in the water) observational assets;
- Operational implementation of modeling tools;
- Partnering with NOAA to produce regionally-focused remote sensing products;
- Ensuring Integrated Ocean Observing System (IOOS<sup>®</sup>)-compliant data processing and archiving; and
- Disseminating data and products to agencies and stakeholders to ensure a user-responsive, operational RCOOS.

Now entering the third year of its project, CaRA will continue progress in the following areas:

- Completion of a coastal data buoy network;

*(over)*



- Sustained operation and maintenance of all observational assets (coastal buoys and meteorological mesonet) and sustained dissemination of data streams and data products;
  - Integrate and optimize observational and modeling components through data assimilation;
  - Operational implementation of surface tide and coastal circulation modeling (ADCIRC);
  - Implementation of regional ocean modeling (HYCOM-ROMS) for the high resolution western PR and VI grids;
  - Full implementation and publishing of IOOS-compliant, web-based tools and data products;
  - Operational implementation and optimization of coastal wave modeling (SWAN) and product suite;
  - Improvement of coastal inundation products through optimization of the computational grid for PR and USVI.
- 

**NOAA IOOS Program Office Contacts:**

Gabrielle Canonico ([Gabrielle.Canonico@noaa.gov](mailto:Gabrielle.Canonico@noaa.gov)), Regional Coordination

Dave Easter ([Dave.Easter@noaa.gov](mailto:Dave.Easter@noaa.gov)), Regional Coordination

Regina Evans ([Regina.Evans@noaa.gov](mailto:Regina.Evans@noaa.gov)), Grants Administrator



# FY2010: Regional Integrated Ocean Observing System Development

NOAA continued a merit-based funding process in 2010 to enhance regional coastal ocean observing systems (RCOOS) and achieve three long-term outcomes: establishing coordinated regional observing and data management infrastructures, developing applications and products for regional stakeholders, and crafting regional and national data management and communications protocols. In addition, regional associations received planning grant awards designed to assist them in stakeholder engagement, education and outreach, and long-range planning activities.

## CENTRAL AND NORTHERN CALIFORNIA REGION

The Central and Northern California Ocean Observing System (CeNCOOS) spans the coastal ocean from the California/Oregon border south to Point Conception. The fundamental CeNCOOS approach is to develop long-term monitoring of environmental conditions such as water quality, productivity, and connectivity in support of marine protected area management in central and northern California.

### Funding:

The 2010 RCOOS award to CeNCOOS is \$1,402,000. The 2010 Regional Association (RA) Planning Grant award is \$399,619.

FY 2009 - \$1,281,529 RCOOS, \$397,308

FY 2008 - \$1,000,000 RCOOS, \$395,763

### Point of Contact:

- Steve Ramp, Executive Director ([sramp@mbari.org](mailto:sramp@mbari.org))
- [www.cencoos.org](http://www.cencoos.org)

### Regional Priorities and Objectives:

The CeNCOOS proposal for 2008-2010 outlined the following goals:

- Monitor the water quality, productivity, and population connectivity in the coastal ocean from Point Conception to the Oregon border out to 200 km offshore;
- Implement data-assimilating numerical forecast models to act as dynamical interpolators of sparse ocean data sets and allow prediction of ocean properties from days to decades;
- Develop a Data Management and Communications (DMAC) system to move data seamlessly from the sensor to the product developer and allow easy access to the data and products for all CeNCOOS partners and end-users; and
- Develop information products specifically targeted to support management decisions in state and federal marine protected areas within the region, defined here to include National Marine Sanctuaries and Marine Protected Areas (MPAs) designated by the State of California under the Marine Life Protection Act.

This proposal, originally written for \$3.5M per year for three years, was funded at lower levels than anticipated. In coordination with stakeholders, in response to lower funding levels, and still in keeping with the original CeNCOOS objectives, the revised work plan and priorities for 2010 will focus as follows:

- Top priority will be given to maintaining the pan-regional backbone (PRB), data management and communications (DMAC), and data products;
- The Marine Protected Areas focus should be maintained;
- The money allocated specifically to high frequency radar support during 2009 (\$282K) will be continued; and

- Investment will be made in numerical modeling and prediction, with an eye on starting work that CeNCOOS can build upon with future funding.
- 

**NOAA IOOS Program Office Contacts:**

Gabrielle Canonico ([Gabrielle.Canonico@noaa.gov](mailto:Gabrielle.Canonico@noaa.gov)), Regional Coordination

Dave Easter ([Dave.Easter@noaa.gov](mailto:Dave.Easter@noaa.gov)), Regional Coordination

Regina Evans ([Regina.Evans@noaa.gov](mailto:Regina.Evans@noaa.gov)), Grants Administrator



# FY2010: Regional Integrated Ocean Observing System Development

NOAA continued a merit-based funding process in 2010 to enhance regional coastal ocean observing systems (RCOOS) and achieve three long-term outcomes: establishing coordinated regional observing and data management infrastructures, developing applications and products for regional stakeholders, and crafting regional and national data management and communications protocols. In addition, regional associations received planning grant awards designed to assist them in stakeholder engagement, education and outreach, and long-range planning activities.

## GULF OF MEXICO REGION

The Gulf of Mexico Coastal Ocean Observing System (GCOOS) includes the coastal states from Florida to Texas.

### Funding:

The FY 2010 RCOOS award to GCOOS is \$1,000,000. The 2010 Regional Association (RA) Planning Grant award to this region is \$399,960.

FY 2009 - \$573,085 RCOOS (2 awards), \$399,998 RA

FY 2008 - \$573,085 RCOOS (2 awards), \$399,986 RA

### Point of Contact:

- *Ann Jochens* ([ajochens@tamu.edu](mailto:ajochens@tamu.edu))
- [www.gcoos.org](http://www.gcoos.org)

### Regional Priorities and Objectives:

GCOOS is being developed as a sustained observing system that will provide data, information, and products on marine and estuarine systems of the Gulf to a wide range of users. The GCOOS RA, established in January 2005, is working to bring GCOOS to maturity to provide observations and products needed by users in this region for:

- Detecting and predicting climate variability and consequences;
- Preserving and restoring healthy marine ecosystems;
- Ensuring human health;
- Managing resources;
- Facilitating safe and efficient marine transportation;
- Enhancing national security, and;
- Predicting and mitigating against coastal hazards.

The goal of the RA support project is to maintain and strengthen the RA so it can build a comprehensive, sustained, operational GCOOS to meet the needs of many different stakeholders. The objectives are to:

- Maintain and further develop the infrastructure of the RA itself;
- Identify regional and local stakeholder needs and priorities;
- Identify and maintain an inventory of observations and products from the region;
- Identify gaps in observations and products needed to meet stakeholder needs;
- Select and prepare projects to fill gaps and to provide for enhancements to observing systems, products, and data management;
- Conduct activities to strengthen regional involvement with the evolution of and compliance with data management and communication plans of the U.S. Integrated Ocean Observing System (IOOS<sup>®</sup>), and;
- Coordinate and collaborate with other observing system entities.

(over)

Based on inputs from the broad community of GCOOS stakeholders, five thematic areas, each with many associated issues, have been identified as priorities for building GCOOS. These priority themes are:

- Safe and efficient marine operations (e.g., marine transportation, recreational boating, and pollutant spill tracking);
- Mitigation of effects of coastal hazards (e.g., monitoring and forecasting of storm surge and inundation, impacts of hurricanes on communities and offshore industries, urban development impacts to ecosystems);
- Public health and safety (e.g., search and rescue; Harmful Algal Bloom detection, monitoring, and forecasting; monitoring hypoxia at regional and local levels; monitoring and predicting risks from rip currents or strong currents or waves);
- Healthy ecosystems and water quality (e.g., monitoring hypoxia, pollutant tracking capability, monitoring to maintain healthy ecosystems for fisheries), and;
- Gulf-wide ocean literacy and climate literacy (e.g., increasing public knowledge to improve decisions on recreational activities, hurricane evacuation, and urban development and flood zones, as well as to promote sustainable use of resources and protect life and property in the face of natural and human-induced threats).

The RA is also continuing work started in January 2008 to build a centralized regional data portal, to harmonize the data delivery systems of non-federal, voluntary data providers to the GCOOS, to develop an integrated data framework for data streams, quality assurance procedures, and data delivery in the region, and to provide public products needed by the broad community of stakeholders. The RA is standardizing elements of the near real-time marine data delivery systems of the data providers to maximize interoperability within the region, between regions, and with the national IOOS system and to facilitate the production of operational data and model products in support of the regional and national needs. The RA is developing an integrated data framework for data streams, quality assurance procedures, and data delivery. Objectives for this activity are to:

- Maintain and enhance the data portal, including the addition of new voluntary data providers, data types, and products;
  - Develop and refine a comprehensive data management system;
  - Build a pre-operational Regional Operations Center (ROC), and;
  - Develop educational resources for significant IOOS outreach efforts.
- 

#### **NOAA IOOS Program Office Contacts:**

Gabrielle Canonico ([Gabrielle.Canonico@noaa.gov](mailto:Gabrielle.Canonico@noaa.gov)), Regional Coordination

Dave Easter ([Dave.Easter@noaa.gov](mailto:Dave.Easter@noaa.gov)), Regional Coordination

Regina Evans ([Regina.Evans@noaa.gov](mailto:Regina.Evans@noaa.gov)), Grants Administrator



# FY2010: Regional Integrated Ocean Observing System Development

NOAA continued a merit-based funding process in 2010 to enhance regional coastal ocean observing systems (RCOOS) and achieve three long-term outcomes: establishing coordinated regional observing and data management infrastructures, developing applications and products for regional stakeholders, and crafting regional and national data management and communications protocols. In addition, regional associations received planning grant awards designed to assist them in stakeholder engagement, education and outreach, and long-range planning activities.

## GREAT LAKES REGION

The Great Lakes Observing System provides coverage for the coastal zone within the states of New York, Pennsylvania, Ohio, Indiana, Illinois, Wisconsin, Minnesota, and Michigan, bordering on the Great Lakes and St. Lawrence River.

### Funding:

The 2010 RCOOS award to the regional association is \$1,080,815 while an additional \$1,896,185 is going GLOS partner, the Cooperative Institute for Limnology and Ecosystem Research, and \$313,000 is staying within NOAA for complementary observing and modeling activities. The 2010 Regional Association (RA) Planning Grant award to this region is \$400,000. Much of the increased funding for Great Lakes activities in 2010 is coming through a \$3 million award to GLOS that NOAA is administering from the Environmental Protection Agency for observing activities associated with the Great Lakes Restoration Initiative.

FY 2009 - \$350,000 RCOOS, \$400,000 RA

FY 2008 - \$350,000 RCOOS, \$400,000 RA

### Point of Contact:

- Jennifer Read, Executive Director ([jenread@umich.edu](mailto:jenread@umich.edu))
- [www.glos.us](http://www.glos.us)

### Regional Priorities and Objectives:

The Great Lakes Observing System (GLOS) is dedicated to providing access to real-time and historic data on the hydrology, biology, chemistry, geology and cultural resources of the Great Lakes, its interconnecting waterways and the St. Lawrence River to meet the following regional priorities:

- Improve early identification of climate change impacts on the thermal structure and chemistry of the Great Lakes;
- Reduce risks of contaminated water supplies and improve predictive capabilities to protect public use of bathing beaches;
- Enhance understanding of nutrient dynamics, algal blooms and other factors adversely affecting a viable fishery, and;
- Reduce loss of life and property damage to commercial navigation and recreational boating, while increasing economic efficiencies of commercial navigation operations.

Since 2008, GLOS has focused on four primary tasks:

- Implementation of prototype near-shore buoys on lakes Superior, Michigan, Erie and Ontario to collect meteorological, wave information, and vertical lake temperature observations;

*(over)*

- Development of public domain three-dimensional hydrodynamic modeling for the lakes Huron-to-Erie Corridor (HEC), including Lake St. Clair;
- Expansion of the development, user assessments and market analysis of customized integrated harbor specific products (Great Lakes Harbor View), and;
- Implementation of the Great Lakes Modeling and Assessment Center (GLMAC).

In 2010, GLOS will use Integrated Ocean Observing System (IOOS<sup>®</sup>) funds, as well as funds received through the Great Lakes Restoration Initiative, to continue these activities. Critical information needs for the four GLOS priorities will be addressed by implementation of an array of integrated observations including new moorings and additional sensors, AUV/gliders technologies, cross-lake ferry instrumentation, and satellite remote sensing products. In addition, hydrodynamic model development will be advanced in key interconnecting waterways between the lakes and along near-shore areas where protection of public health and maritime safety is of high concern. The proposed work will include coordination of existing information resources and implementation of service-oriented data integration and delivery approaches. Finally, an outreach and education program will be conducted, including curricula development, teacher education, GLOS product promotion and periodic user needs assessments.

Activities for 2010 were selected because they build on successes already achieved under the cooperative agreement, help meet priorities identified in the GLRI Action Plan, initiate the implementation of high priorities of the cooperative agreement that have not yet been addressed due to funding constraints, and have emerged as high priority initiatives in the GLOS Strategic Planning process with stakeholders. This work will provide significant benefits to a wide array of users across the region and are critical components of the region's long-term vision for advancing resource management and use.

---

**NOAA IOOS Program Office Contacts:**

Gabrielle Canonico ([Gabrielle.Canonico@noaa.gov](mailto:Gabrielle.Canonico@noaa.gov)), Regional Coordination  
Dave Easter ([Dave.Easter@noaa.gov](mailto:Dave.Easter@noaa.gov)), Regional Coordination  
Regina Evans ([Regina.Evans@noaa.gov](mailto:Regina.Evans@noaa.gov)), Grants Administrator



# FY2010: Regional Integrated Ocean Observing System Development

NOAA continued a merit-based funding process in 2010 to enhance regional coastal ocean observing systems (RCOOS) and achieve three long-term outcomes: establishing coordinated regional observing and data management infrastructures, developing applications and products for regional stakeholders, and crafting regional and national data management and communications protocols. In addition, regional associations received planning grant awards designed to assist them in stakeholder engagement, education and outreach, and long-range planning activities.

## MID-ATLANTIC REGION

The Integrated Ocean Observing System (IOOS<sup>®</sup>) Mid-Atlantic Region footprint includes the coastal ocean states from Cape Cod to Cape Hatteras, representing roughly one fourth of the U.S. population, and comprising 9 states and the District of Columbia, five major urban estuaries, including the Hudson River estuary, the Delaware River estuary, the Long Island Sound and the Chesapeake Bay. The region has 7 of the 12 largest ports in the U.S. and over 110 congressional districts. The Mid-Atlantic Bight alone is roughly 1000 km long. The Mid-Atlantic Coastal Ocean Observing Regional Association (MACOORA) coordinates, facilitates and links observations of the watershed, estuary, and ocean in this footprint as part of a national effort to improve scientific observations of our coastal oceans. It accomplishes these activities through its observing arm, the Mid-Atlantic Coastal Ocean Observing System (MARCOOS).

### Funding

The FY10 RCOOS award to MARCOOS, the operational arm totals \$1,700,000. The 2010 RA Planning Grant award to this region is \$400,000.

FY 2009 - \$1,700,000 RCOOS, \$400,000 RA

FY 2008 - \$1,700,000 RCOOS, \$400,000 RA

FY 2007 - \$1,700,000 RCOOS, \$400,000 RA

### Point of Contact:

- Judith T. Krauthamer, Executive Director ([judith.krauthamer@macoora.org](mailto:judith.krauthamer@macoora.org))
- [www.macoora.org](http://www.macoora.org)

### Regional Priorities and Objectives:

MACOORA/MARCOOS resources include 30 coastal high frequency radars, a fleet of ocean gliders, buoys and a trio of data assimilation models. Priority areas of focus include Coastal Inundation, Maritime Safety, Ecosystem Decision Support (such as fisheries), water quality, and offshore renewable energy. MACOORA/MARCOOS observations and modeling information streams are also relevant to and critical in the discussion of climate change, ocean acidification, and marine spatial planning. Benefiting from extensive outreach, education and user-interactivity, MACOORA/MARCOOS observations and observation products provide decision-making input for port management, search and rescue, power utility restoration, reservoir, storm and waste water management and local and state regulation of beaches and fisheries.

(over)

In its first years of funding, MACOORA/MARCOOS focused on delivering real-time information products to improve search and rescue activities at sea and aid ecosystem-based management of fisheries. Two primary sets of observing assets were established:

- An operational array of high-frequency radars for hourly mapping of surface currents over the Mid-Atlantic region, and;
- An ensemble of ocean forecast models that assimilate data from a fleet of autonomous ocean gliders and satellite sensors.

The MACOORA/MARCOOS Surface-Current Radar data product is now an officially-recognized, operational component of the U.S. Coast Guard Search and Rescue Optimal Planning System (SAROPS) and is helping save lives at sea. Collaborating with NOAA Fisheries, MACOORA/MARCOOS has increased model forecasts that are relevant to fisheries in the region. These successes are due in part to its ability to leverage federal interagency investments and activities with the Coast Guard, Navy, National Science Foundation, Department of Homeland Security, NASA, the U.S. Geological Survey, and the Environmental Protection Agency, among others.

Based on ongoing feedback from users, MACOORA/MARCOOS has begun to enhance activities in water quality, coastal inundation and offshore renewable energy. Regionally distributed administrative, scientific, and operational expertise is being used to coordinate an extensive array of existing observation assets, data management, and modeling in these areas. MACOORA/MARCOOS will generate and disseminate real-time data, nowcasts and forecasts of the Mid-Atlantic coastal ocean. Specific goals include:

- A broader ensemble of regional weather forecasts linked to a growing regional weather network for assimilation and validation through collaborations with NOAA Weather Forecast Offices, academia, and industry;
- An ensemble of regional nowcasts and forecasts of 2-D surface currents with the operational Mid-Atlantic HF Radar Network;
- An ensemble of 3-D circulation, temperature and salinity nowcasts and forecasts for the region derived from three dynamical data-assimilative ocean models;
- An informational outreach to nearly 4000 Mid-Atlantic stakeholders;
- Workshops on water quality, fisheries, and coastal inundation;
- Continuance of strategic relationships with NGOs and other data and policy providers;
- Alliances and close interaction with governance entities, such as the Mid-Atlantic Region Council on the Ocean (MARCO);

This project will continue to leverage existing regional observation and modeling assets to support the three IOOS subsystems: observations, modeling, and data management.

---

#### **NOAA IOOS Program Office Contacts:**

Gabrielle Canonico ([Gabrielle.Canonico@noaa.gov](mailto:Gabrielle.Canonico@noaa.gov)), Regional Coordination

Dave Easter ([Dave.Easter@noaa.gov](mailto:Dave.Easter@noaa.gov)), Regional Coordination

Regina Evans ([Regina.Evans@noaa.gov](mailto:Regina.Evans@noaa.gov)), Grants Administrator



## FY2010: Regional Integrated Ocean Observing System Development

NOAA continued a merit-based funding process in 2010 to enhance regional coastal ocean observing systems (RCOOS) and achieve three long-term outcomes: establishing coordinated regional observing and data management infrastructures, developing applications and products for regional stakeholders, and crafting regional and national data management and communications protocols. In addition, regional associations received planning grant awards designed to assist them in stakeholder engagement, education and outreach, and long-range planning activities.

### PACIFIC NORTHWEST REGION

The Northwest Association of Networked Ocean Observing Systems (NANOOS) is the Integrated Ocean Observing System (IOOS<sup>®</sup>) Regional Association (RA) in the Pacific Northwest, primarily Washington and Oregon. NANOOS has strong ties with other west coast observing systems, particularly the Alaska Ocean Observing System (AOOS), the Central and Northern California Ocean Observing System (CeNCOOS) and observing programs in British Columbia (e.g., the Victoria Experimental Network Under the Sea, or VENUS) through common purpose and the occasional overlap of data and products.

#### Funding:

The 2010 RCOOS award to this region is \$1,700,000. The 2010 RA Planning Grant award to this region is \$400,000.  
FY 2009 - \$1,500,000 RCOOS, \$400,000 RA  
FY 2008 - \$1,500,000 RCOOS, \$400,000 RA  
FY 2007 - \$1,500,000 RCOOS, \$400,000 RA

#### Point of Contact:

- Jan Newton, Executive Director ([newton@apl.washington.edu](mailto:newton@apl.washington.edu))
- [www.nanoos.org](http://www.nanoos.org)

#### Regional Priorities and Objectives:

NANOOS is a partnership of over 40 entities, including industry, state agencies, local governments, tribes, non-government organizations, and educational institutions. Established in 2003, NANOOS has used results of nearly three years of NOAA-funded planning efforts and ongoing regional contributions to build regional association partnerships in the Pacific Northwest (PNW) and to identify high priority user needs and requirements.

To progress on the NANOOS regional priorities of maritime operations, fisheries, ecosystem impacts, climate, and coastal hazards, this project will continue to develop the essential subcomponents of the Pacific Northwest RCOOS: observing systems, modeling and products, data management and communications (DMAC), and education and outreach. The work will be applied in four observational domains: coastal ocean shelf, coastal ocean surface currents, estuaries, and shorelines.

NANOOS identified eight initial objectives for the RCOOS. While budgetary levels were reduced, seven of those objectives were retained and have been met to date. In 2010, NANOOS will continue progress on those and add two new objectives to guide future build-out and focus:

- **Maintain surface current mapping capability** – A fundamental foundation block for the coastal ocean observing system serving diverse users spanning maritime operations to ecosystems and fisheries.
- **Sustain buoys and gliders in the PNW coastal ocean, in coordination with national programs** – These assets give advance information on hypoxia/anoxia, ocean acidification, and HABs.

(over)



- **Maintain observation capabilities in PNW estuaries** – These address sustainable use and management.
- **Maintain core elements of beach and shoreline observing programs** – This helps hazard mitigation by providing better decision support tools for coastal managers, planners, and engineers.
- **Sustain a system of numerical models of PNW circulation** – This covers from the head of tide of estuaries to the outer edges of the EEZ. Modeling tools support users, e.g., marine operators, first responders, and environmental managers.
- **Maintain NANOOS' DMAC system for routine operational distribution of data and information** – This dynamic distributed system of systems supports users' needs and allows free access to the IOOS backbone and national information infrastructure.
- **Sustain and strengthen NANOOS education and outreach efforts** – This work fosters ocean literacy and use of NANOOS products.
- *(new for 2010)* **Make selected improvements to RCOOS** – NANOOS identified priority areas of improvement in all of the sub-systems of the RCOOS and a modular plan.
- *(new for 2010)* **Quantitatively evaluate assets, products and efforts of the RCOOS, in light of stakeholder input and evaluations, to assess payoffs and see where improvements and/or re-direction are needed** – This will allow NANOOS to plan for the future.

NANOOS places a priority on sustaining the leveraged coastal observations that its RCOOS has integrated and on developing the most informative and useful products for regional users, as advised by our Governing Council and our active Standing Committees (DMAC, User Products, Education & Outreach) that prioritize work efforts.

In late 2009, NANOOS launched its online system-wide data viewing and access tool, known as the NANOOS Visualization System (NVS). NVS, available at <http://www.nanoos.org/nvs>, allows easy access to ocean observing data in the Pacific Northwest. NVS gathers data across a wide range of sources (federal and non-federal) including buoys, shore and land-based stations throughout the NANOOS region (Canada to California). NVS is continually being improved and refined as new data streams are brought in and as the NVS development team receives feedback from users. Released in 2010, NVS 1.6 adds access to surface currents from high frequency radars, temperature and ocean color from satellites, and improved filters, legends, and data plots. Users can also find data from research cruises and forecast information on water levels and waves for many locations.

NANOOS developed a wide variety of user products and educational materials centered on our five regional priorities. Examples include on-line tsunami evacuation/inundation maps, forecast information products developed for commercial and recreational albacore tuna fishers, real-time water quality information optimized for shellfish growers, blended tide, current, weather conditions forecasts for mariners, and on-line “theme pages” for issues of regional interest, such as ocean acidification and hypoxia, with direct links to data, educational content, and regional activities. A variety of lesson plans, some using real-time data, and learning resources are available and being used and evaluated by teachers at various levels.

---

#### NOAA IOOS Program Office Contacts:

Gabrielle Canonico ([Gabrielle.Canonico@noaa.gov](mailto:Gabrielle.Canonico@noaa.gov)), Regional Coordination  
Dave Easter ([Dave.Easter@noaa.gov](mailto:Dave.Easter@noaa.gov)), Regional Coordination  
Regina Evans ([Regina.Evans@noaa.gov](mailto:Regina.Evans@noaa.gov)), Grants Administrator



# FY2010: Regional Integrated Ocean Observing System Development

NOAA continued a merit-based funding process in 2010 to enhance regional coastal ocean observing systems (RCOOS) and achieve three long-term outcomes: establishing coordinated regional observing and data management infrastructures, developing applications and products for regional stakeholders, and crafting regional and national data management and communications protocols. In addition, regional associations received planning grant awards designed to assist them in stakeholder engagement, education and outreach, and long-range planning activities.

## NORTHEAST ATLANTIC REGION

The Northeastern Regional Association of Coastal Ocean Observing Systems (NERACOOS) spans coastal waters from the Canadian Maritime Provinces to the New York Bight. NERACOOS provides weather and ocean data to fishers and commercial shippers determining if conditions are safe for passage and to emergency managers issuing storm warnings. They are also advancing efforts to use these data for water quality monitoring, harmful algal bloom predictions and warnings, and coastal flooding and erosion forecasting systems.

### Funding:

The FY 2010 RCOOS award to NERACOOS is \$1,400,000, plus \$49,000 for High Frequency Radar support. The 2010 Regional Association (RA) Planning Grant award to this region is \$400,000.

FY 2009 (Year 3) - \$1,324,787 RCOOS, \$400,000 RA

FY 2008 (Year 2) - \$1,200,000 RCOOS, \$400,000 RA

FY 2007 (Year 1) - \$1,200,000 RCOOS, \$400,000 RA

### Point of Contact:

- Ru Morrison, Executive Director ([ru.morrison@neracoos.org](mailto:ru.morrison@neracoos.org))
- [www.neracoos.org](http://www.neracoos.org)

### Regional Priorities and Objectives:

The Northeast region of the U.S. Integrated Ocean Observing System (IOOS<sup>®</sup>) is geographically complex, with five states and two Canadian Provinces, coastal waters and watersheds of the Scotian Shelf, Gulf of Maine, Southern New England Bight, and Long Island Sound. Regional user requirements identified inundation, harmful algal blooms, water quality, and living marine resources as specific concerns in the Northeastern Region. The NERACOOS project, as originally proposed in April 2007, had three goals: (1) operate a core of observing elements; (2) establish new observing capabilities for inundation, water quality, and harmful algal bloom, and; (3) develop the design for the user-driven core observing system. In response to the budget limitations, the focus for the past three years has been on continued operation of selected elements of the existing regional observing system, with a modest commitment to enhancement of observing capabilities.

In 2010, NERACOOS will continue the improvement and integration of the coastal ocean observing system through close collaboration with regional organizations, especially the Northeast Regional Ocean Council (NROC). The NROC is a state-federal partnership that provides a forum for tackling and prioritizing regional scale problems. This collaboration will help ensure that NERACOOS directly addresses pressing regional scale issues of societal benefit. To that end, NERACOOS adopted four NROC priority theme areas and formalized the collaboration with a Memorandum of Understanding. The existing highly-leveraged observing, modeling, data integration, and product development infrastructure provides practical operational capacity in each priority area and 2010 activities seek to maintain the capacity previously developed.

(over)



The NROC and NERACOOS key themes for 2010 – and the associated NERACOOS activities - are as follows:

- **Maritime Safety and Security** – NERACOOS will provide real-time observations and forecasts directly for maritime operational safety, inform US and Canadian Coast Guard Search and Rescue Operations, and introduce new and enhance existing weather forecast products.
- **Ocean and Coastal Ecosystem Health** – NERACOOS will improve harmful algal bloom monitoring and forecasting, enhance monitoring and integration of water quality information, enable ecosystem based fisheries management and marine spatial planning, and monitor ocean acidification.
- **Ocean Energy** – NERACOOS will provide the necessary oceanographic information to facilitate the renewable energy sector and the Data Integration Framework required for a regional approach to facilities siting.
- **Coastal Hazards Resiliency** – NERACOOS will enhance and evaluate street-level inundation forecasting, expand forecasts for coastal flooding and erosion, and support emergency spill response.

Additionally, climate change and Coastal and Marine Spatial Planning are central and cross-cutting themes.

Finally, continued development and implementation of a Data Integration Framework is central to the delivery of information and products to users of the system, performance and evaluation metrics will enable tracking the return on investment, and education and outreach will engage NERACOOS users to ensure information and products meet their needs.

---

#### **NOAA IOOS Program Office Contacts:**

Gabrielle Canonico ([Gabrielle.Canonico@noaa.gov](mailto:Gabrielle.Canonico@noaa.gov)), Regional Coordination

Dave Easter ([Dave.Easter@noaa.gov](mailto:Dave.Easter@noaa.gov)), Regional Coordination

Regina Evans ([Regina.Evans@noaa.gov](mailto:Regina.Evans@noaa.gov)), Grants Administrator



# FY2010: Regional Integrated Ocean Observing System Development

NOAA continued a merit-based funding process in 2010 to enhance regional coastal ocean observing systems (RCOOS) and achieve three long-term outcomes: establishing coordinated regional observing and data management infrastructures, developing applications and products for regional stakeholders, and crafting regional and national data management and communications protocols. In addition, regional associations received planning grant awards designed to assist them in stakeholder engagement, education and outreach, and long-range planning activities.

## PACIFIC ISLANDS REGION

The Pacific Islands (PacIOOS) region is defined as the Commonwealth and Territories of the United States in the Pacific and the Freely Associated States in the Pacific.

### Funding:

The 2010 RCOOS award to this region is \$1,700,000. The 2010 Regional Association (RA) Planning Grant award to this region is \$399,973.

FY 2009 - \$1,869,134 RCOOS, \$398,802 RA

FY 2008 - \$1,700,000 RCOOS, \$397,909 RA

FY 2007 - \$1,700,000 RCOOS

### Point of Contact:

- Brian Taylor ([taylorb@hawaii.edu](mailto:taylorb@hawaii.edu))
- [www.pacioos.org](http://www.pacioos.org)

### Regional Priorities and Objectives:

The Pacific Islands Ocean Observing System (PacIOOS) is a partnership of data providers and users working together to enhance ocean observations and develop, disseminate, evaluate and apply ocean data and information products designed to address the needs of stakeholders who call the Pacific Islands home. This integrated observing and information system provides information to address:

- **Coastal Hazards Resilience:** Providing predictions of high water level and inundation events in coastal areas, developing maps of coastline change and identifying areas of vulnerability, and providing beach condition forecasts to users and lifeguards in an effort to promote public safety and community resilience.
- **Maritime Safety and Security:** Serving timely, reliable, real-time information on harbor conditions, coastal and open ocean currents, waves, and weather to improve search-and-rescue operations, spill response, optimize shipping routes, and develop better severe weather and event predictions.
- **Coastal Water Quality:** Supplying real-time observations of biological, chemical, and physical water parameters to improve our understanding of ocean acidification, more effectively protect healthy coastal marine ecosystems, and enhance the understanding of and response to marine events that impact human health.
- **Ocean Planning and Management:** Integrating information for effective coastal and marine spatial planning (CMSP), measuring and modeling parameters necessary for the development of climate change mitigation and adaptation plans, and collecting and serving necessary information for renewable energy development.

*(over)*

- **Education and Outreach:** Working to promote the understanding and stewardship of the Hawaiian and insular Pacific's coastal waters and build capacity for the continued expansion of ocean observations and informational products.

*Present System*

Initial PacIOOS observing efforts have focused on the development of an end-to-end observational system confined to the island of Oahu, Hawaii. This focused pilot-project is exploring the operability of various observational systems in an island setting to help determine the ideal design for a full PacIOOS observational network.

Data system development, modeling, education and outreach, and stakeholder engagement through a collaborative governance framework are focused not only on the Hawaiian Islands, but each of the PacIOOS jurisdictions through the Pacific. Targeted deployment of instrumentation to address local stakeholder needs has begun in the western and southern Pacific jurisdictions with deployments to expand under future funding cooperative agreements.

---

**NOAA IOOS Program Office Contacts:**

Gabrielle Canonico ([Gabrielle.Canonico@noaa.gov](mailto:Gabrielle.Canonico@noaa.gov)), Regional Coordination  
Dave Easter ([Dave.Easter@noaa.gov](mailto:Dave.Easter@noaa.gov)), Regional Coordination  
Regina Evans ([Regina.Evans@noaa.gov](mailto:Regina.Evans@noaa.gov)), Grants Administrator



# FY2010: Regional Integrated Ocean Observing System Development

NOAA continued a merit-based funding process in 2010 to enhance regional coastal ocean observing systems (RCOOS) and achieve three long-term outcomes: establishing coordinated regional observing and data management infrastructures, developing applications and products for regional stakeholders, and crafting regional and national data management and communications protocols. In addition, regional associations received planning grant awards designed to assist them in stakeholder engagement, education and outreach, and long-range planning activities.

## SOUTHERN CALIFORNIA REGION

The Southern California Regional Coastal Ocean Observing System (SCCOOS) provides coverages south from Point Conception to the Mexico border.

### Funding:

The Fiscal Year (FY) 2010 awards to this region include \$1,400,00 for the RCOOS, \$11,900 to support a shellfish industry ocean acidification workshop, and \$510,000 to continue support for High Frequency Radar for search-and-rescue operations. The 2010 Regional Association (RA) Planning Grant award to this region is \$395,210.

FY 2009 - \$1,341,466 RCOOS (3 awards), \$393,093 RA

FY 2008 - \$500,000 RCOOS, \$353,785 RA

### Point of Contact:

- Julie Thomas, Executive Director ([jot@cdip.ucsd.edu](mailto:jot@cdip.ucsd.edu))
- [www.sccoos.org](http://www.sccoos.org)

### Regional Priorities and Objectives:

SCCOOS works to inform short-term decision-making and long-term assessment of the coastal ocean through sustained physical and biological observations. This project addresses activities identified as priorities by the SCCOOS stakeholder community. These include supporting the southern California beach water quality management community with issues related to Harmful Algal Blooms (HABs), maintaining area-wide ocean assessment to identify secular trends in the environment and their relationship to ecosystem variability; supporting operational users, such as search and rescue, oil spill response, and marine safety, as well as managing and distributing ocean information of public interest.

In FY10, funds will support ongoing operations and maintenance for underwater gliders, the high frequency radar system, and automated shore stations. Continued funding will be provided for an augmentation to the California Cooperative Fisheries Investigation (CalCOFI) and the SCCOOS HAB surveillance program. Model evaluation and forecasts will continue with both the fine resolution and real-time Regional Ocean Modeling System. Data management funds will be utilized for participation in the Integrated Ocean Observing System (IOOS<sup>®</sup>) regional observation registry, adapting to industry standards, restructuring of current storage and archival formats of core variables, and cross compatibility between significant programs. Education and Outreach, as well as the development of new data products, will continue to be supported by leveraging the SCCOOS RA grant.

In order to quantify trends in ocean acidification and upwelling-induced hypoxia, SCCOOS will initiate observations of dissolved oxygen on glider transects with the installation of new sensors on those platforms. Observations of seabird and marine mammals will be added through a partnership with the Farallon Institute for Advanced Ecosystem Research to maintain a valuable time record of top predatory species that are indicators of marine ecosystem health

*(over)*



and climate change. SCCOOS will also develop integrated, customized products for alongshore currents and inundation that promote safe recreational use of beaches. These products will be provided to the National Weather Service for coastal flooding and rip current predictions.

---

**NOAA IOOS Program Office Contacts:**

Gabrielle Canonico ([Gabrielle.Canonico@noaa.gov](mailto:Gabrielle.Canonico@noaa.gov)), Regional Coordination  
Dave Easter ([Dave.Easter@noaa.gov](mailto:Dave.Easter@noaa.gov)), Regional Coordination  
Regina Evans ([Regina.Evans@noaa.gov](mailto:Regina.Evans@noaa.gov)), Grants Administrator



# FY2010: Regional Integrated Ocean Observing System Development

NOAA continued a merit-based funding process in 2010 to enhance regional coastal ocean observing systems (RCOOS) and achieve three long-term outcomes: establishing coordinated regional observing and data management infrastructures, developing applications and products for regional stakeholders, and crafting regional and national data management and communications protocols. In addition, regional associations received planning grant awards designed to assist them in stakeholder engagement, education and outreach, and long-range planning activities.

## SOUTHEAST ATLANTIC REGION

The Southeast Coastal Ocean Observing Regional Association (SECOORA) is the regional solution to integrating coastal and ocean observing data and information in the Southeast United States. SECOORA supports the need of the southeastern United States to have real-time, or near real-time, marine information on coastal and ocean conditions that protects our people, environment and economy.

### Funding:

The fiscal year (FY) 2010 RCOOS award to SECOORA is \$1,680,000. The 2010 Regional Association (RA) Planning Grant award to this region is \$399,670.

FY 2009 - \$500,000 RCOOS (plus 3 additional implementation awards totaling \$2,444,150), \$391,991 RA

FY 2008 - \$400,000 RCOOS, \$384,535 RA

### Point of Contact:

- Debra Hernandez, Executive Director ([debra@secoora.org](mailto:debra@secoora.org))
- [www.secoora.org](http://www.secoora.org)

### Regional Priorities and Objectives:

As part of a recent strategic planning process, SECOORA reviewed [stakeholder needs assessments](#) of the southeast region. Themes that regularly appear in these assessments include climate change and its impacts on habitats and sea level, marine weather and operations, and ecosystem management including fisheries and water quality. Another important expression of regional priorities is the one articulated by the newly formed [Governors' South Atlantic Alliance](#). The Alliance has identified their four initial priorities as healthy ecosystems, working waterfronts, clean coastal and ocean waters, and disaster-resilient communities. These priorities are incorporated into SECOORA's four main thematic areas:

- Marine Operations (safety, including support of Search And Rescue (SAR) operations; improving marine weather forecasting, and; offshore energy);
- Ecosystems: Living marine resources and water quality (fish and water quality, including beach advisories and harmful algae blooms);
- Coastal Hazards (inundation and rip currents), and;
- Climate Change (long-term data collection and analysis and ocean acidification).

This project originally is consolidating Coastal Ocean Observing System (COOS) assets and products in the Carolinas with those in Georgia and Florida to establish a user-driven observing system that spans the entire SECOORA footprint. The foundation of SECOORA was built initially upon six primary elements: 1) maintenance and development of existing observing assets and consolidation of existing sub-regional observing systems; 2) construction of an integrated and embedded modeling system; 3) development of ecosystem models targeted at

(over)



predicting the characteristics of regionally important fish stocks; 4) establishment of a data management system designed to disseminate rapid, high quality products; 5) establishment of a systems engineering based structure to the observing system architecture that enables the seamless interoperability, and; 6) integration of an end-user community into the fabric of SECOORA to ensure responsiveness to regional needs. Due to funding limitations, elements 1, 4 and 6 have been the only ones implemented to date.

In FY10, SECOORA will support ongoing activities, giving priority to those that will:

- Serve important user groups identified in the SECOORA Strategic Priorities Plan;
- Provide efficiency by maintaining existing observing assets and ongoing activities;
- Serve the region as a whole, and;
- Integrate and provide access to data and related products.

In particular, SECOORA will seek to maintain and enhance the existing data management system for SECOORA and the high frequency radar systems that currently operate in the Southeast. In addition to extending these Year 1 and 2 components of the RCOOS, three other goals will be supported: (1) supporting 23 existing moored and coastal observing stations; (2) providing funding to support limited modeling and product development efforts to improve operation of a regional-scale circulation model, with a focus on supporting fisheries management needs, and; (3) increasing stakeholder education and outreach activities.

---

**NOAA IOOS Program Office Contacts:**

Gabrielle Canonico ([Gabrielle.Canonico@noaa.gov](mailto:Gabrielle.Canonico@noaa.gov)), Regional Coordination  
Dave Easter ([Dave.Easter@noaa.gov](mailto:Dave.Easter@noaa.gov)), Regional Coordination  
Regina Evans ([Regina.Evans@noaa.gov](mailto:Regina.Evans@noaa.gov)), Grants Administrator