

Letter of Intent from the Southeastern University Research Association

Target:

Coastal Services Center, National Ocean Service
National Oceanic and Atmospheric Administration
Department of Commerce

Funding opportunity title and number:

FY 2008 Regional Integrated Ocean Observing System Development
NOS-CSC-2008-2001072

Project Title:

IOOS Regional Data-Integration and Product Development for Coastal Inundation and Shelf Circulation

Principal investigators:

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*Members of the SURA Coastal Research Steering Group are not necessarily recipients of funds.

Statement of Purpose:

The SURA Coastal Ocean Observing and Prediction (SCOOP) Program currently supports IOOS goals with a service-oriented approach (SOA) to data integration from multiple platforms, ensemble forecasting of inundation and waves, along with archival, cataloging, visualizing and verifying of results. SCOOP has implemented these capabilities with an SOA that coordinates distributed, interoperable and modularized components, which include a variety of numerical models, computing resources, and network infrastructure. The *intent* of the proposed activity is to adapt and extend the SCOOP distributed, community-modeling and data-integration framework to meet regional needs of the Atlantic and Gulf Coast RAs and RCOOSs.

The SCOOP infrastructure provides a community test bed to address compelling socioeconomic issues linked to shelf circulation, such as coastal land loss, water quality and hypoxia, inundation, and fisheries ecology. Our *goal* is to facilitate improved understanding and predictability of relevant phenomena, and provide products that address IOOS societal goals.

Summary of work to be completed:

Methodology – The project will assist in the implementation of the regional components of IOOS. The SURA teams include numerical modelers, computer scientists, coastal scientists, and project managers. This team will work with multiple RA/RCOOS programs to extend the prototype SCOOP infrastructure to support the integration of observed and modeled circulation data and to continue integration and dissemination of critical information on coastal inundation. This will leverage capabilities already developed at www.openioos.org, a portal that integrates and visualizes data and model products from a wide variety of distributed data and modeling systems. The portal uses standards developed by the Open Geospatial Consortium (OGC; as endorsed by the Ocean.US DMAC). OGC-compliant service interfaces developed at

www.oostethys.org will be adapted to regional data sources, and then integrated and visualized with techniques developed for www.openioos.org. This system will be adapted to produce decision-support tools that meet requirements of RA/RCOOS partners.

Products – (a) A Data Integration Framework for priority IOOS core variables, with data delivery to modelers and end users in standardized formats. (b) Web-based products to facilitate the development of value-added, end-user information products as identified by RAs, (c) GIS-compatible, web-based maps of storm surge, wave height, and circulation. This effort will enable data providers and observing systems to use the software tools developed by SCOOP partners to become "interoperable" with other systems.

Estimated cost - \$2,000,000/yr over 2 years

Intended benefits to IOOS and expected use of results by the community;

This program will explicitly address the following NOAA mission goal: “*Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management.*” Each RCOOS and RA shares similar needs for data management, therefore the IOOS community will benefit from SCOOP’s community approach to developing best practices for standards-compliant information integration. The SOA allows regions to share IT infrastructure, creating economies that will allow them to refocus limited funds to collect data, connect with stakeholders, and refine products.

Anticipated Partnerships: SURA and its member institutions intend to partner with RAs and RCOOSs and the NOAA National Hurricane Center, thereby advancing a partnership initiated by the NOAA/IOOS Program Office.