

ANNOUNCEMENT OF FEDERAL FUNDING OPPORTUNITY

EXECUTIVE SUMMARY

Federal Agency Name: Coastal Services Center, National Oceanic and Atmospheric Administration (NOAA), Department of Commerce

Funding Opportunity Title: FY 2007 Regional Integrated Ocean Observing System Development

Funding Opportunity Number: NOS-CSC-2007-2000875

Announcement Type: Notice of Funding Availability

Catalog of Federal Domestic Assistance (CFDA) Number: 11.473, Coastal Services Center

Dates: Letters of Intent (LOIs) must be received by the Coastal Services Center by 5:00 p.m. ET on January 31, 2007. LOIs must be sent via e-mail to <James.L.Free@noaa.gov>. Funding applicants submitting a LOI should reference the Funding Opportunity Title (FY 2007 Regional Integrated Ocean Observing System Development) as the subject line of the e-mail containing the LOI. A positive response to the LOI is required prior to submitting a full proposal.

Full proposals must be received no later than 5:00 p.m. ET, April 17, 2007.

Funding Availability: Total anticipated funding for all awards is approximately \$15,000,000 and is subject to the availability of FY 2007 appropriations. Multiple awards are anticipated from this announcement. The anticipated federal funding per award (min-max) is \$100,000 to \$6,000,000. The anticipated number of awards ranges from 7 to 14, approximately, and will be adjusted based on available funding.

Project / Award Period: This is a multiple year funding opportunity. All funds will be FY 2007 funds, but projects can last from one to three years.

Funding Opportunity Description: Designed to be user-driven and provide sustained data and information in forms and at rates required by decision makers, the Integrated Ocean Observing System (IOOS) will efficiently link observations, data management, and modeling to provide required data and information on local to global scales, e.g., from the local scale of beaches and shellfish beds to the global scale of an El Niño event.

Regional coastal ocean observing systems (RCOOSs) are designed to complement the observing systems managed directly by federal agencies that meet national priorities. With the guidance of Regional Associations to understand regional priorities, RCOOSs provide the types of data, information, and products needed to address the estuarine and coastal issues experienced by the different regions, and to leverage the delivery and applicability of data collected by local data

network nodes. NOAA views this announcement as an opportunity to demonstrate the regional observing system concept. To assist in regional IOOS development, NOAA seeks proposals for one- to three-year grant or cooperative agreement projects that address the following focus areas:

1. Regional coastal ocean observing systems (RCOOS) development - to further the establishment and integration of observing system assets within regions and the operation of those assets for the benefit of the region. Proposals submitted under this focus area will demonstrate the approach and benefits of integration at the scale of the Regional Association. While focus areas 2 & 3 address particular components of IOOS (e.g., data management and product development), this focus area invites proposals that implement an end-to-end RCOOS that addresses regional needs.
2. IOOS application and product development for regional stakeholders – to develop, advance, and document the value of applying existing IOOS assets to the real-world issues of managers, industry, and the general public. Proposals submitted under this focus area will address regional needs for IOOS applications and products and quantify the value of the application or product to the end user.
3. Data management and communication by local data network nodes – to develop guidance and processes for regional non-federal data providers to contribute to the IOOS data stream. Proposals submitted under this focus area will develop local data network nodes that deliver regional data to a range of consumers using common standards and protocols.

NOAA anticipates making multiple awards in response to this announcement.

FULL ANNOUNCEMENT

I. Funding Opportunity Description

- A. Program Objective: In 1998, Congress called for the development of an Integrated Ocean Observing System (IOOS) for the oceans and the Nation’s coastal waters, including the Great Lakes, to serve as the U.S. contribution to [Global Earth Observation System of Systems \(GEOSS\)](#). Designed to be user-driven and provide sustained data and information in forms and at rates required by decision makers, the IOOS will efficiently link observations, data management, and modeling to provide required data and information on local to global scales, e.g., from the local scale of beaches and shellfish beds to the global scale of an El Niño event.

To provide the data at the time and space scales required by these decisions, the IOOS is being designed to address two major challenges: (1) efficiently integrate observations, data management and communications, modeling and analysis needed to provide quality-controlled data and information rapidly and reliably, and (2) develop an integrated hierarchy of observations, modeling, and user-driven information products that link changes occurring on global and national scales to local changes that impact coastal communities, ecosystems, and resources. These challenges require an IOOS that can provide data for near real-time decisions and for analysis of long-term patterns and trends.

Regional coastal ocean observing systems (RCOOSs) are designed to complement the

observing systems managed directly by federal agencies that meet national priorities. With the guidance of Regional Associations to understand regional priorities, RCOOSs provide the types of data, information, and products needed to address the estuarine and coastal issues experienced by the different regions, and to leverage the delivery and applicability of data collected by local data network nodes. NOAA views this announcement as an opportunity to demonstrate the regional observing system concept, and it is expected that the information that results from these project will be communicated to all Regional Associations to maximize their collective development.

This funding opportunity is designed to make significant progress towards the following long-term outcomes with respect to development of the regional component of IOOS:

- Regions have a coordinated observing and data management infrastructure, developed with federal agencies, sub-regional system components, and local data network nodes, to create sustained collection and sharing of data and information at local, regional, and national levels.
- Data providers within the regions deliver accurate and timely ocean observations to a range of consumers including national, state, and local governmental; operational; scientific; and commercial entities; utilizing specifications common across all providers.
- Regions provide IOOS data that are integrated into user-specified tools and information products to demonstrate improved predictions and products at local and regional scales.

Accomplishing these objectives will require cooperative efforts to build the infrastructure for acquiring observations, implement data transport and management processes, and to develop models and information products. To assist in meeting the objectives for regional IOOS development, NOAA seeks proposals for one- to three-year grant or cooperative agreement projects that address the following focus areas:

1. Regional coastal ocean observing systems (RCOOS) development
2. IOOS application and product development for regional stakeholders
3. Data management and communication by local data network nodes.

Although these focus areas seek to target separate components in the development of the regional component of the IOOS, there is inherent overlap in the efforts required to address the program's long-term outcomes. Proposals shall identify the focus area that is most directly relevant. If more than one focus area is addressed; proposals shall specifically identify the tasks and milestones that will address the goals of each focus area.

The program priorities for this opportunity support NOAA's mission goals to

- Serve society's needs for weather and water information;
- Protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management
- Understand climate variability and change to enhance society's ability to plan and respond

- Support the Nation’s commerce with information for safe, efficient, and environmentally sound transportation.

Focus Area Guidance and Description: The following provides guidance regarding activities and efforts that will effectively address the three focus areas.

1. Regional Coastal Ocean Observing Systems (RCOOS) development

The purpose of this focus area is to further the development of Regional Coastal Ocean Observing Systems (RCOOS) through integration and operation of regional observing system assets. In this focus area, NOAA expects to fund one to three awards, approximately. Funding amounts will range from approximately \$500,000 to \$2,000,000 per year. Proposed projects may last for up to three years.

The goals for this focus area are to create RCOOSs that:

- Integrate regional assets and contribute data and information to address regional priority issues.
- Contribute coastal and ocean meteorological and oceanographic data to complement existing national data streams and provide broad access to the data.
- Develop information products that meet the needs of defined users within the region.
- Contribute to the overall development of IOOS through participation in IOOS planning and implementation at regional and national levels.

The Integrated Ocean Observing System Development Plan (OceanUS, 2006) calls for an integrated system of observations that support national and regional priorities. Regional priorities are to be determined by a comprehensive effort to engage stakeholders at the local and regional level. The responsibility for such engagement is directed to IOOS Regional Associations. Eleven such Regional Associations (RAs), presently in differing stages of formation, are addressing stakeholder needs for data and information products. The IOOS Development Plan distinguishes between those observing and data infrastructure components managed directly by federal agencies to meet national priorities (termed the National Backbone) and those infrastructure components managed at the regional level, termed Regional Coastal Ocean Observing Systems (RCOOS). The two are co-dependent components of one IOOS.

The IOOS is envisioned as a sustained and operational coastal and ocean observing system with Regional Associations providing coordination at the regional level. While there are some notable efforts underway to integrate observing system assets within regions, development of “regional” observing system capacity has taken place largely at the sub-regional level, through the efforts of individual institutions, companies, and organizations. Under guidance by the RAs, the RCOOS shall be developed in a manner that addresses the regional priorities. The designs of the regional observing systems will likely, but not necessarily, incorporate these existing observing and data infrastructure components within the region. Also, it is imperative that the RCOOS be

developed in concert with National Backbone assets if we are to achieve the goals of the Integrated Ocean Observing System. This entails that system design, operation, and information delivery be done in a manner that takes advantage of existing federal assets within the region as well as data sharing capabilities already established and those presently being improved through community efforts that target Data Management and Communication goals for IOOS (see focus area 3 of this announcement).

Through this funding announcement NOAA desires to further the integration of observing system assets within regions and the operation of those assets for the benefit of the region. Ideally, proposals submitted under this focus area of the announcement would demonstrate the approach and benefits of integration at the scale of the Regional Association, though advancement toward that goal will be considered. Regional integration should not be thought of as a simple aggregation of existing assets, but rather a thoughtful approach to integrating assets to develop data and information products that address regional priorities. The emphasis here on regional integration of observing system assets is not meant to preclude deployment of new or additional platforms/sensors as needed to meet regional requirements. Rather, the intent is that any existing or proposed assets would be deployed and managed as part of a regional deployment design.

NOAA views this announcement as an opportunity to demonstrate proof-of-concept of the regional observing system concept. As such, it is desired that progress made during this award should allow the region to be in position to generate a cost-benefit analysis of regional integration. Applicants are highly encouraged to submit performance metrics for the observing system components proposed.

Whereas the other two focus areas in this announcement target specific IOOS system components (i.e., product development, data management), this focus area aims to support regional scale, end-to-end observing systems, including observations, data management, modeling, application and product components. Proposals submitted under this focus area should address the following:

- Regional deployment, operation and maintenance of sensors and platforms.
- Regional integration of data streams, quality assurance procedures, and data delivery.
- Generation of regional products, including data products and model output, that facilitates the development of value added targeted products for identified users.

Applicants are expected to be cognizant of and in compliance with the standards and protocols for sharing and archiving of data in support of IOOS. Applicants should be familiar with the Ocean.US Development Plan and the Ocean.US/DMAC guidance documents (see Section VIII for References).

Recipients are expected to participate in community endeavors to advance the DMAC component of IOOS. It is expected that data will be made widely available via existing avenues, such as the NOAA National Data Buoy Center, NOAA Center for Operational Oceanographic Products and Services, and/or other

means that ensure broad access. Funding applicants should refer to focus area 3 in this announcement for additional guidance pertaining to data management and accessibility and be prepared to collaborate with recipients funded under other focus areas.

NOAA is particularly interested in observing systems that provide timely and appropriate information to public mission agencies at the national, state, and local levels. Award recipients are expected to share this interest and to identify the specific means within funding applications to accomplish these objectives.

2. IOOS applications and products for regional stakeholders

The purpose of this focus area is to address the need to show the relevance of available IOOS observations, data management systems, and models to the societal goals outlined for IOOS (Ocean.US, 2006). In this focus area, NOAA expects to fund three to five awards, approximately. Funding amounts will range from approximately \$100,000 to \$500,000 per year. Proposed projects may last for up to three years.

The goals of this focus area are to:

- Provide the region with IOOS-based applications and products that will be readily and routinely available and utilized by end users at the end of the funding period;
- Foster partnerships between the application and product developers and the users; and
- Quantitatively demonstrate the value of the application or product to the end user.

NOAA has a strong interest in developing, advancing, and documenting the value of applying existing IOOS assets to the real-world issues of managers, industry, and the general public. There is also a need to show the value of the integrated system by producing a cost-benefit analysis of applications and products derived from IOOS data. The maturity of the proposed application or product can range from existing and in need of some additional development to new and needing substantial development. Applications and products should integrate appropriate IOOS core variables (Ocean.US, 2002) as well as other data that may be relevant. In all cases, proposals submitted in response to this focus area must have a partnership with a representative end user group, or for products developed for the general public, should thoroughly describe the process through which needs will be identified and products evaluated and modified. There should be a clearly identified plan for quantitatively evaluating the value of the application or product.

Proposals should promote the development, use, and expansion of IOOS applications and products. Proposals are requested to address regional priorities within the following themes:

Community Resilience: Natural Hazards.

Projects should apply IOOS assets to enhance the resiliency of coastal communities through increasing their ability to anticipate, respond to, and recover from significant environmental disturbance. In particular, NOAA is seeking applications and products that predict the extent and timing of coastal inundation, and assess and address the impacts of the inundation. Social, economic and environmental impacts and consequences of the inundation should be examined. NOAA desires to enhance the capacity of communities to respond to inundation from all sources, hurricanes, tsunamis, inland flooding, etc., and are particularly interested in inundation products that incorporate tide and wave information.

Maritime Operations

Proposed projects should demonstrate the use of IOOS data in improving the navigation, search, rescue, and emergency response capabilities of states with federal partners. Projects should have active participation by the end-users of the product and should demonstrate how the addition of IOOS data improves the present capabilities of those users.

Ecological Decision Support

Proposed projects should demonstrate the contribution of IOOS data to understanding, predicting, and/or managing living marine resources. Projects should include partnerships with end users (e.g., decision makers, regulatory, management agencies), and should target specific management needs. Projects that assess long-term, climatological time scales (e.g. understanding impacts of historical climate and how those might impact the current and near-term systems) and those that address annual, seasonal, or episodic events (e.g., predicting variations in recruitment to a particular fishery, or occurrence and fate of a harmful algal bloom) are being sought.

Because IOOS is envisioned as an “end to end system”, the applications and products should be designed using data management and communications infrastructure principles specified by the IOOS Data Management and Communications (DMAC) steering team and expert teams, and the DMAC Plan.

3. Data management and communication: Local data network nodes

The purpose of this focus area is to provide data providers with an opportunity to develop processes and guidance that foster common standards and protocols. In this focus area, NOAA expects to fund three to five awards, approximately. Funding amounts will range from approximately \$100,000 to \$300,000 per year. Proposed projects may last for up to three years.

The goals of this focus area are to develop the capabilities of data providers to:

- Deliver accurate and timely ocean observations to a range of consumers including government, academic, and private sector users, utilizing specifications common across all providers.
- Deploy the information system components for full life cycle management of observations from collection to public delivery.

- Establish robust data exchange that is responsive to variable consumer requirements and not tightly bound to a specific application or graphical end user decision support tool.

While significant effort has been spent on determining the best ways to approach an integrated data management and delivery system for IOOS, there remains a lack of specific guidance for regional non-federal participants in IOOS. Within the defined Regional Associations, it is anticipated that each region may have one or more local data network nodes. Local data network nodes are those organizations that operate information systems to manage the collection, quality, documentation, storage, exchange, and discovery of ocean observations originating from non-federal local observatories. Local data network nodes link the non-federal ocean observatories to the National Backbone that operates across the nation. The general framework for the design of the data management and communications infrastructure that binds the two is based on principles specified by the IOOS Data Management and Communications (DMAC) steering team and expert teams, the DMAC Plan, the National Spatial Data Infrastructure (NSDI) and Service Oriented Architectures.

This focus area will foster implementation activities. Recipients are expected to plan and execute proposed solutions that will result in functional systems within the duration of the grant. Strong candidates will be organizations that either have established information systems expertise, operational sensors with limited or no data delivery mechanisms or, a capacity to ingest data from multiple local observatories. Other factors that may enhance implementation results are the selection of data types relevant to high priority issues within and/or across regions, data sources that are stable and persistent, actively support decision support tools, and can be managed using commercial off-the-shelf software and other common tools sets. In-situ and vector-based observations may offer more opportunities for collaboration and reuse, however grid/image based data values also are viable candidates.

Implementation level specifications for data management and communications strategies at the local data network node level are in a state of development, and are expected to be refined through on-the-ground test implementations as part of the scope of these awards. Note that other focus areas within this announcement, and/or other coordinated efforts external to this announcement, may address relevant and related data management components such as data collection, quality control and decision support. Coordination of inter-regional data management and communications activities can be provided through the Regional Associations and the Coastal Services Center. The following six topic areas outline the scope of responsibility for a local data network node in this focus area.

- a. Regional Data Management Planning and Coordination: Funding applicants shall actively participate in inter region and cross region data management policy and implementation plan development. This may include attending award recipient meetings and inter region coordination meetings, coordinating with the National Federation of Regional

Associations (NFRA) and Regional Associations when needed and to the extent possible. Additionally, when appropriate, engagement in the DMAC guidelines/standards establishment process is expected as is compliance with appropriate data management policies as they become available.

- b. Storage and Archive: Local data network nodes are expected to provide for long term storage of data, metadata, and other supporting documentation, operate recovery mechanisms and off-site storage of backups until the data and metadata are submitted to a national data center for archiving.
- c. Documentation: Local data network nodes are expected to provide systems level design and deployment plans including, logical and physical designs, software engineering plans, test and deployment plans. They will provide access to a Federal Geographic Data Committee (FGDC)-compliant metadata following the Content Standard for Digital Geospatial Metadata for each logical data theme using a web accessible directory. The proposal must include plans for ensuring the data are properly documented and available according to IOOS guidelines. In addition, the proposal should include plans for maintaining metadata and delivering it with the data. IOOS guidelines for metadata, including minimal content and vocabularies are available on-line at www.ocean.us. Potential recipients should make full use of the extensive work that has already been undertaken through a number of coordinated efforts.
- d. Discovery: The proposal should include plans for submitting metadata to an appropriate discovery system as described in the IOOS guidance. Local data network nodes should provide technical assistance to capture records and share reference data on the location and general status of observation measurements collected by local observatories and hosted by the local data network node. To the extent possible, funding applicants should utilize the draft record structure, content and format resulting from the Catalog Workshop in Woods Hole MA., August 2006, which is available from the NOAA Coastal Services Center. Local data network nodes are expected to host these records in a web accessible public directory to function as a federated registry for discovery of observation types.
- e. Common Data Model: A data model defines the structure and content of a logical set of observation values needed to effectively use the data in an analysis or decision support context. The size and complexity of data models can vary widely dependent on the thematic topic, storage, documentation, transport and other needs. All local data network nodes shall follow a single standard common data model on a per observation type basis. For example, all salinity records shared by local data network nodes should retain identical variable names, descriptions, types, size, precision, domain, units, defaults, keys and cardinality. This standard

should be implemented appropriately to facilitate consistent and accurate exchange of data regardless of storage or infrastructure.

If a new standard is developed as part of the project, implementation of the standard shall be documented in explicit support materials such as a data dictionary, entity relationship diagram, and Universal Markup Language (UML) diagrams. Grantees shall present and seek consensus on the proposed standard amongst all appropriate grant recipients. Significant collaboration and coordination across grant recipients and other stakeholders is expected. Similar efforts underway with the Marine Metadata Interoperability project and the DMAC Metadata Expert Team may offer substantive direction. Use of the data management and coordination mechanisms listed above as well as collaborative tools and facilitation by the NOAA Coastal Services Center (www.csc.noaa.gov/cir/) are available. Use of relational database management systems is strongly encouraged. If requested, the NOAA Coastal Services Center may provide assistance in the development of a common database design adequate to support the data exchange services requirements in this grant focus area.

- f. Data Exchange Services: Data distribution practices are expected to support multiple purposes. These include end use graphical decision support tools for local mission needs and machine to machine interactions to enable cross region integration, archive, and systems monitoring. Local data network nodes should make data resources available in a fixed ASCII file format from a web accessible directory, and from an XML-based web service. Observation values shall be released as soon after collection as feasible and at a frequency and reporting interval appropriate to the intended use of the data. Fixed file storage shall include records in daily and monthly time increments. Format specifications are pending and may include XML and a defined schema. Web service functionality shall enable queries ranging from current observation time back to start of observation collection or one year, whichever is shorter. The web service shall be based on specifications that will result from a workshop hosted by the NOAA Coastal Services Center and held no later than August, 2007. Specifications are expected to utilize the Geography Markup Language and be similar in function to the Open Geospatial Consortium Web Feature Service specification and the salinity service documented at: www.oostethys.org/.

Local data network nodes may use the specifications to develop compliant web services utilizing the unique hardware and software of their facility. A reference implementation of the service utilizing an RDBMS may be made available by the NOAA Coastal Services Center for grantees that do not want to conduct independent development. This may require commonly used commercially licensed software.

Local data network nodes needing to extend a data service that utilizes a gateway

between OPeNDAP/NetCDF with CF formatted image data and the Open Geospatial Consortium Web Coverage Service are viable candidates.

- B. Program Priorities: See focus area descriptions and guidance.
- C. Program Authority: Statutory authority for this program is provided under Coastal Zone Management Act, 16 U.S.C. 1456c (Technical Assistance); 33 U.S.C. 883d; and 33 U.S.C. 1442 (Research program investigating possible long-range effects of pollution, overfishing, and anthropogenically-induced changes of ocean ecosystems).

II. Award Information

- A. Funding Availability: Total anticipated funding for all awards is approximately \$15,000,000 and is subject to the availability of FY 2007 appropriations. Multiple awards are anticipated from this announcement. The anticipated federal funding per award (min-max) is approximately \$100,000 to \$6,000,000. The anticipated number of awards ranges from 7 to 14, approximately, and will be adjusted based on available funding.
- B. Project / Award Period: This is a multiple year funding opportunity. All funds will be FY 2007 funds, but projects can last from one to three years.
- C. Type of Funding Instrument: Awards may be grants or cooperative agreements. The proposal should clearly identify the funding instrument in the proposal abstract. If a cooperative agreement is issued, the federal government has agreed to be substantially involved by acquiring, increasing access to, and enhancing capacity to use data and tools; convening partners and building diverse teams to accomplish broad based work; meeting planning and facilitation; instructional design; familiarity with coastal issues and coastal resource managers; development of spatial databases, models, and analyses to address the identified management needs; guidance in the development of social, economic and other human dimension information and analyses; and design of Geographic Information System (GIS), Internet products, and system architectures. Applicants should discuss prospective roles in the project with those federal partners and clearly articulate those roles and responsibilities in the proposal.

III. Eligibility Information

- A. Eligible Applicants: Eligible funding applicants are institutions of higher education, non-profit and for-profit organizations, international organizations, and state, local and Indian tribal governments. Federal agencies or institutions and foreign governments may not be the primary recipient of awards under this announcement, but are encouraged to partner with applicants. Federal partners must identify the relevant statutory authorities that will allow for the receipt of funds.
- B. Cost Sharing or Matching Requirement. There is no requirement for cost sharing.

IV. Application and Submission Information

A. Address to Request Application Package:

There is no application package for Letters of Intent.

Application packages for full proposals are available through Grants.gov APPLY. If an applicant does not have Internet access, application packages can be requested from James Lewis Free at 2234 South Hobson Avenue, Charleston, South Carolina 29405-2413 or phone him at 843-740-1185 or e-mail < James.L.Free@noaa.gov >.

B. Content and Form of Application Submission:

Applicants must follow the LOI guidance and full proposal application guidance stated in this announcement, or LOIs and full proposal applications will not be considered.

The Letter of Intent (LOI) process is intended to provide potential funding applicants with information regarding the relevance of their project idea to the program objectives in advance of preparing a full proposal. A LOI is required prior to submitting a full proposal.

The LOI should provide a concise description of the proposed work and its relevance to the IOOS community and the program objectives. The LOI should include the components listed below. If these components are not included, the funding applicant risks not being invited to submit a full proposal application. The LOI should include the following information on a cover page:

1. Identification of the NOAA Coastal Services Center as the target of the LOI
2. Project title
3. Names and institutions of all principal investigators (PI), and specification of the Lead PI and contact information for that person
4. Proposed focus area (as identified in this announcement).

The body of the LOI should be no more than 2 pages, double-spaced 12-point font, and should include the following components:

1. Statement of the Purpose - state the intent, goal, and output of proposed work
2. Summary of work to be completed, including the methodology, products, and approximate cost
3. Description of intended benefits to the IOOS community and expected use of the results by the community
4. Description of the partnerships to be employed in the development and completion of the proposed work.

Full proposal applications must total no more than 15 pages (12-point font and exclusive of appendices). Appendices should be limited to materials that directly support the main body of the proposal (e.g., detailed budget information, support letters, resumes, lists of data sources, and maps).

All funding application packages must contain the following components:

1. Title Page (Proposal Cover Sheet). Include proposal title, complete contact information for the Principal Investigator and Financial Representative, duration of proposed project, funding type (grant or cooperative agreement), and funding request by year (as appropriate).
2. Project Summary. Provide a one to two-page summary of the proposed project. The summary should be prepared to be readable to a broad audience and contain the following sections:
 - a. Project Name/Title
 - b. Recipient Institution
 - c. Primary Contact (name, address, phone, fax, e-mail)
 - d. Brief Project Summary including objectives and intended benefits
 - e. Partners
3. Project Description.

All project descriptions (proposals) must include the following sections:

 - a. Goal(s) and Objective(s). Describe in the narrative the focus area(s) addressed and specific project goals and objectives to be achieved. Goals and objectives should be specific for each year of the work plan presented. Project goals and objectives must include objectives specific to supporting the development of the regional components of IOOS. Recipients will be required to submit semi-annual progress reports in which progress against these goals and objectives will be reported.
 - b. Background. Provide sufficient background information for NOAA and non-NOAA reviewers to independently assess the significance of the proposed project. Summarize the problem to be addressed and the status of ongoing efforts to address the identified needs. Summarize the relationship of the proposed work to other regional or national efforts to develop IOOS.
 - c. Audience. Identify potential users of the results of the project, describe how they will use the results, and identify any training that will be needed for users to make full use of the results.
 - d. Approach. Provide a work plan that: identifies specific tasks to be accomplished; explains the technical approach (including quality assurance) needed to accomplish the tasks; identifies the roles of partners and cooperators; and identifies potential obstacles to successful completion of the goals and objectives. Describe how potential users are involved in the planning and design process. The work plan must clearly address data management requirements, and the steps to be taken to achieve efficient and effective data access and archive that is compliant with federal regulations and the emerging standards for IOOS. Describe the specific steps that will be taken to ensure that the proposed project is consistent with, and supportive of the IOOS development plans. If the project includes federal partners, the roles and responsibilities of the federal partners must be clearly identified.
 - e. Benefits. Identify, with a high degree of specificity, the potential users of

the information derived from the work, and the benefits that will be achieved for those users, as well as society as a whole. Document how valid user requirements are guiding the proposed work. Describe how the information from the project will be delivered to those users, and any special considerations or requirements for ensuring or improving the delivery of information. Explain how this project contributes to the establishment of IOOS at the regional and national level.

- f. Milestone Schedule. Display time lines for major tasks, target milestones for important intermediate and final products, and key project outcomes.
- g. Project Budget. Provide a budget description that follows the categories and formats in the NOAA grants package (Standard Form 424-A) and a brief narrative justification of the budget.

Detailed budget information, such as a repeat of the information in Form SF424A along with more details should be included in an appendix. Guidance on developing a detailed budget appendix can be found on-line at www.go.noaa.gov/grants/BUDGTGUD.PDF. In this appendix, the budget narrative also shall clearly identify the cost of separable elements of the proposed work and shall identify the elements of the project that the cooperator would recommend for revision or elimination in the event that sufficient funding is not available for all proposed activities. Applicants must itemize and describe the intended use of equipment greater than \$5,000 in value to be purchased under the award. The budget narrative must also provide the cost and description of anticipated travel. Applicants should allocate travel funds for IOOS coordination meetings at regional and national levels. Foreign travel must receive prior approval and should be anticipated in the proposal to the extent possible. Additionally, if NOAA is requested to perform any work as part of the project, please be advised that the work to be performed must be reflected in the project description and budget (as appropriate).

4. Appendices

- a. Mandatory Detailed Budget Information, including budgets of subawards.
- b. Resumes. Provide resumes of the Principal Investigator for the project and other key personnel critical to the success of the project. Ensure that resumes address qualifications relevant to conducting the proposed work. Please limit resumes to a maximum of two pages for each key investigator.
- c. National Environmental Policy Act (NEPA)

NOAA must analyze the potential environmental impacts, as required by the National Environmental Policy Act (NEPA), for applicant projects or proposals which are seeking NOAA federal funding opportunities. Detailed information on NOAA compliance with NEPA can be found at the following NOAA NEPA website: <http://www.nepa.noaa.gov/>, including our NOAA Administrative Order 216-6 for NEPA,

http://www.nepa.noaa.gov/NAO216_--6_--TOC.pdf, and the Council on Environmental Quality implementation regulations, http://ceq.eh.doe.gov/nepa/regs/ceq/toc_ceq.htm.

Consequently, as part of an applicant's package, and under their description of their program activities, applicants are required to provide detailed information on the activities to be conducted, locations, sites, species and habitat to be affected, possible construction activities, and any environmental concerns that may exist e.g., the use and disposal of hazardous or toxic chemicals, introduction of non-indigenous species, impacts to endangered and threatened species, aquaculture projects, and impacts to coral reef systems).

NOAA may require follow-up information after the application process has been completed. In addition to providing specific information that will serve as the basis for any required impact analyses, applicants may also be requested to assist NOAA in drafting of an environmental assessment, if NOAA determines an assessment is required. Applicants will also be required to cooperate with NOAA in identifying and implementing feasible measures to reduce or avoid any identified adverse environmental impacts of their proposal. The failure to do so shall be grounds for the denial of not selecting an application. In some cases if additional information is required after an application is selected, funds can be withheld by the Grants Officer under a special award condition requiring the recipient to submit additional environmental compliance information sufficient to enable NOAA to make an assessment on any impacts that a project may have on the environment.

Applicants are required to answer the questions indicated in this Announcement of Federal Funding Opportunity. Applicants should answer the NEPA questions to the best of their ability with as much detail as possible. If the applicant does not answer all of the questions indicated in the Announcement of Federal Funding Opportunity the application may be considered incomplete.

Some of the questions may overlap with material provided in other parts of the application. This overlap occurs because the answers to the questionnaire are provided to NOAA staff who do not review the other parts of the application. If appropriate, the applicant may copy the information from other parts of the application and paste it into the answers to the questionnaire. Many questions have a “yes” or “no” response. If the response is “no” the applicant does not need to elaborate on their answer. If the response is “yes” the question will have a second part asking the applicant to provide more information.

Applicant NEPA questions are as follows:

Question C1. Is the proposed activity going to be conducted in partnership with NOAA or would the proposed activity require NOAA's direct involvement, activity, or oversight? If yes, describe NOAA's involvement, activity, or oversight, including the name of the office or program that is involved.

Question C2. Would the proposed activity involve any other federal agency(ies) partnership, direct involvement, activity, or oversight? If yes, provide the name(s) of the agency(ies) and describe its involvement, activity, or oversight.

Question D1. Provide a brief description of the location of the proposed activity.

Question E1. List any federal, state, or local permits, authorizations, or waivers that would be required to complete the proposed activity. Provide the date the permit, authorization, or waiver was obtained or will be obtained. Provide copies of the permit, authorization, or waiver as appropriate. Was a NEPA analysis prepared for the permit, authorization, or waiver? If yes, state the title of the NEPA analysis and provide copies of the NEPA analysis.

Question F1. Is there the potential for the proposed activity to cause changes that would be different from normal ambient conditions (e.g., temperature, light, turbidity, noise, other human activity levels, etc.)? If yes, describe the changes and the circumstances that would cause these changes.

Paperwork Reduction Act Statement

Public reporting burden for this collection of NEPA information is estimated to average 3 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other suggestions for reducing this burden to Ms. Shelby Mendez, NOAA Office of Program Planning and Integration, SSMC 3, Room 15718, 1315 East West Highway, Silver Spring, MD 20910. The information collection does not request any proprietary or confidential information. No confidentiality is provided.

Notwithstanding any other provisions of the law, no person is required to respond to, nor shall any person be subjected to a penalty for failure to comply with, a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

- C. **Submission Date and Time:** The deadline for receipt of LOIs is 5:00 p.m. ET on January 31, 2007. For LOIs submitted by e-mail, a date and time receipt indication will be the basis of determining timeliness. LOIs will not be reviewed or considered if not received by the Coastal Services Center by 5:00 p.m. ET on January 31, 2007.

The deadline for receipt of full proposals is 5:00 p.m. ET on April 17, 2007. For proposals submitted through www.grants.gov, a date and time receipt indication is included and will be the basis of determining timeliness. Hard copy applications delivered by mail will be date and time stamped when they are received. Applications received after that time will not be reviewed or considered.

- D. **Intergovernmental Review:** Funding applications under the Center are subject to Executive Order 12372, "Intergovernmental Review of Federal Programs." It is the state agency's responsibility to contact their state's Single Point of Contact (SPCO) to find out about and comply with the state's process under EO 12372. To assist the applicant, the names and addresses of the SPOCs are listed in the Office of Management and Budget's home page at www.whitehouse.gov/omb/grants/spoc.html.
- E. **Other Submission Requirements:** A letter of intent (LOI) must be sent via e-mail to < James.L.Free@noaa.gov >. Applicants submitting a LOI should reference the Funding Opportunity Title (FY 2007 Regional Integrated Ocean Observing System Development) as the subject line of the e-mail containing the LOI.

If an applicant does not have Internet access, the applicant must submit through surface mail one original and two copies of the LOI to the Coastal Services Center. No fax copies will be accepted. LOIs submitted by mail must be received by NOAA Coastal Services Center no later than 5:00 p.m. ET, January 31, 2007. Any U.S. Postal Service correspondence should be sent to the attention of James Lewis Free, NOAA Coastal Services Center, 2234 South Hobson Avenue, Charleston, South Carolina, 29405-2413.

Full proposal application packages should be submitted through Grants.gov APPLY. The standard NOAA funding application package is available at www.grants.gov. Please be advised that potential funding applicants must register with Grants.gov before any application materials can be submitted. This process may take several days so please allow sufficient time to ensure applications are submitted before the closing date. The Grants.gov site contains directions for submitting an application, the application package (forms), and is also where the completed application is submitted.

If an applicant does not have Internet access, the applicant must submit through surface mail one set of originals (signed) and two copies of the proposals and related forms to the Coastal Services Center. No e-mail or fax copies will be accepted. Full proposal application packages submitted by mail must be received by NOAA Coastal Services Center no later than 5:00 p.m. ET, February 26, 2007. Any U.S. Postal Service correspondence should be sent to the attention of James Lewis Free, NOAA Coastal Services Center, 2234 South Hobson Avenue, Charleston, South Carolina, 29405-2413.

Applicants using Grants.gov must locate the downloadable application package for this

solicitation by the Funding Opportunity Number or the CFDA number (11.473). Applicants will be able to download a copy of the application package, complete it off line, and then upload and submit the application via the Grants.gov site. Grants.gov will provide information about submitting a proposal through the site as well as the hours of operation. After electronic submission of the application, applicants will receive an automatic acknowledgement from Grants.gov that contains a Grants.gov tracking number.

To use Grants.gov, applicants must have a Dun and Bradstreet Data Universal Numbering System (DUNS) number and be registered in the Central Contractor Registry (CCR). Allow a minimum of five days to complete the CCR registration. (Note: Your organization's Employer Identification Number (EIN) will be needed on the application form.)

V. Application Review Information

A. Evaluation Criteria for LOIs:

1. Importance/relevance and applicability of proposed project to the program goals. This criterion ascertains whether there is intrinsic value in the proposed work and/or relevance to NOAA, federal, regional, state, or local activities. (60 percent).

This criterion evaluates the proposed work with regard to NOAA's activities and objectives for developing the regional component of the IOOS. Proposals will be evaluated on how well the proposed project will achieve the specific goals of the focus area(s) identified.

2. Technical and scientific merit (40 percent): This criterion assesses whether the approach is technically sound, if the methods are appropriate, and whether there are clear project goals and objectives. Questions relevant to this criterion include: Is the approach appropriate for the stated goals and objectives? Does the proposed approach incorporate current guidance, scientific, and/or technical advancements in the development of the Integrated Ocean Observing System? Does the proposal promote interoperability with other components of a regional and national ocean observing system?

- B. LOI Review and Selection Process: All LOIs will be evaluated and individually ranked in accordance with the assigned weights of the above evaluation criteria by at least three independent peer reviewers to determine whether the proposed project is responsive to the program and focus area goals as advertised in this notice. A full merit review, consisting of both mail reviews and a review panel, will be conducted. The merit reviewer's ratings are used to produce a rank order of the proposals and are used to invite full proposal development. No more than 42 proposals will be invited for application. Only applications that have been invited through the LOI process will be considered in the application selection and review process.

The Coastal Services Center will respond to each LOI by e-mail informing the applicant whether or not they are invited to submit a full proposal. Responses will be sent from NOAA no later than 5:00 p.m. ET on March 14, 2007.

C. Evaluation Criteria for Full Applications

1. Importance/relevance and applicability of proposal to the program goals. This criterion ascertains whether there is intrinsic value in the proposed work and/or relevance to NOAA, federal, regional, state, or local activities. (30 percent).

This criterion ascertains whether there is intrinsic value in the proposed work and relevance to NOAA's activities and objectives for developing the regional component of the IOOS. Proposals will be evaluated on how well the proposed project will achieve the specific goals of the focus area(s) identified.

2. Technical and scientific merit (25 percent). This criterion assesses whether the approach is technically sound and/or innovative, if the methods are appropriate, and whether there are clear project goals and objectives. Questions relevant to this criterion include: Is the approach appropriate for the stated goals and objectives? Are the project goals and objectives achievable within the proposed time-frame? Do the proposed approaches incorporate current guidance, scientific, and/or technical advancements in the development of the Integrated Ocean Observing System? Does the proposal promote interoperability with other components of a regional and national ocean observing system?
3. Overall qualifications of the funding applicants (15 percent). This criterion ascertains whether the funding applicant possesses the necessary education, experience, training, facilities, and administrative resources to accomplish the project. Questions relevant to this criterion include: Does the proposal demonstrate regional and institutional support for the project? Are the investigators qualified and is the organizational framework appropriate to conduct a project of the nature and scope proposed? Are investigators from other agencies and institutions within the region included as key personnel on the project to capitalize on available expertise and promote a regional approach?
4. Project costs (15 percent). This criterion evaluates the budget to determine if it is realistic and commensurate with the project needs and time-frame. Questions relevant to this criterion include: Does the proposal demonstrate that the budget is commensurate with project needs? Is the cost effectiveness of the project optimized through strategic partnerships with collaborating institutions, agencies, or private sector partners?
5. Outreach and education (15 percent). This criterion assesses whether the project provides a focused and effective education and outreach strategy regarding NOAA's mission to protect the Nation's natural resources. Questions relevant to this criterion include: Does the proposed project demonstrate that the target user community has been fully engaged in development of the desired project outcomes? Does the proposal demonstrate that information generated by the project will reach its target audience and have a positive impact on the development of regional and national observing system infrastructure?

- D. Review and Selection Process: An initial administrative screening is conducted to determine compliance with requirements/completeness. All proposals will be evaluated and individually ranked in accordance with the assigned weights of the above evaluation

criteria by at least three independent peer reviewers. The merit reviewer's ratings are used to produce a rank order of the proposals. The Selecting Official will award in the rank order unless proposals are justified to be selected out of rank order based upon one or more of the selection factors provided below. The Selecting Official will select no more than 20 proposals for award. The Selecting Official may negotiate the funding level of the proposal. The Selecting Official will make the final recommendation for award to the Grants Officer, who is authorized to obligate the funds and execute the award.

The merit review ratings shall provide a rank order to the Selecting Official for final recommendation to the Grants Officer. The Selecting Official shall award according to rank order unless the proposal is justified to be selected out of rank order based upon one or more of the following factors:

1. Availability of funding
 2. Balance/distribution of funds:
 - a. Geographically
 - b. By type of institutions
 - c. By type of partners
 - d. By research areas
 - e. By project types
 3. Duplication of other projects funded or considered for funding by NOAA/federal agencies
 4. Program priorities and policy factors
 5. Applicant's prior award performance
 6. Partnerships with/Participation of targeted groups
 7. Adequacy of information necessary for NOAA staff to make a NEPA determination and draft necessary documentation before recommendations for funding are made to the Grants Officer.
- E. Anticipated Announcement and Award Dates: Funding is anticipated to begin January 1, 2008. The start date on proposals should be on or after January 1, 2008. The earliest start date that should be entered on SF-424 is January 1, 2008. Note that an award period must start at the beginning of a month.

VI. Award Administration Information

- A. Award Notice: Applications recommended for funding by the selecting official will be forwarded to the NOAA Grants Management Division (GMD) by the Program Office. The applicant will be notified by the program office by e-mail that their application was recommended for funding. The applicant must be aware that the notification by the program office is NOT the official award notice. Official notification happens only when the applicant receives an award notice from the Grants Officer either by postal mail or electronically.

Unsuccessful applications for all Coastal Services Center programs will be destroyed and not returned to the applicant.

B. Administrative and National Policy Requirements

1. Department of Commerce Pre-Award Notification Requirements for Grants and Cooperative Agreements

Administrative and national policy requirements for all Department of Commerce awards are contained in the Department of Commerce Pre-Award Notification Requirements for Grants and Cooperative Agreements contained in the Federal Register notice of December 30, 2004 (69 FR 78389). A copy of the notice may be obtained at www.gpoaccess.gov/fr/search.html.

2. Limitation of Liability: In no event will NOAA or the Department of Commerce be responsible for proposal preparation costs if these programs are cancelled because of other agency priorities. Publication of this announcement does not oblige NOAA to award any specific project or to provide special fishing privileges.
3. Reporting: Grant recipients will be required to submit financial and performance (technical) progress reports electronically through the NOAA Grants On-Line System. Instructions for submitting financial and progress reports will be provided by NOAA Grants Management Division.

VII. Agency Contact(s)

For administrative questions, contact James Lewis Free, NOAA CSC; 2234 South Hobson Avenue, Room B-119; Charleston, South Carolina 29405-2413, or by phone at 843-740-1185, or by fax 843-740-1224, or via internet at <James.L.Free@noaa.gov>.

For technical questions regarding each of the three focus areas in this announcement, contact the following persons:

RCOOS Development - Geno Olmi, NOAA CSC; 2234 South Hobson Avenue, Room 1-132, Charleston, South Carolina 29405-2413, or by phone at 843-740-1230, or by fax 843-740-1313, or via internet at <Geno.Olmi@noaa.gov>

IOOS Applications and Product Development - Dave Eslinger, NOAA CSC; 2234 South Hobson Avenue, Room 1-234A, Charleston, South Carolina 29405-2413, or by phone at 843-740-1270, or by fax 843-740-1315, or via internet at <Dave.Eslinger@noaa.gov>

Data Management and Communications – Jim Boyd, NOAA CSC; 2234 South Hobson Avenue, Room 1-234, Charleston, South Carolina 29405-2413, or by phone at 843-740-1278, or by fax 843-740-1315, or via internet at <James.Boyd@noaa.gov>

VIII. Other Information

Funding applicants can refer to the Coastal Services Center's Web site for specific instructions on filling out the NOAA standard forms for grants/cooperative agreement applications. The Center's Web site is www.csc.noaa.gov/funding/CSCgrant.html.

A forms checklist for completing application packages is on-line at www.csc.noaa.gov/funding/PDFs/CSC_grant_checklist.pdf.

Official notification of an award notice is provided by the Grants Management Division, not the program office. If one incurs any costs prior to receiving an award agreement signed by an authorized NOAA grant official, one would do so solely at one's own risk of these costs not being included under the award.

References:

Ocean.US, 2002. Building Consensus: Toward an Integrated and Sustained Ocean Observing System (IOOS). Ocean.US, Arlington, VA. 175pp.
www.ocean.us/documents/docs/Core_lores.pdf

Hankin, S. and the DMAC Steering Committee, 2005. Data Management and Communications Plan for Research and Operational Integrated Ocean Observing Systems: Interoperable Data Discovery, Access, and Archive. Ocean.US, Arlington, VA. 304 pp.
http://dmac.ocean.us/dacsc/imp_plan.jsp

Ocean.US 2006. The First Integrated Ocean Observing System Development Plan: A Report of the National Ocean Research Leadership Council and the Interagency Committee on Ocean Science and Resource Management Integration. Ocean.US, Arlington, VA. 86 pp.
www.ocean.us/documents/docs/FINAL-ImpPlan-NORLC.pdf.