



Data Management and Communication Services Request for Qualifications (RFQ)

Issue Date: Tuesday, February 24, 2015

Submission Deadline: Tuesday, March 24, 2015

Addendum Posted Date: March 11, 2015

The Southeast Coastal Ocean Observing Regional Association (SECOORA) is a regional non-profit organization based in Charleston, South Carolina and operating in the coastal waters of NC, SC, GA and FL. SECOORA is one of the eleven coastal ocean observing regional associations partnered with the US Integrated Ocean Observing system (US IOOS[®]). SECOORA has established a data management and communications (DMAC) system, and is implementing the US IOOS recommended standards based web services that promote interoperability, discovery, efficient data aggregation, access, sharing, visualization, and use of coastal ocean data (physical, chemical, biological and geological). SECOORA's current DMAC system aggregates data from all SECOORA funded observational and modeling assets that include coastal and offshore stations (atmospheric and oceanographic data), IOOS Priority High Frequency Radar Stations, regional and sub-regional coastal circulation, water quality and fisheries habitat models. The data system also aggregates data from federal and non-federal real-time and non-real time coastal ocean datasets (in-situ, gliders, profilers, drifters, satellite and models) in the SECOORA region. Data and information products are made available in near real time to stakeholders and decision makers via the [SECOORA web portal](#).

SECOORA is soliciting contractors with DMAC qualifications who will present a plan and demonstrate the capability to operate a region-wide integrated DMAC infrastructure as a core component of SECOORA operations. Respondents should demonstrate their DMAC expertise and capabilities, user product development services and data provider support services. They should also demonstrate how they will build upon or modify SECOORA's current DMAC system and how, using existing tools and products and/or emerging, appropriate new technologies implement a robust, cost-effective and scalable coastal ocean data management system that is compliant with US IOOS[®] DMAC requirements.

SERVICES REQUESTED

Provide data management support and communication services, building upon the hardware, software, tools and products developed over the past five years, and following the national IOOS DMAC Program guidance. Respondents should demonstrate how they will provide for a DMAC subsystem to:

- Deliver real-time, delayed-mode and historical data for in-situ and remotely-sensed physical, chemical and biological observations;
- Deliver model-generated outputs, including both nowcasts/forecasts and hindcasts, to

SECOORA and IOOS end users;

- Develop, upgrade and maintain user products and tools as needed; and
- Provide technical assistance and support to data users and data providers that enable easier access to and use of relevant data and information.

Proposers must demonstrate how they would address the following services:

1. **Data Ingestion and Repository services:** The SECOORA data management system should provide services to receive, ingest, aggregate and archive near-real-time data streams and historical datasets and serve as a regional Data Assembly Center (DAC). Respondents should demonstrate their experience in working with a variety of data providers (state, federal, academic researchers, NGOs and private industry) and aggregating diverse oceanographic and meteorological datasets in a variety of formats including but not limited to netCDF, XML, KML, CSV, WMS, WFS, SOS, ncSOS, ASCII, SQL and HTML.
2. **Data Discovery, Access and Delivery:** The primary gateway for the SECOORA data system is the SECOORA data portal accessible via www.secoora.org. SECOORA is in the process of building a searchable data catalog service. The data are currently accessible via IOOS recommended standards based web services. Regional data sets (observational and model) are searchable and discoverable via US IOOS[®] Data Catalog and Asset viewer. SECOORA has established IOOS recommended standards based web services such as ncSOS, WMS, WFS, THREDDS and ERDDAP for data dissemination. The respondents should address their capability to implement or improve the existing, or develop new data discovery, access and delivery tools, and link data to other data systems and key partners such as the Governors' South Atlantic Alliance (GSAA), National Data Buoy Center (NDBC), National Ocean Service (NOS) and the National Oceanographic Data Center (NODC).
3. **Data QA/QC, Archival and Metadata:** US IOOS[®], together with regional associations and coastal ocean observing organizations and community experts, has developed and released Quality Assurance of Real Time Ocean Data ([QARTOD](#)) manuals. Regional Associations are working with data providers on the implementation of QARTOD recommended quality control (QC) tests and flagging schemes to the data they serve. The QC tests and flagging schemes are a part of the data system, and the respondents should demonstrate their ability to work with data providers and implement QA/QC flags to data (real-time and non real-time) served via the SECOORA data portal. IOOS Data Certification requires that the data collected and served via the SECOORA data portal be archived locally, offsite, and at permanent archiving facility such as National Oceanographic Data Center (NODC). The respondents should describe their experience in providing archival services for real-time and delayed mode data sets as well as how they would implement metadata standards and management and query capabilities.
4. **Technical and product development support:** Applicants should demonstrate capabilities and experience in: developing user products and tools with including utilizing mechanism to generate feedback from potential users; end-to-end data product development including beta testing, refinement and operations; and willingness, flexibility and adaptability to respond to user feedback.
5. **Web Portal Hosting, System Administration and Support:** The SECOORA web site is the virtual face of SECOORA, and provides the first and primary access for many people to what

SECOORA is. The web site includes the data portal and visualization tools, data products, data query and access tools, and other applications. Respondents should demonstrate the capacity to host and maintain the SECOORA web site and data portal, as well as their web design and data portal maintenance experience and capabilities.

Required Qualifications, Skills & Experience:

- Have data management and programming technical skills, and knowledge of hardware and software systems involved in data management of coastal ocean observations.
- Have familiarity and experience on the implementation of IOOS DMAC standards and functionalities.
- Possess strong communication and interpersonal skills.
- Have the ability to work remotely and interactively with a small, regional staff and a regionally-distributed technical working group.
- Have leadership and collaboration skills; work flexibly with other teams in addition.
- Have dedicated technical personnel to respond to DMAC tasks and needs of the organization in a timely manner.
- Have experience with integration of disparate data sets to develop web based products and services for SECOORA thematic applications
- Demonstrate ability to document technical operations and activities
- Have experience with service oriented architecture (SOA) design and implementation
- Have successful experience in a relevant technical discipline that permits understanding of ocean observing system elements and the ability to work across diverse sectors.
- Knowledge of coastal ocean observations, U.S. IOOS, regional associations and SECOORA is preferred.

REVIEW PROCESS and TERMS

Any eligible state or federal agency, university, research institution, NGO or private industry is encouraged to submit applications.

1. SECOORA will convene a review panel of 3-5 participants. The panel will include SECOORA staff, a SECOORA member with relevant expertise, other subject matter experts, and/or an IOOS Program Office representative.
2. Solicitation for qualifications will be sent out via SECOORA's email list and made available on the SECOORA web site. Responses must be submitted by 5:00 PM ET, Tuesday March 24, 2015.
3. The Expert Panel will review the responses and recommend no more than three for follow-up interviews.
4. At the conclusion of the interviews, SECOORA will identify their first choice and negotiate a contract for DMAC services.

This is an open and competitive process. SECOORA reserves the right to reject any and all responses received as a result of this process.

SUBMISSION OF RESPONSES

Responses should be sent to Vembu Subramanian (vembu@secoora.org) by 5PM ET, Tuesday

March 24, 2015. The responses should not exceed seven pages, with one-inch margins and 12 point text in PDF format and shall provide the following information:

1. Title/Cover Page (Names of applicant organization and principal/co-investigators, requested funds and contact information)
2. Introduction/Summary (Provide relevant background information and overview of the proposed scope of work, DMAC experience etc.)
3. Technical Approach (Provide detailed description of approach including goals, activities, and methods)
4. Management Approach and Qualifications (Describe management structure, identification of key personnel, responsibilities of key personnel and technical experience)
5. Budget Information (Provide an estimate and justification to provide the five technical services outline in this request)
6. CVs of key personnel and past DMAC experience and infrastructure capabilities should be attached as an appendix.

Questions regarding Request for Qualifications

For any questions related to this solicitation, please contact Vembu Subramanian, SECOORA RCOOS Manager via either email (vembu@secoora.org) or telephone (727.641.5258).

Addendum:

Respondents should demonstrate a range of capabilities from building a new data management system to expanding/building upon SECOORA's existing data management system/software. Options for continuing or replacing the applications, products, tools and services that are currently offered via [SECOORA data and maps portal](#) should be addressed. The SECOORA data and maps portal has links to the various products, tools, applications and services that are supported and maintained. Past SECOORA IOOS project proposals, progress reports, DMAC funding allocations and activities being carried out to date are available for access via the [SECOORA projects](#) section of the web site.