IOOS Regional Association
Needs Assessment
Final Report

NOAA Coastal Services Center
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

October 2006

About the NOAA Coastal Services Center
The NOAA Coastal Services Center's mission is to support the environmental, social, and economic well-being of the coast by linking people, information, and technology. The Center works with various branches of NOAA and other federal agencies to bring information, services, and technology to the nation's coastal resource managers. The Center is a partner in over 100 ongoing projects geared to resolve site-specific coastal issues.

Introduction and Purpose

The purpose of this needs assessment is to guide National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center staff members in providing technical assistance to the collective needs of regional associations (RAs) in order for RAs to fully develop their community network, their organizational and governance structure, and their operational capabilities. Coastal Observation Technology System (COTS) and RA development projects are contributing to the national effort to implement a sustained integrated ocean observing system (IOOS). IOOS is an interagency, cooperative effort composed of a network of buoys, ships, satellites, underwater vehicles, and other platforms that routinely collect real-time data and manage historical information. These data are needed for rapid detection and timely prediction of changes in the nation's coastal waters.

The NOAA Coastal Services Center is working with information providers to help state coastal programs get the data and information they need. RAs provide the primary framework for orchestrating the required collaboration within each region and are responsible for the design and coordinated operation of regional coastal ocean observing systems (RCOOS). In addition to the regional associations as a coastal component of IOOS, the national backbone provides data, links changes that occur across the Earth's oceans, and provides information for the U.S. exclusive economic zone (EEZ). The establishment of the national backbone is the responsibility of the federal government. The RCOOS system and the national backbone make up a complementary system that allows for an increase in the time-space resolution of measurements and the number of measured variables.

Information in this report will be used in the Center's 2007 fiscal year planning efforts and other future projects. Where the Center is unable to directly address these needs, its staff will work to engage those who may be able to aid the RAs in their work.

Methodology

The IOOS regional associations are a collection of organizations that are currently receiving great interest from various stakeholder groups, including government agencies (federal, state, regional, local, etc.), academic institutions, the private sector, and not-for-profit groups. Consequently, the RAs are frequently solicited to participate in focus groups, surveys, and similar undertakings. The National Federation of Regional Associations (NFRA) was interested in engaging in the needs assessment process and provided substantial input during the planning phase. NFRA is the designated, collective voice of the 11 RAs. NFRA's participation in the preliminary planning phase ensured that the needs assessment would provide new, useful information to the Center, NFRA, and the RAs.

A standard set of questions was used to ensure consistent information collection across all RAs (see Appendix). To develop the initial questions, the NFRA and Center staff members focusing on IOOS-related tasks were solicited on what they felt were important issues currently facing the RAs. Following this solicitation, questions were compiled and refined into a master list.

Additionally, three thematic areas were highlighted at the most recent steering committee meeting of the U.S. Global Ocean Observing System (GOOS). The three areas were marine navigation, coastal inundation and disaster resiliency, and public health. Following these emphases, additional questions were developed to capture RA efforts in these thematic areas. RAs were also provided with an opportunity to contribute any additional comments or concerns that may not have been addressed at the end of questioning.

Information was collected by means of a series of telephone interviews in May 2006. The intended participants for each RA were the principal investigator (PI) and the program coordinator. Each RA was provided with the question set that was to guide the telephone interview several weeks before the call took place. This provided an opportunity for respondents to make initial preparations and potentially increase the depth and quality of reported information. PIs were encouraged to invite additional RA members to the telephone interview if there was a content area that may be better covered by someone outside the selected audience. The interviews were lead by Chris Ellis, needs assessment coordinator for the Center. Interview support was also provided by Geno Olmi (regional association coordinator) and Josie Quintrell (NFRA interim director). Additionally, Center staff members that serve as technical points of contact for the RAs were informed of the interview schedule and invited to call in and learn more about the issues and concerns related to their specific geographies.

Results

The findings of this report have been categorized into three primary themes: partner engagement and responsibilities, program and communication support, and data management and product development. Topics are numbered in no particular order and are not reflective of prioritization. These areas are outlined below:

I. Partner Engagement and Responsibilities
- *Stakeholder Engagement:* RAs identified stakeholder groups that they would like to engage but are having difficulty in doing so.
- *National Backbone:* Current efforts of the RAs are hampered by the confusion surrounding the role and content of the national backbone.

II. Program and Communication Support
- *Gaining Credibility and Managing Expectations:* A challenge is to maintain current levels of commitment and enthusiasm with a lack of a clear IOOS future
- *Training:* Many RAs are interested in receiving assistance with understanding and documenting user needs and, in turn, translating those needs into observational requirements and system design.
- *Branding:* Nearly all RAs were interested in having a common identity that links them together as part of IOOS.
- *Communication Enhancement:* Several areas were identified in which the Center could provide support for communication issues, such as hosting and facilitating workshops,

compiling and disseminating information, and helping to define roles within the IOOS community.

III. Data Management and Product Development
- *Technical Data Issues:* RAs are interested in receiving data management and communications (DMAC) guidance to proceed forward in their operations. There is a continual need for greater synthesis and integration of data. There is also interest in obtaining additional biological data.
- *Coastal Inundation and Erosion:* Inundation and erosion information and products were reported as a priority for many RAs. Some RAs are seeking regional coordination with this issue. There were many region-specific requests related to inundation and erosion.
- *Public Health:* There is inconsistent monitoring of water quality within and among several regions. RAs are interested in new water monitoring technologies associated with public health.
- *Training:* The possibility of receiving Center training opportunities was well-received by many RAs. Primary subject interest was in geospatial and metadata training, with possible specialization. Several ideas were also suggested for new training areas.
- *Product Interest and Limitations:* Nearly all RAs mentioned specific products they would like to possess. They are interested in other RA efforts for the purpose of stimulating new ideas. Lots of the talk concerning product development centered on financial challenges.

Partner Engagement and Responsibilities

Stakeholder Engagement

A primary contributor to the success of regional associations is adequate engagement with stakeholder groups. All RAs identified one or more stakeholder groups with which they would like to begin building a relationship, or further develop an existing relationship.

The fishing community was the stakeholder group most often identified (by six of the RAs) as needing greatest attention and engagement. RAs referred to the various arms of the fishing community, including commercial, recreational, and regulatory.

Challenges in engagement with certain federal agencies were identified by RAs. Federal agencies are responsible for the collection of many ocean data measurements. Many of these agencies and their measurements compose the national backbone. A number of measurements would provide substantial help to RAs if RAs were presented with an opportunity to effectively interact with targeted federal agencies and programs. Identified federal groups were the U.S. Coast Guard and the U.S. Navy—specifically, the Naval Research Laboratory. A likely challenge relating to military-based agencies is the many changes in staff. The frequent transfer and deployment of U.S. military personnel make it difficult to maintain developed relationships. Particular topics of interest with these groups are surface circulation models, high-frequency radar coverage, national security, and search and rescue operations.

RAs expressed the need to engage with various other state and regionally based groups, such as state environmental agencies, coastal zone management (CZM) programs, and water resource and wastewater managers. Table 1 lists all identified groups with which RAs would like greater engagement. Additional federal challenges are described in the next section.

Table 1: Stakeholder Groups and the Number of RAs Interested in Engaging with Each

Stakeholder Group	Number of RAs
Fisheries	6
CZM Community	2
Marine Transport/Maritime	2
Recreational Boaters	2
U.S. Coast Guard	2
Academic Institutions	1
Aquaculture	1
Coral Reef Community	1
Homeland Security Contractors	1
Marine Sanctuaries	1
Neighboring IOOS Regional Associations	1
Oil and Gas	1
State Environmental Agencies	1
Tribal Governments	1
U.S. Navy (Naval Research Laboratory)	1
Water Resource Managers	1
Private Sector (SAIC, Raytheon, LM)	1

National Backbone

Seven of eleven RAs specifically identified issues surrounding the national backbone as a primary challenge related to product development. To be successful, RAs must possess a clear definition and understanding of the national backbone and their responsibilities related to the national backbone, and RAs requires a unified, coordinated, and consistent leadership at the national level to provide guidance. Commentary centered on the need for clarification of what each federal agency related to IOOS is responsible for, including the various NOAA IOOS efforts.

Aside from matters of administrative responsibility, there is confusion in many regions of exactly what types of monitoring equipment exist in individual regions, and specifically where they are located. Three RAs identified that they would like to possess some sort of document that lays out in detail what constitutes the federal backbone in their regions, as well as the specific coordinates for buoys, platforms, and other data-collecting instrumentation. Additionally, two RAs identified a deficiency of infrastructure in terms of federal backbone. The process to remedy federal infrastructure deficiencies was not clear to the RAs.

Finally, there is the issue of data translation. The RAs are relying heavily on the federal backbone for various nearshore and oceanographic measures. Data received by the RAs from federal assets come in various units and formats, and RA data managers must then translate these measurements into a format that is usable to them. There is interest among the regions for an agency to come forward and serve as the implementer or portal to the national IOOS data system, translating data relating to the backbone.

Program and Communication Support

Gaining Credibility and Managing Expectations

A current challenge that was unanimously identified across regions is how to maintain current levels of commitment and enthusiasm of data providers and users when the IOOS future is uncertain. All RAs have been making efforts to increase community visibility; however, there is a difficult dilemma between wanting to increase visibility without overselling and creating unrealistic expectations that cannot be met. The major feeling about the issue was encapsulated by one respondent in the following statement: "I think we [the RAs] are doing the best we can do with the funds that we have. We are dealing with the situation where we have to manage expectations as well. The reality is that the IOOS authorization hasn't gotten out of Congress, nor have we seen the appropriation of funds. We are at the point where we have to retrench and make sure that expectations can be realized."

The task of engaging people over a period of time has been difficult. Over time, individuals begin to wonder if anything is going to come of the IOOS effort. In many instances, stakeholders are contributing their own time, travel costs, and facilities. Expectations are built as they look to the RA to develop products they want. If expectations fall short, credibility and stakeholder buy-in dwindles. The consensus is that real, near-term products are required to gain trust and credibility with constituents.

RAs provided a couple of specific suggestions that may strengthen credibility. First, having consistent Center and other federal government agency representation at both local or regional meetings and workshops, and high-level national meetings illustrates the point that IOOS and the RAs are a priority of NOAA and other federal agencies and not an isolated, short-term initiative. Second, pilot projects are viewed as a means to enhance credibility. Pilot projects provide an opportunity to display the creativity and intellectual skills the RAs possess.

Training

All regions discussed user needs during the course of the interviews. Some RAs conduct needs assessments in-house and others use contract groups. Eight of eleven RAs reported interest in receiving assistance on some level with understanding and documenting user needs and, in turn, translating those needs into observational requirements and system design. Four RAs displayed interest in receiving needs assessment training to learn about the needs assessment process. Four RAs felt they were proficient at conducting needs assessments but would be interested in moving

toward a common methodology for such projects. Adopting a common needs assessment protocol would allow greater opportunities to share and compare information on similarly targeted issues.

One RA indicated that an activity such as the Center needs assessment and similar trainings could be used strategically. The proposed strategy is to provide the RAs with a listing or write-up of available Center training opportunities and what these kinds of trainings accomplish so the RAs can, in turn, market these opportunities in their region to state resource management agencies, tribal governments, academics, and others. The thought is that if state resource agencies develop a greater feeling of trust and see NOAA's investment in IOOS and the RAs, then the opportunity for partnership becomes greater.

Branding

The desire for a shared identity (branding) of IOOS was considered important by the RAs. This lack of shared identity was illustrated at the September 2005 Estuarine Research Federation conference in Norfolk, where observing system posters and presentations were exhibited. Though the RAs are part of a larger national group, no consistency or common identifying element existed across the posters and other materials. Ten RAs expressed interest in one or more components of the branding of materials. These RAs are also in favor of the adoption of a logo or other common feature specifically for IOOS to be jointly incorporated into materials used by the regions and the national backbone agencies. The purpose of the logo is to signify that RAs are part of the IOOS enterprise, while simultaneously maintaining their own personal identities through their own personal logos.

A second component of branding that was mentioned focused on Web resources. Roughly half of RAs are open to the idea of having a similar "look" for their Web pages. This component doesn't refer to standard Web templates, per se, but could include guidelines for placement of data and information. For example, RAs could adopt a standard format so that sea surface temperature would be placed in the same approximate location on all their Web sites. This would help users accessing multiple interfaces. There was little support for standardization of Web pages because of each region having site-specific issues and data needs on which they report.

Communication Enhancement

Several areas were identified in which the Center could support the RAs as they engage the broader IOOS community, such as hosting and facilitating workshops, compiling and disseminating information, and providing guidance in prioritizing user needs and defining roles within the IOOS community.

Workshops were identified as the most utilized form of outreach. Workshops have the added benefit of allowing RAs to convene and discuss a current pressing issue, such as data management standards. The time, effort, and finances of hosting and facilitating workshops were frequently indicated by RAs as areas where the Center could lend its assistance. Tasks mentioned include planning (both event planning and content development), facilitation of workgroups, and

helping with technological components, such as setting up telecoms. Making certain technologies available would enable many regions to better communicate through teleconferences or Web conferences. RAs felt that the Center possesses such resources.

During the interview phase, all RAs made some specific reference to the Center's traditional customer base. In many instances, Center customers, such as local and regional coastal managers and hazard and emergency managers can be difficult to identify and engage. The Center has an extensive list of contacts in various areas of coastal management that would be of great logistical benefit in many RA projects. Many RAs would benefit from making contacts and having additional interaction with the state CZM community.

Based on a number of specific comments, it is evident that the RAs are open to Center assistance and guidance in setting the priorities for the needs of their regional users. While many RAs are interested in receiving assistance with documenting user needs, at present most RAs reported having more needs documented than actual abilities to meet them. Many of the more mature regions are at the stage where they are ready to take action on identified needs, rather than assessing and identifying additional new ones. RAs seem receptive to the Center assisting in the prioritization of documented needs more so than an outside contractor because of the Center's high level of connection to various state and regional coastal management communities. The logic behind this thinking is that by prioritizing regional needs according to topical areas on which the Center is currently focusing efforts, the RAs would be in a greater position to partner with the Center on related projects.

Regional association members continually highlight the value of sharing information, such as case studies, lessons learned, and best practices. All RAs mentioned the benefit of information being compiled and shared. Additionally, all the regions had requests for targeted, subject-specific information. Many of these requests relate directly to the Center and other NOAA offices engaged with IOOS efforts. The following is a compilation of miscellaneous information requests that were recorded during the interviews:

- A compilation of available U.S. Geological Survey and NOAA data sets
- Documentation of current and future IOOS efforts within NOAA (3 requests)
- A catalog of RA products to stimulate new ideas among the regions
- A spreadsheet to display where each RA is in terms of development and progress
- A current listing of successful pilot projects
- A list of current and planned Center projects with ties to IOOS
- A matrix of data flow from the regions to federal depositories
- A matrix for data management and metadata standards
- A list of suggestions for RA staff positions along with job descriptions. Also a portfolio, depending on the maturity of the RA, to identify the types of positions it should have
- Identifying the review process for various funding mechanisms
- Catalog of NOAA efforts in coastal inundation
- A compilation of Center trainings and a marketing document
- An IOOS organizational chart to display its institutional structure

Data Management and Product Development

Technical Data Issues

The RAs are emphatic about the need to receive data management and communication (DMAC) guidance and identified standards to proceed with their operations. This point was echoed across all RAs during the interview phase. It has been several years since the initial DMAC plan was approved. The general feeling is that little progress has been made since then to move the initiative forward. During this period, the topic has been heavily discussed among the regions, federal agency staff members, and others. It is apparent that varying stakeholders had their own visions of what "DMAC compliance" truly was.

Along with federal data challenges mentioned previously about the national backbone, local and state data continue to be a challenge in many regions as well. Respondents indicate that the data providers often do not provide adequate metadata and are reluctant to change current data access protocols. Numerous reported measurements are collected irregularly, with periods of regularly scheduled collection followed by periods void of any collection. This is generally a result of resource limitations. Additionally, some data providers that get support from private corporations, in addition to their state support, can be restricted from sharing because of licensing or contract issues.

There is a continual need for greater synthesis and integration of data. A few comments were made about efforts to connect IOOS with current biological measurements. An RA-suggested direction was through the Ocean Biogeographic Information System (OBIS), which is an on-line, open-access network of various ecological and environmental measures. Some feel that highly innovative end-products may result by connecting measures of marine life with current physical and chemical observations. Another national network offered for consideration is the Environmental Exchange Network, currently being implemented by the Environmental Protection Agency.

One of the most common challenges related to product development is DMAC compliance within the IOOS community. Currently, DMAC does not possess a common, unified standard. It would be of great use to have the Center, or another IOOS community agency, develop a matrix of information standards and say that "this is what actually works for right now." Difficulties surrounding data management staff were mentioned by more than half the regions. The obvious challenge indicated was financial stress. Besides an apparent lack of funds to hire data and technical staff members, it is often a difficult task for regions to identify qualified, available individuals to hire.

Coastal Inundation and Erosion

At their most recent steering committee meeting, the U.S. GOOS articulated a desire to focus on three high priority goals from the seven societal goals of IOOS. These thematic areas are marine navigation, coastal inundation and disaster resiliency, and public health. Specific questions related to these three areas were utilized in the interviews. No major challenges were reported

associated with the marine navigation community. The most notable comments were in regard to strengthening current relationships with ports and harbor managers, and the absence of U.S. ports and navigation operations in certain U.S. geographies. The other two thematic areas stimulated much greater levels of discussion among respondents.

Information and products, with a focus on coastal inundation and disaster resiliency, was the thematic area that received the greatest collective interest among the regions. Following recent hurricanes, such as Katrina, this topic has become one of the most highly visible issues within the coastal community. Eight of the eleven regions indicated that inundation and erosion were issues of high priority. Addressing inundation was mentioned as a potential opportunity to partner with other agencies and nurture new relationships. Coastal inundation and community resiliency are current issues receiving interest from several federal agencies. An example mentioned in two separate instances is the opportunity to engage the U.S. Department of Homeland Security. Inundation and erosion can affect America's borders and transportation hubs, including airports, subway tunnels, and ports. Such connections can lead to partnership projects between the agencies and RAs.

There were many region-specific interests related to inundation projects and products. The following list captures a number of such items:
- Coastline visualization tools
- Surface current mapping
- 3-D predictive circulation modeling
- Nearshore bathymetric mapping
- Public awareness and outreach associated with safety and evacuation
- An assessment of how state emergency management could use better forecast tools based on storm surge models
- Outreach and education on vulnerability to inundation, specifically using maps as a tool
- Development of a product that connects inundation vulnerability to land use decisions in the coastal region
- Development of an integrated wave and water level product

Public Health

Beach monitoring for the purpose of public health was reported as a fragmented, inconsistent process in many regions. Certain states are able to put greater efforts into consistent monitoring of coastlines for water quality attributes. It is clear that numerous state-level monitoring efforts need to be elevated. RA success in the area of public health would be greatly enhanced if there were greater cohesion at the state level, which would lead to greater abilities in the identification, access, and integration of data sets.

The two most common public health hazards identified by respondents were anthropogenic-based microbial contaminants and harmful algal blooms (HABs). RAs are interested in new, region-specific water monitoring technologies associated with public health. A tool receiving particular interest is the NOAA-developed HAB forecasting tool for the Gulf of Mexico. Other

regions highlighted HABs as a public health hazard as well. Such regions would be receptive to a similar forecasting tool.

The following list is a compilation of comments made by the RAs during discussion of specific public health challenges and regional efforts to strengthen this area.

- Better understand how and if the beach and shellfish closure authorities at the state level would use forecast tools based on improved rainfall data or models, i.e., what type of validation process, etc. before this could be useful?
- For integration purposes, formation of a regional coastal commission (governor's coastal conference) for an integrated regional (via a state-by-state) approach would be helpful.
- Need for more real-time/near-real-time data. Often, by the time the data become available, the information is of little use.
- Beach closure is an ongoing issue related to storm water events affecting septic systems and combined sewer overflows.

Training

Needs assessment training was previously mentioned in this report as an interest area of RAs. The possibility of receiving other Center training opportunities was well-received by many RAs. Primary subject interest in currently offered Center trainings were geospatial technology courses (coastal applications using ArcGIS, remote sensing for spatial analysts, etc.) and metadata training.

Several ideas were also suggested for regional specialization and development of new topical areas. All regions voiced a certain degree of support for training opportunities by the Center; however, there was skepticism among certain RAs whether various user groups would take advantage of such trainings if offered. RAs identified the value of marketing training opportunities across the IOOS community to maximize visibility and awareness of such offerings. The following is a compilation of suggestions made by the RAs for enhancing training opportunities for the IOOS community.

- The Center could provide information on where to access training it doesn't offer.
- Need for assistance in Web interface training and resources to develop Web sites.
- Need for training on a habitat classification system.
- Need for more training the trainers. We need to train key people in knowing the best way to impart knowledge to nonscientific users.
- Geospatial training specific to the geography and issues of the region.

Product Interest and Limitations

Nearly all RAs mentioned specific technical abilities and products they would like to possess. RAs are particularly interested in efforts and successes of other regions to stimulate new ideas of their own. They would like to see an inventory catalog of existing hardware and modeling products of each region.

The Center is currently working on Web services, metadata support, code repositories, and a transport laboratory to assist the RAs. This encompasses a number of components in the DMAC Plan. An element identified as missing is an on-line browse capability. A tool that will let one browse and display the data and model outputs is presently desired. Additionally, there was mention of the need for a community test bed like OPENIOOS with no regional affiliation where regions can test for and demonstrate interoperability.

Lots of talk concerning financial challenges centered on product development. Some feel that money is the only true obstacle to product development. The perceived lack of funding over time affects motivation. RAs have increasing work demands, and while highly competent, motivated individuals are present in all regions, there is a deficiency of staff hours to devote toward emerging tasks.

Recommendations

The IOOS regional associations currently face many challenges, including stakeholder engagement, building legitimacy among the data provider and user communities, managing expectations with limited funding, and deciding upon common standards or best practices (such as DMAC). These challenges are common across all regions. The NOAA Coastal Services Center has a vested interest in the continual progress of RAs in IOOS. The aim of this report is to provide specific recommendations to guide future Center efforts in how to improve RA operability. The information provided in this needs assessment, balanced with Center areas of focus and expertise, give way to the following suggested emphasis areas:

  Enhance RA Communications

Because of the high level of Center interaction with all RAs, it would be useful to maximize such communications by sharing correspondence across regions. Such information could potentially minimize confusion related to RA efforts and regional events, workshops, etc. The Center could begin to inventory and catalog numerous information resources to share among regions, which could be done in partnership with Ocean.US. This was suggested by many RAs during the needs assessment interviews. Such information resources could include CZM community contacts by thematic area or geography, regional IOOS product catalog, federal agency roles in IOOS, organizational charts, success stories, case studies, and best practices. The information received by the Center could also be effectively used to host subject-specific workshops on emerging issues that are common across regions.

  Help Build Legitimacy

Maintaining credibility and managing expectations among the broader IOOS community has proven particularly challenging. This has predominantly been attributed to a lack of financial resources and, in turn, a decrease in motivation for additional challenges to be taken on with few additional incentives. It is the hope of all those in the IOOS community that legislation will be

soon passed to solidify the RAs and IOOS as a more permanent fixture in the U.S. ocean community. During the interim, the Center should make every effort to promote the RAs and enhance their legitimacy whenever possible. The presence of Center and other NOAA staff members at regional meetings and workshops is a simple way to enhance legitimacy and display community support. The best way for RAs to gain credibility is to demonstrate products that meet user needs and expectations. Pilot projects are currently one of the best means for accomplishing this. The Center needs to make every effort to afford RAs with pilot project opportunities.

Branding

Some level of IOOS branding was supported by the RAs. While there were various interpretations of the degree to which branding of materials should take place (logos, Web templates, letterhead, etc.), the item most mentioned was the adoption of a common logo. This is a specific project that will affect all RAs. Unified, cross-regional efforts are needed to further the legitimacy of the RAs as a system. By having a common logo or brand mark, the broader community would see IOOS as a unified collection of regions working toward a common objective. There is concern, however, that a common branding approach may reduce the level of individuality among RAs. IOOS branding will require cooperation among the National Federation of Regional Associations, Ocean.US, the RAs, and the Center.

Training

Center training opportunities were very well-received across the regions. Primary training interests were in geospatial technologies and metadata training. There was also interest in needs assessment training and technical support. Of particular interest was the potential to adapt current trainings to the regional geographies and issues, and the possibility of developing new trainings. Such trainings would create additional venues for the IOOS community to convene and share ideas. Trainings could also be used as a partnership tool between the RAs, the Center, and the greater data provider and user communities. Efforts should be made to market such training opportunities among the regions and provide support in universal regional challenges.

Provide DMAC Support

RAs are interested in receiving DMAC guidance. There is a clear need for standard practices for synthesis and integration of data streams. At present there are no standards endorsed community-wide for sharing and utilizing data in an interoperable fashion. There are localized efforts but little at a regional or national scale. A challenge is to meet the needs of discrete user groups. Many groups want information tweaked slightly to meet their specific needs. It is clearly impossible to deliver data in a format that meets every user's exact preferences; therefore, standards that are not perfect for all, but which work for all, must be identified. Without question, this system could be modified over time. At present, the need is not for a perfect system, but for an operable, transitional system. The Center has the technical expertise to assist the RAs in determining best practices for data transport and metadata, and for creating an initial

unified data management initiative. Additionally, the Ocean.US Community Information Repository serves as a clearinghouse for various methods for the management of IOOS data.

Next Steps

The NOAA Coastal Services Center recognizes that the RAs, which have the responsibility to identify and meet the observing system needs of the state and local agencies, are the most effective way to address the needs of the coastal management community for IOOS information. Thus, the Center has a strong interest in the success of the RAs and the regional component of IOOS. With the Regional Association Needs Assessment complete, Center staff members will use the experience and knowledge gained to develop additional activities and strategies that will most effectively address RA needs at this stage of their development. Areas of emphasis will include enabling communication within and between the RAs and federal agencies on IOOS and other priority coastal issues, and providing support to the regions as the community develops data management standards and protocols. In some cases, existing resources, plans, or projects may be tuned or redirected. For other efforts, additional resources may be needed to make significant progress, and the Center will pursue and take advantage of these opportunities as they become available. Strategies developed in response to this needs assessment will be available for discussion in late October 2006. Comments and suggestions are welcome in the development of strategies to respond to changing needs and new challenges as IOOS develops.

APPENDIX

Interview Questions

The National Oceanic and Atmospheric Administration's (NOAA) Coastal Services Center has great interest in the continued progress and development of the Integrated Ocean Observing System (IOOS) to provide an organized stream of useful observations and subsequent applications for coastal monitoring and decision making. To maximize efforts to establish IOOS, the Center, in partnership with the National Federation of Regional Associations (NFRA), is conducting a needs assessment focusing on the IOOS regional associations (RAs). The purpose of this needs assessment is to identify areas where the Center and its partners can best provide technical assistance to RAs in order to fully develop their governance structure and further advance their operational capabilities. The intended outcome of this project is to obtain a greater understanding of the current challenges of RAs and to guide Center activities and technical assistance based on identified operational needs.

Users and Outreach

1. How is your current (or planned) program progressing for engaging users in your region and for understanding their needs for ocean observing data and products?

2. What kinds of outreach efforts (formal or informal) are you undertaking (or plan to)? Could you share any stories of things that work, or don't work? Who is your primary outreach contact?

3. Are there groups of potential stakeholders (including data providers, data users, or both) that you would like to engage but haven't been able to? Any thoughts on why?

The U.S. GOOS steering committee has identified three thematic areas relating to IOOS. These are marine navigation, coastal inundation and disaster resiliency, and public health. Questions 4-6 address these areas.

4. How is your RA involving the marine operations community? What are their needs? Are they willing participants? Is there adequate representation? Do you have representation from state agencies?

5. What are the inundation issues in your region? Do you have any projects that address inundation? What kind of assistance would help with these issues?

6. What kind of public health (including water quality, beach closures, etc.) issues does your region face? Are there specific kinds of technical assistance that would help? What could make this area of the RA more effective?

7. What capabilities would help you better address the needs of your users? Examples include strategies for engaging users, conducting workshops, and other areas of expertise within the NOAA Coastal Services Center.

8. Would your region be interested in assistance with understanding and documenting user needs? Translating those needs into observational requirements and system design?

Data Management and Product Development

9. How are you engaging data providers in your region? How are you handling the implementation of information from state resources?

10. What products have you/or are you planning to meet the needs of specific users? What are the bottlenecks or challenges to product development? Are they technical (programming, lack of standards, etc.) or institutional (internal data policies, lack of interest, etc.)? Who is actually developing the products?

11. What are present areas of difficulty relating to the creation/provision of usable products and information to users? What current products are you developing with user groups?
.

Additional Challenges

12. We realize that sustained funding is a primary challenge. Besides money, what do you see as the greatest challenge to your RA's success?

13. The NOAA Coastal Services Center offers training in areas of geospatial technology, coastal management, and building process skills (facilitation, conducting needs assessments, etc.). Would such training be of use to you or others in your region? What about metadata training for data providers? (How to make data sets discoverable? accessible? interoperable?) What about other areas we don't offer that could be potentially developed?

14. How well are you developing in relation to your governance structure? Business plan? What about present certification criteria? Do you have concerns in meeting these criteria?

15. Related to the branding of IOOS (logo, Web templates, etc.), what types of services would be helpful?

16. What do you see as needs in the immediate year that the NOAA Coastal Services Center could help meet?