



# National Federation of Regional Associations for Coastal and Ocean Observing

205 Oakledge Rd  
Harpwell, ME 04079

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To: National Ocean Council  
From: The National Federation of Regional Associations  
for Coastal and Ocean Observing

April 29, 2011

We thank the Council for inviting comments on the actions plans for implementing the National Ocean Council. We look forward to working with you on the implementation of the National Ocean Policy.

Sincerely,

Josie Quintrell, Executive Director  
On behalf of the NFRA Board of Directors

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**Ocean, Coastal, and Great Lakes Observations, Mapping, and Infrastructure:** Strengthen and integrate Federal and non-Federal ocean observing systems, sensors, data collection platforms, data management, and mapping capabilities into a national system and integrate that system into international observation efforts.

NFRA strongly endorses this goal, which is essentially a reiteration of the purposes and intent of the Integrated Coastal Ocean Observing System Act (ICOOS) and the Ocean and Coastal Mapping Integration Act signed into law by President Obama in 2009.

The ICOOS Act established NOAA as the lead federal agency and created an inter-agency Integrated Ocean Observing Committee to oversee the federal/non-federal partnership. A central element of this program is the creation and implementation of a robust data management and communication system that allows for the rapid and seamless integration of dispersed federal and non-federal data.

Already, the program has been successful in bringing non-federal data into the system: currently, over 50% of the data served by NOAA’s National Buoy Data Center is from non-federal sources made possible by the IOOS data management system.

Recommended near-term action: The NOC should endorse the full implementation of the IOOS as the mechanism for achieving this goal. The NOC should work closely with the Integrated Ocean Observing Committee to ensure that the IOOS program priorities align with the NOC priorities and that the limited resources are allocated in the most productive and effective manner.

Recommended near-term action: Develop a National *In-situ* Observation Plan. The need to enhance the nation’s ability to monitoring the environment conditions of our nation’s coasts and Great Lakes has been recognized in the National Ocean Policy. To move forward, the national plan needs to set forth the existing capacity and the needs for both fixed assets and remotely operated vehicles such as gliders. The plan should work with the IOOS Regional Associations and federal agencies to identify priority needs. The Plan should include the scientific rationale for the observations (oceanographic features such major currents, upwellings, biologically active zones, hypoxic zones, etc.), the temporal and spatial scale requirements and the technical options for gathering the observations (fixed platforms such as buoys, or remote vehicles such as gliders), and include the priorities for filling gaps.

Obstacles: The lack of priorities for a national observing system and to focus the energy on making practical and real steps in address the nation’s observing needs.

Milestones: By the end 2011, regional priorities needs for *in-situ* observations have been identified with extensive input from regional associations and other experts.

By 2012, A National Plan for *In-Situ* Observations is completed. The Plan highlights the products that will be supported by the observations, the critical gaps and a list of realistic priority needs.





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**Ecosystem-Based Management:** *Adopt ecosystem-based management as a foundational principle for the comprehensive management of the ocean, our coasts, and the Great Lakes.*

**Recommended near-term action:** Establish the IOOS RAs are forums for coordinating regional expertise on ecosystem science and information needs.

Ecosystem-based management must be implemented on multiple scales, including regional management. The IOOS RAs can serve an important role in coordinating and facilitating the technical and scientific expertise at the regional level in support of those managers responsible for ecosystem-based management decisions. The IOOS RAs align with the 9 Regional Ocean Planning Bodies (the 3 West Coast RAs have a signed agreement to coordinate in providing technical support for the California Coastal Current LME) and provide a logical forum for coordinating regional expertise.

**Recommended long-term action:** The development of operational coupled biophysical models for each region (or subregion) to support ecosystem-based management. The development of these models should be coordinated through the IOOS RAs.

**Obstacles/Opportunities:** The NOC and federal agencies seem to be hesitant to formally recognize the role that existing programs play in implementing the NOP.

**Milestones:**

By 2012- Agreements in place (MOUs, etc.) in all 9 planning regions articulating the relationship between the planning bodies and the IOOS RAs.

By 2013 – Specific recommendations, based on the input from regional and federal experts, for the development of regional coupled bio-physical models to assist each of the regional planning bodies, including recommended actions for further development of these models and other tools to aid management.





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**Coastal and Marine Spatial Planning:** *Implement comprehensive, integrated, ecosystem-based coastal and marine spatial planning and management in the United States.*

Coastal and marine spatial planning will need ready access to the most up-to-date and accurate regional coastal and ocean data. This data is likely to come from multiple sources such as federal agencies, state agencies, universities, non-profit organizations and volunteers. The Integrated Ocean Observing System (IOOS) has established a network of Regional Associations and Federal agencies to ensure the seamless access to coastal and marine data. A central function of IOOS is to ensure that distributed data can be easily accessed and integrated. In addition, the IOOS is one of the few sources of sustained information about the conditions below the ocean surface, over time and space.

The Regional Associations are well positioned to assist the Regional Ocean Governance Bodies with regional data. The RAs are creating regional data portals for the integration and dissemination of regional data in support of CMSP and providing critical data on the dynamic nature of the coastal oceans and Great Lakes.

Recommended near-term action: Establish regional data integration centers to support regional coastal and marine spatial planning through partnerships with the IOOS RA and other data providers in the region in support of regional ocean governance efforts.

Recommended near-term action: Implement two regional test beds to explore in detail the type of information needed to support CMSP. Regional data portals and regional data integration centers should be established in each of the IOOS RAs. The test beds would determine the relationship among federal, tribal, local, state and regional entities for supplying key information. The test bed should develop recommendations for how similar systems should be developed in other regions.

Milestones

By 2011, two regions will be selected to serve as testbeds for implementation of CMSP in the regions

By 2012, agreements (e.g., memorandum of understanding, etc) exist in all regions for regional data management and integration support for coastal and marine spatial planning.

By 2014, the testbed will have produced recommendations for other regions on how to address the information needs for CMSP



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***Inform Decisions and Improve Understanding:*** Increase knowledge to continually inform and improve management and policy decisions and the capacity to respond to change and challenges. Better educate the public through formal and informal programs about the ocean, our coasts, and the Great Lakes.

The NOP recommends that the Strategic Action Plan address: “Specific scientific requirements and research needs, including the need for reconciling inconsistent standards, physical infrastructure, research platforms, organizations, and data management, to identify critical gaps, ensure high quality data and provide information necessary to inform management, including mechanisms to transition research results into information products and tools for management.”

**Recommended near-term action:** The NOC should use the annual regional gap analysis that each RA is required to complete (by the ICOOS Act) as a basis for understanding the above. This regional process, based on the input from the variety of regional scientific and technical experts, managers, and other users would provide the detail needed to ensure that the national plan(s) addresses the scale and diversity of the nation’s ecosystems.

***Resiliency and Adaptation to Climate Change and Ocean Acidification:*** Strengthen resiliency of coastal communities and marine and Great Lakes environments and their abilities to adapt to climate change impacts and ocean acidification.

**Recommended near-term action:** In collaboration with the Interagency Working Group on Ocean Acidification, the NOC should use IOOS RA observing assets to develop a coastal network of OA observations to track OA that incorporates key areas of our nation’s coastal oceans and estuaries (e.g., Puget Sound, Chesapeake Bay, the Arctic). Involve IOOS RAs in strategic planning by this group, as per 11/2010 Washington DC planning meeting.

**Recommended near-term action:** The NOC should use the existing observing assets operated by the IOOS RAs to deploy additional pH/pCO<sub>2</sub> sensors on existing assets across a representative diversity of coastal and estuarine locations, especially in areas of marine resource vulnerability (e.g., coral reefs, shellfish beds, etc.). NOAA’s PMEL has initiated such discussions, which need to be implemented.

**Recommended near-term action:** The NOC should support the recommendation from the 2010 NOAA Sea Grant West Coast Workshop on OA and Shellfish to fund a data exchange that is integrated with IOOS.

**Recommended mid-term action:** Federal agencies should be required to -involve the coordination and modeling capacities of the IOOS RAs to develop mitigation and adaptation strategies on a local and regional scale in coastal communities. This would include disseminating forecasting conditions using IOOS RA websites and outreach networks.

**Recommended mid-term action:** NOAA should expand its Climate Reference Network to include coastal and estuarine sites, including key sites identified by IOOS RAs. IOOS RA data from coastal and estuarine sites should be used to help develop regional downscaled climate scenario modeling.



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***Regional Ecosystem Protection and Restoration:*** Establish and implement an integrated ecosystem protection and restoration strategy that is science-based and aligns conservation and restoration goals at the Federal, State, tribal, local, and regional levels.

**Recommended near-term action:** In the near-term, priority should be given to the restoration efforts in the Gulf of Mexico (in the wake of the hurricanes and the oil spill) and in the Great Lakes where the Great Lakes Restoration Initiative is underway. To be meaningful and sustained, the efforts should be based on sound science and incorporate sentinel observing sites to monitor trends and determine effectiveness of restoration projects.

**Recommended mid-term action:** In the mid-term, the lessons learned from the ongoing activities in other critical ecosystems such as Chesapeake Bay, Puget Sound, South Florida, San Francisco Bay, and the Gulf of Maine should be used to enhance these systems.

**Obstacles/Opportunities:** The Gulf Coast Restoration Task Force provides an opportunity (not an obstacle) for developing a comprehensive plan for restoration in the Gulf of Mexico. The NOC should support this effort.

**Metrics:** Metrics should relate to regionally specific goals.

***Water Quality and Sustainable Practices on Land:*** Enhance water quality in the ocean, along our coasts, and in the Great Lakes by promoting and implementing sustainable practices on land.

**Recommended near-term action:** Expand the efforts to ensure that EPA's water quality exchange network and the IOOS data management system are interoperable so that information can flow between the two. This would build on the success that New Hampshire has made in its pilot project.

**Recommended mid-term action:** The NOC should empower the National Water Quality Monitor Council (NWQMC) to carry out this goal. The NWQMC has been in existence since 1997 and serves as a vehicle for bringing together diverse expertise needed to develop collaborative, comparable, and cost-effective approaches for monitoring and assessing our Nation's water quality.

**Recommended mid-term action:** The NOC should encourage development of cumulative impacts tools to aid managers in assessing the impacts of land use practices on water quality.



***Changing Conditions in the Arctic:*** Address environmental stewardship needs in the Arctic Ocean and adjacent coastal areas in the face of climate-induced and other environmental changes.

**Recommended near-term action:** The NOC should encourage development of a comprehensive plan for monitoring the Arctic ecosystem (biology, chemistry, physical conditions, and human uses) that builds upon and enhances the current federal activities, which are dominated by the needs of potential offshore oil and gas development.

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**Recommended near-term action:** The NOC should support downscaling of current climate models for the ocean ecosystems in the Beaufort, Chukchi and Bering Seas in order to incorporate climate change into future scenario planning.

**Recommended near-term action:** The NOC should encourage federal agencies to build upon the data integration efforts of the Alaska Ocean Observing System, one of the 11 IOOS regional systems, to support future CMSP and other planning efforts in the Arctic.

**Recommended mid-term action:** Priority should be given to fund nested ocean and coupled bio-physical models that for the Arctic at local, regional and basin-wide scales.

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