Formed in 2005 by the six New England Governors the Northeast Regional Ocean Council is a state – federal partnership that addresses ocean and coastal issues that require or significantly benefit from a regional response

Formed in 1989 by the Governors and Premiers of the states and provinces bordering the Gulf of Maine the Council is an US-Canadian partnership of government agencies, non-government organizations, and business interests. It works to maintain and enhance environmental quality in the Gulf of Maine for sustainable use by current and future generations.

Priority ocean issues: responding to climate change, energy and ecosystem health issues

New England Governors' Request for Congressional Assistance: October 2009 to October 2010

Introduction

This request is based on the 2007 ***New England Governor's Coast and Ocean Action Plan*** and the Northeast Regional Ocean Council's (NROC) 2009-2010 work plan. The plan describes collaborative, interstate actions that address three regional priorities – ocean and coastal ecosystem health, ocean energy planning and management, and coastal hazards resilience. (http://community.csc.noaa.gov/nroc/) This request also supports the 20-year US-Canada partnership lead by the Gulf of Maine Council (GOMC). It is guided by a 2007-2011 Action Plan (www.gulfofmaine.org) Together these councils integrate the region's coastal and ocean programs to leverage investments and results.

Summary

Activity/Task	Entity to Perform the Work		
	NROC/GOMC	Federal Agency	Total
1. Improve federal and state policy, planning and regulatory decision-making			
• Enhance data management	$ 125,000	$ 200,000	$ 325,000
• Address priority coastal & ocean research issues		$1,500,000	$1,500,000
• Respond to managers needs for LiDAR and seafloor mapping		$2,700,000	$2,700,000
• Assist States in implementing their ocean and coastal responsibilities	$ 300,000		$ 300,000
2. Develop a New England ocean governance framework	$ 350,000		$ 350,000
3. Improve decision-making about ecosystem health	$ 465,000		$ 465,000
4. Work at the community level to adapt to climate change & sea level rise	$ 350,000		$ 350,000
5. Strengthen our response to renewable and traditional energy activities	$ 100,000		$ 100,000
Totals	$1,690,000	$4,400,000	$6,090,000

1. Improve federal and state policy, planning and regulatory decision-making		
Work Plan Activity	Deliverables	Amount
A. Enhance data management Coastal and ocean decision-makers need access to physical, biological, chemical and geologic information and metadata for existing datasets. Actions: 1. Accelerate the data management activities of the Northeastern and Mid-Atlantic Regional Associations of Coastal and Ocean Observing, COIN Atlantic and the Ocean Data Partnership. 2. Develop data delivery tools responsive to managers needs including implementation of the prototype web-based GOM Habitat Monitoring Data System (HMDS). This system enables the sharing, integration, and use of coastal habitat monitoring data. It provides standardized data entry, centralized data storage, synthesis and dynamic visual display of coastal and estuarine habitat monitoring results from around the Gulf of Maine. It enables monitoring programs to safely store their data, while facilitating simultaneous use of information from multiple sources. The data can be displayed in maps, graphs, and reports that describe habitat conditions and trends regionally and at individual sites. The HMDS data synthesis and visualization tools provide answers to two questions of importance to resource managers: (a) what are "natural" (i.e. reference) conditions of critical habitats in the Gulf of Maine and (b) how do habitats change over time following restoration activities relative to reference conditions?	• A regional, consensus-based schema for data interoperability • A network of regional data providers with metadata registered in a national directory (GCMD, FGDC, or GeoConnections) with robust, searchable discovery metadata that can be accessed through portals on the Global Change Master Directory • Functional Habitat Monitoring Data System	$200,000 (Federal program to perform the work) $125,000 (GOMC)
B. Address priority coastal & ocean research issues It is timely to commence implementation of the 2009 Regional Ocean Science Plan that focuses on climate change, human health and human activities as they relate to the ocean; coastal resiliency; and management and governance. Actions: 1. Support the New England Sea Grant Programs and the scientific community in responding to the most pressing ocean and coastal research needs of the management community.	• Peer-reviewed research that responds directly to priority coastal and ocean management issues in New England	$1.5M (Federal program to perform the work)
C. Respond to managers needs for high resolution LiDAR and seafloor mapping <u>High Resolution (LiDAR) Mapping</u> Accurate, high resolution surface elevation data support a variety of public and private sector	• LiDAR maps for coastal communities (i.e., towns with elevations below 10	$1.2M (Federal agency or program to

needs. Elevation data are available at various resolutions that are often inadequate to support priority coastal decision-making. LiDAR (Light Detection and Ranging) can provide seamless high resolution (1- to 3-m spacing) elevation data over large spatial areas. In 2009, NROC will determine the regions LiDAR priorities and costs. Actions: 1. Advance the LiDAR coverage of New England by supporting a mapping project that will 1) help to better define requirements and costs associated with the acquisition, processing, management, and distribution of LiDAR data; 2) enable a thorough analysis of diverse user needs to ensure the data products are useful for multiple purposes; and 3) demonstrate ways the data can be used as the basis of advancing community resilience to the impacts of climate change. **<u>Seafloor Mapping</u>** **There is increasing urgency to reduce green house gas emissions through the development of alternative energy in ocean environments. Human uses of the seafloor are growing rapidly in variety and intensity, as population expands, technologies develop, and new economic activities emerge. Trawling, dredging, aquaculture, mining, fiber-optic and electric power cables, oil and gas pipelines, wind farms, and other activities can affect seabed habitats, which support a diversity of animals and plants.** **Successful management of these activities (e.g., balance ecological impacts and conflicting uses, etc.) requires comprehensive maps of seafloor characteristics. While some mapping is being done with federal and state resources less than 50% of the offshore area is currently mapped.** **Actions:** **1. Produce high resolution bathymetric, geological, and ecological seafloor maps for designated priority areas to support sound alternate energy facilities, identification of suitable routes for cables and pipelines, to identify ecologically significant habitats, and assist states that are implementing ocean management programs.** D. Assist States in implementing their ocean and coastal responsibilities The States are uniquely able to provide services to our Federal agency partners and others (e.g., providing access to local contacts, facilitating coastal community input, priority setting, contract management, leveraging state resources, etc.). Building the capacity and support for these services within each state is urgently needed to fully capitalize on the strengths of the NROC and GOMC.	meters), LiDAR data with 1-meter point spacing and 9 cm RMSE vertical resolution would support 1-foot contours within the gradual topography of the coastal zone) • **High resolution bathymetric, geological, and ecological seafloor maps** • Effective state-federal partnerships and accomplishment of annual work plans	perform the work) **$1,500,000 (Federal agency or program to perform the work)** $300,000

	Sub-total	$4,825,000

2. **Develop a New England ocean governance framework**		
Work Plan Activity	Deliverables	Amount
The coastal and ocean sectors of New England's economy are significant contributors to the region's Gross Domestic Product. To both protect and grow the New England economy the states will engage public and private interests in the development of a governance framework that is based on a core set of mutually agreed on goals, objectives and assumptions about current conditions and the future. This initiative assumes that there will be differences within and among each state but that it is a key step in strengthening regional ocean stewardship. Actions: 1. Create highly collaborative approach to sustained engagement of public and private interests; 2. Establish marine spatial baselines (e.g., determine the time frame for planning, describe current uses and demands for space, document economic and environmental conditions and threats, define key values of the marine area, etc.); 3. Create governance framework (e.g., define general goals and objectives for the marine environment, develop general decision-making processes, create alternative use scenarios, describe the significance of each spatial sea use scenario for the different functions and activities in the marine area, evaluate each scenario, etc.); 4. Broaden engagement (e.g., develop and implement extensive communication and outreach tools, etc.)	• Quantitative and qualitative baseline information on New England's coastal and marine environment; • A ocean governance framework for New England marine waters; • Significant and sustained engagement of public, non-profit and private interests	$350,000 (NROC)

3. **Improve decision-making about ecosystem health**		
Work Plan Activity	Deliverables	Amount
State legislators, agency decision-makers, members of Congress and the region's Governors need ongoing access to information about the condition and trends of New England's coastal and marine environment. Actions:		

1. Produce & disseminate New England specific communications and outreach materials that describe the conditions and trends of the coastal and marine environment.	• Web and print materials (e.g., fact sheets, brochures, reports, etc.) • Meetings and work sessions	$40,000 (NROC)
2. Accelerate state of the environment reporting in the Gulf of Maine Actions: • Complete the compilation of indicator datasets, display this information via the web and other communication tools, and assist the target audiences through training and education efforts through the Gulf of Maine Times and other mechanisms.	• Indicators of ecosystem health by the Ecosystem Indicator Partnership (ESIP) • State of the environment materials • Training sessions for target audiences • Production of two editions of the GOM Times	$300,000 (GOMC)
3. Support implementation of the Gulf of Maine Environmental Monitoring Plan by conducting Gulfwatch -- a monitoring program (circa 1991) that measures chemical contaminants in blue mussels, Mytilus edulis, to assess the types and concentration of contaminants in the near-shore marine environment. Disseminate the results to managers, the media and decision-makers. Actions: • Collect, process, prepare mussels for shipment; deliver all samples to respective labs for analysis; review all trace metal analytical results, morphological measurements; tabulate data; report out results; engage managers and other users via communication and outreach	• Produce annual data report on chemical concentrations • Produce and disseminate outreach and communication materials for managers	$125,000 (GOMC)
	Sub-total	$465,000

4. **Work at the community level to adapt to sea level rise**		
Work Plan Activity	Deliverables	Amount
The NE states need to expedite climate change scenario planning to enable state agencies and municipalities adapt to identify vulnerabilities and then to devise specific implementation approaches for adaptation. In addition, it is timely to accelerate on-the-	• Five pilot projects at the municipal level that demonstrate how to	$300,000 (NROC)

ground action by municipalities that are adapting to rising sea levels by supporting the approach of No Adverse Impact (NAI). It is a forward-thinking, fair, and legally defensible approach to coastal land management. In its broadest sense, it is a set of "do no harm" principles that communities can use when planning, designing, and evaluating public and private projects. By following the NAI approach and leveraging ongoing activities (e.g., StormSmart Coasts, etc.) communities can protect people, property, ecosystems and municipal budgets. Through this regional initiative NROC will showcase successful adaptation strategies, strengthen networking and communication among the coastal hazards community in New England, and make measurable progress in addressing the adverse effects of rising sea levels. (This activity also advances the New England Governors' Conference 2008 resolution concerning "Climate Change Adaptation".) Anticipated project partners include state emergency management officials and professional associations, FEMA, local governments and associations, etc. Actions: 1. Select one community-based competitive proposal in each of the five states. (Examples of selection criteria include history of vulnerability, urban vs. rural, demonstrated community commitment to addressing sea level rise issues, willingness to work with other communities in NE, likelihood of measureable reduction in sea level rise exposure, etc.); 2. Provide the services of technical experts directly to the communities to conduct inundation scenario planning and to identify the role of federal, state and municipal governments as to their specific roles in implementing their proposed adaptation strategies. Anticipated examples include: hazard mapping & vulnerability assessments of public infrastructure that enables community action, develop and implement regulations and development standards, etc. 3. Enhance communication among state and federal hazard resilience initiatives that results in these efforts better able to implement sea level rise adaptation strategies; 4. Create ongoing communication among the communities to share lessons-learned and innovative approaches. 5. Promote successful community adaptation responses via the NROC webpage, the GOM Council Knowledgebase, stakeholder workshops in coordination with the Maritime	implement successful adaptation approaches to sea level rise; • Dissemination of adaptation techniques, case studies and other resources that enable other communities to act;	$ 50,000 (GOMC)

provinces, distribution of written materials, conferences, etc.		
	Sub-total	$350,000

5. Strengthening our response to renewable and traditional energy activities		
Work Plan Activity	Deliverables	Amount
The planning, permitting and operation of renewable and traditional energy projects is a top priority for New England. Considerable information and experience in assessing renewable ocean energy facility development and design is accumulating through pilot project implementation and full-scale project planning. However controversies and uncertainties remain regarding how to balance renewable ocean energy resources development with existing and traditional uses of the marine environment. New England specific methods for assessing the environmental and socio-economic impacts of renewable ocean energy resource development will address these uncertainties and controversies. Actions: 1. Develop voluntary guidelines for assessing environmental and economic impacts, use conflicts, and safety concerns when siting and designing coastal and ocean energy facilities, including recommendations for critical data, its collection, archiving, and analysis. These guidelines will address the differences between offshore renewable electric generation facilities (wave, wind, and tidal), and fossil fuel facilities such as liquefied natural gas terminals, cables and pipelines, as well as incorporate climate change and sea level rise considerations. 2. Disseminate guidelines via the web, print materials and meetings/workshops.	• Voluntary guidelines for assessing environmental and economic impacts, use conflicts, and safety concerns when siting and designing coastal and ocean energy facilities • State and regional meetings to disseminate guidelines	$100,000 (NROC)