

1) Project Summary

The Middle Atlantic Coastal Ocean Observing Regional Association (MACOORA), one of eleven Regional Associations within the U.S. Integrated Ocean Observing System (IOOS), was incorporated in the state of Delaware as a 501(c)(3) entity in December 2005. MACOORA subsequently applied and was granted tax-free status by the IRS on January 19, 2007. This year, MACOORA merged with MARCOOS (the Mid-Atlantic Regional Coastal Ocean Observing System) to form the Mid-Atlantic Regional Association Coastal Ocean Observing System (MARACOOS). The not-for-profit's Board of Directors is elected by the dues-paying organizational members. Its mission, "to seek, discover, share and apply new knowledge and understanding of our coastal ocean" addresses the needs of coastal communities from Cape Cod, Massachusetts to Cape Hatteras, North Carolina. This 1000 km coastal footprint encompasses 10 states, the District of Columbia, 76 million people, five estuaries (including the nation's largest), the world's largest naval base, and 111 congressional districts. MARACOOS' coastal communities and businesses rely on the forecasts—data and the sophisticated models that generate predictions—that come from a fully integrated coastal observing system, in order to make wise, timely, and strategic decisions.

MARACOOS' overarching goal is to build on its regional coastal ocean observing system capability, commensurate with levels of sustained funding, to move from observing to forecasting, in order to provide observations, analyses, modeling, and forecasts addressing high priority needs for both the region and the nation. MARACOOS' role is interfacing and interacting with the various user communities, the legislative community, the regulatory agencies, state and local agencies, and federal partners. A key objective is to engage stakeholders to ascertain regional priorities for data collection, data delivery, and data products. This involves understanding and setting priorities for both new and existing observing systems, facilitating discussion among the observing system professionals, and supporting scientific activities that facilitate the growth of observing systems and related systems and capabilities necessary to move from observing to forecasting.

Through its operational arm, MARACOOS generates quality-controlled and sustained ocean observation and forecast products that fulfill user needs. MARACOOS leverages an extensive array of existing observational, data management, and forecasting assets in the Mid-Atlantic Region to generate and disseminate nowcasts and forecasts of the coastal ocean, extending from Cape Cod to Cape Hatteras. Data and products are distributed directly into operational decision making systems such as NOAA PORTS, the US Coast Guard Search and Rescue Optimal Planning System (USCG SAROPS) where they are made available to the intended users through IOOS-compatible automated data servers for forecasting and through a MARACOOS website.

Through MARACOOS, the Mid-Atlantic ocean user community has identified five priority themes for regional ocean observing: Maritime Safety, Water Quality, Ecological Decision Support, Coastal Inundation, and Offshore Wind Energy. These user-identified themes drive MARACOOS' work.

2) Progress and Accomplishments

Note: While the newly merged title of MARACOOS will be used throughout this report to avoid the use of multiple acronyms, the accomplishments presented in this report are the result of the expenditure of the of funds contained in the MACOORA grant NA09NOS4730295 operating under a no cost extension.

User Council

The overall objective of the user council is to strengthen the connection between the observing system and the end user. MARACOOS continued to refine its website based on user council input. During this period, a strategy was developed to reinforce the functionality of the User Council, including the hire of a Stakeholder Liaison to coordinate the User Council's efforts and develop topical panels to advance the development of products and partnerships. As a direct result of a Fishery Stakeholder Workshop in Providence (see below), MARACOOS formed a Fishery Working Group, as a subset of the User Council, to engage members of the commercial fishing community and develop new partnerships and products for the fishing industry. An initial meeting of the Fishery Working Group yielded the consensus need to develop bottom temperature maps at various resolutions and frequencies. The Fishery Working Group will meet bi-monthly in the future to enhance existing and develop new areas of collaboration.

Membership

Membership continues to increase. Members during this review period include: ASA, Battelle, Beacon Institute, CARIS USA, Inc., Center for Chesapeake Bay Observation and Modeling, Center for Innovative Technology, Chesapeake Bay Observing System, Chesapeake Research Consortium, CODAR Ocean Sensors, College of William and Mary, Delaware River Basin Commission, Delaware Sea Grant College Program, East Carolina University, Fugro Atlantic, Fugro EarthData, Inc., Hudson River Environmental Conditions Observing System, Institute of Marine & Coastal Sciences, Maryland Department of Natural Resources, Maryland Sea Grant College, Millersville University, Monmouth University, New Jersey Marine Sciences Consortium/, NOAA Chesapeake Bay Office, NOAA Coastwatch - East Coast Node, Old Dominion University, Partnership for the Delaware Estuary (NEP), SAIC, Sonardyne, Inc., Stevens Institute of Technology, Stony Brook University, Sutron Corporation, Teledyne RD Instruments, Inc., U.S. Geological Survey, University of Connecticut, University of Delaware, University of Maryland, University of Massachusetts at Dartmouth, Virginia Maritime Association, Weatherflow, Inc., Woods Hole Group, Inc., and YSI, Inc. The distribution of membership among various types of organizations is: Business and Industry (30%), Government (15%), Non-Governmental Organizations (15%), and Academic Institutions (40%). Through membership acquisition efforts during this period, 2 new members (one academic institution and one business and industry entity) will join in December with interest from a second private sector entity. A formal report on these new members will be included in the next MARACOOS report.

Fishery Stakeholder Workshop, Providence, R.I.

A Fisheries Workshop Planning Meeting was held in Providence, R.I. on July 13 -14, 2011. This planning group involved representatives of NOAA Fisheries, the commercial fishers, the Mid-Atlantic Fisheries Council and academic fisheries scientists. As an outgrowth of this planning session, a workshop directed at the commercial and recreational fishing sectors was conducted on September 26, 2011 at the Marriott Providence Hotel Downtown in Providence, Rhode Island. The overarching goal was to develop an ocean observatory/ fisheries community interactive partnership. To achieve this goal, the workshop focused on: determining what MARACOOS-derived information products can be supplied regularly to fishermen; complementing what fishermen already know with new MARACOOS-derived information products; engaging the fishing community in the design and conduct of fisheries research projects; and, establishing a process for regularized engagement of fisheries stakeholders with MARACOOS. Presentations, discussions on the following topics resulted in concrete recommendations for the future: Mid-Atlantic Observatory Status and Products; Search and Rescue Capabilities; Commercial / Recreational Fishers Needs; Modeling Information / Resources, By-Catch Models, and

Tutorial on Use of and Interpretation of Data. It was agreed to establish a small working group, comprising 3-5 commercial fishermen and 3-5 scientists. From the commercial sector, the following individuals committed to participate in the working group: Mr. Jim Kendall, Mr. Mike Theiler, Mr. Peter Moore, and Mr. Greg DiDomenico. From the scientific community, the following individuals committed to participate in the working group: Dr. John Manderson, NOAA Northeast Fishery Science Center, Sandy Hook, NJ, Dr. Josh Kohut, Rutgers University, Dr. Wendell Brown, University of Massachusetts – Dartmouth, Carolyn Woodhead, NOAA Cooperative Research, Gloucester, MA, and Dr. Nickitas Georgas, Stevens Institute of Technology.

IOOS Regional Member Site Visit: Rutgers University

On August 9, 2011, Rutgers University, together with its MARACOOS partners in the region, as well as regional association colleagues from NERACOOS and SECOORA, provided presentations and demonstrations for NOAA Assistant Secretary Kathryn Sullivan, Ph.D., including on the subjects of the Atlantic Crossing: A Robot's Daring Mission & Scarlet Knight Presentation; and US IOOS: Regional Perspectives, including an Overview of MARACOOS, NERACOOS, SECOORA, User Perspectives, and Federal Observatory Partnerships.

Collaboration with the Mid-Atlantic Regional Council on the Ocean (MARCO)

Interaction between MARACOOS and MARCO continues on the development of the mapping web portal. A meeting of MARCO and MARACOOS leadership was held via a conference call. The leadership for MARCO and MARACOOS agreed that enhanced collaboration was needed, and that additional opportunities for collaboration would be sought out commensurate with existing resources. MARACOOS offered an Ex Officio seat for a MARCO representative on its Board of Directors; however MARCO declined this opportunity at this time due to pressures on personnel and budget.

User interactions result in benefits to the Users and the Observing System

A number of interactions with the user community during this period resulted in benefits to the user community, including information for scallop fishermen in the northeast and squid fishermen in New Jersey. Further, surfers off Long Island continue to use tidal models to determine the best time to catch good waves. As a benefit to the observing system, interactions with fishermen restored service to NDBC NY Bight buoys and recovered a lost glider.

2011 MARACOOS Annual Meeting

MARACOOS has been planning during this period for its Annual Membership Meeting to be held from December 15-16, 2011 in Washington, D.C. The focus of the meeting will be power of partnerships to leverage limited resources and maximize the impact on fulfilling user needs in the Mid-Atlantic region. A formal report will be filed in the next MARACOOS report.

Outreach

MARACOOS continued to expand its outreach with members, partners, and users and decision makers within MARACOOS' footprint, including reaching out to the respective legislative staff in the congressional offices of the 111 congressional districts within MARACOOS' footprint, as well as the legislative staff in the Senate Oceans Caucus and in the Senate office of the 10 States in the Mid-Atlantic. The Weather Channel interviewed a MARACOOS Board Member regarding the impact of Hurricane Irene and the susceptibility of certain parts of the MARACOOS footprint to enhanced storm surge and sea level rise, and MARACOOS members discussed glider operations and the EPA/NJDEP

NJ Coast project at US EPA’s Science Day in Edison, NJ, as well as having participated in a Beach Clean Up in Suffolk County, NY. MARACOOS also began the development of a strategy to further educate users, decision makers in the region and in government centers (State capitals and the District of Columbia). This will include a new Stakeholder Liaison, described below (Leadership Personnel and Organizational Structure). The strategy is expected to be implemented starting in 2012. Additional opportunities for outreach have been planned during this period for execution in 2012.

Education

Rutgers students broadcast live from the RU COOLroom with scientists from the University of Washington currently on board the research ship R/V Thompson, 300 nautical miles off the coast of Oregon. Students and teachers on both ends engaged in a live discussion about video footage of a recent lava flow that formed 5,000 feet below the surface of the ocean just a few months ago in April. The remotely operated vehicle (ROV), ROPOS, is being used by a team of scientists to survey and assess the Axial Seamount in search of possible locations to install infrastructure and science instruments as part of the Ocean Observatories Initiative (OOI) Program.

Organizational Engagement

MARACOOS and its partners have engaged in national and international organizations to represent MARACOOS and IOOS capabilities, as well as to proactively search for opportunities to partner and leverage existing funding streams. Examples of these engagements include NFRA-related activities (NFRA Board meeting, NFRA Build out Plan Workshop), Bi-weekly MARACOOS Board meeting conference calls, International meetings in Gdansk, Poland on wave measurement and EuroGOOS, Senate Oceans Caucus, Ocean Studies Board, AGU meetings, and providing services to the NYC DEP and NJ DEP. Additional organizational engagement has been planned during this period for execution in 2012.

Updated Website(s)

The revamped MARACOOS website continues to be updated with enhancements to the asset map, information through news articles, and an improved slide show. Further, MARACOOS moved ahead with its Beach Basics Initiative, in which Rutgers + NJDEP launched two new water quality websites focused on the NJ coastline. The beach weather stations website uses rain fall estimates from NOAA NEXRAD weather radars to monitor potential runoff impacts. The chlorophyll remote sensing website uses aircraft data to monitor coastal phytoplankton blooms.

3) Leadership Personnel and Organizational Structure

The 2011 Board roster was:

NAME	Board Position	Professional Affiliation
James Manning	Director, MA/RI sub-region	Northeast Fisheries Science Center, NMFS
Frank Bohlen	Director, LIS sub-region	University of Conn., Dept. of Marine Sci.
Fredrika Moser	Director, Chesapeake sub-region	MD Sea Grant College, Univ. of Maryland
Genevieve Boehm-Clifton	Director, NY Bight sub-region	NJDOT/Office of Maritime Resources
Daniel Leathers	Director, Delaware sub-region	University of Delaware
Edward Kelly	Board Appointed; Vice Chair	Maritime Association of the Port of NY/NJ
Michael Bruno	Board-Appointed	Stevens Institute of Technology
Jeffrey Yapalater	Board-Appointed	Freeport Tuna Club

Eric Vowinkel	At-Large	USGS
Scott M. Glenn	At-Large	DMCS, Rutgers University
Doug Wilson	At-Large	NOAA, Chesapeake Bay Office
Carolyn Thoroughgood	At-Large; Chair	University of Delaware
William C. Boicourt	At-Large	University of Maryland, Horn Point Lab
Larry Atkinson	At-Large; Secretary	OEAS
Wendell Brown	At-Large	University of Massachusetts Dartmouth

The Board positions for Frank Bohlen (Long Islands Sound sub-region), Fredrika Moser (Chesapeake sub-region), Eric Vowinkel (At-Large), and Doug Wilson (At-Large) will expire on December 31, 2011.. Nominees for these vacant positions have been identified by the Nominations Committee for a vote by the MARACOOS Membership at the Membership Business Meeting to be held on December 16, 2011. The results of these elections will be reported in the next MARACOOS report.

New Executive Director

MARACOOS completed its search for the Executive Director position that was vacated on May 1, by selecting Dr. Gerhard Kuska from a pool of candidates. Among his many accomplishments, Kuska has crafted ocean policy for the United Nations, worked on the staff of the U.S. Commission on Ocean Policy and NOAA, served as director of ocean and coastal policy under President George W. Bush, and previously spent a decade in the maritime transportation management sector — an important user community for MARACOOS. Kuska officially began his duties on October 1, 2011. He will maintain an office at MARACOOS' offices at the University of Delaware.

Search Process for Stakeholder Liaison

The Board has conducted a search process over several months to identify and hire an individual to begin a planned, significant enhancement to MARACOOS' connectivity with its partners and the larger user community. A short list was identified and scheduled for interviews in December. A report on the new Stakeholder Liaison and his/her responsibilities will be furnished in the next MARACOOS report.

New MARACOOS Headquarters

MARACOOS secured new headquarters office space on the campus of the University of Delaware at 318 South College Avenue, Newark, DE 19711. A move into the new headquarters, which will house the Chair of the MARACOOS Board of Directors and staff associated with MARACOOS' regional association responsibilities, is scheduled for early January 2012.

4) Budget Analysis

Actual budget expenditures were closely aligned with anticipated budget expenditures. Financial reports are up to date.