

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), is incorporated in the state of Delaware as a 501C(3) entity. 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 Massachusetts to North Carolina. This footprint encompasses 10 states, the District of Columbia, 66 million people, four estuaries, one of which is the world's largest, the world's largest navy base and 110 congressional districts. MACOORA's 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.

MACOORA's overarching goal is to build a regional coastal ocean observing system capability, commensurate with levels of sustained funding, that provides observations, analyses, interpretations, and forecasts addressing high priority needs for both the region and the nation. MACOORA's role is interfacing and interacting with the various user communities, the legislative community, the regulatory agencies, and state and local agencies. 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.

MACOORA accomplishes this objective alongside its operational arm, the Mid-Atlantic Region Coastal Ocean Observing system (MARCOOS). MACOORA formed MARCOOS to generate quality controlled and sustained ocean observation and forecast products that fulfill user needs. MARCOOS 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 south 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 exist, through IOOS-compatible automated data servers for forecasting, and through a MARCOOS website.

Through MACOORA and MARCOOS, the Mid-Atlantic ocean user community has identified four priority themes for regional ocean observing: Coastal Inundation – providing offshore conditions for local inundation forecasts; Maritime Safety – providing current maps to improve Search and Rescue; Ecological Decision Making – providing 3-D temperatures for fisheries issues; and Water Quality – impact of circulation on beaches and low dissolved oxygen. A fifth emerging theme—offshore energy—is now incorporated into the mission statement of MACOORA, and is becoming a functional component of the observing arm, MARCOOS.

2) Progress and Accomplishments

Policy Development and Governance

Policies were developed during this period, leading to more efficient, streamlined processes and governance.

- *Government Affairs: Policy and Program* seeks to confirm the Association's commitment to continued and routine compilation and distribution of marine and estuarine data, information, and products. The organization is dedicated to working proactively with federal, state and local legislators and regulators towards the understanding and continued use of ocean observations. MACOORA believes it should cooperate fully with government bodies and, in specific instances, present unsolicited views to legislators on pending or existing legislation provided that such activity does not become a substantial part of the Society's overall activities. MACOORA believes it should encourage the presentation of analyses, studies, and research for educational purposes to government bodies. (approved, July 2010).

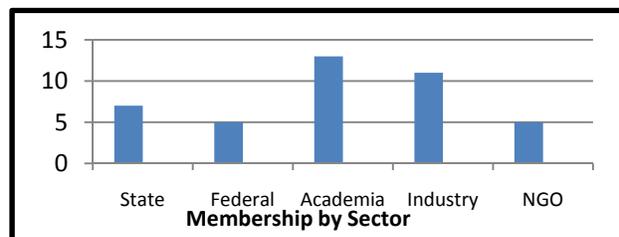
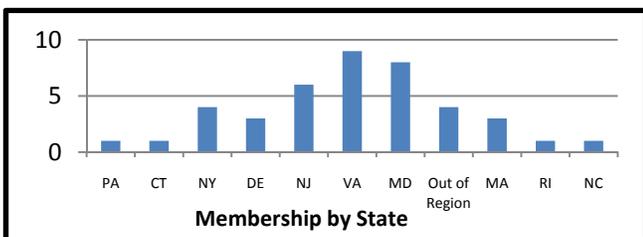
- Code of Conduct and Ethics and Whistle-blowing Policy. The Mid-Atlantic Coastal Ocean Observing Regional Association (MACOORA) recognizes Section 806 of the Sarbanes-Oxley Act, which protects any employee who discloses information to a supervisor, federal regulatory official, corporate supervisor, state or local official, media or other member of the public. MACOORA requires directors, officers, members, and employees to observe high standards of business and personal ethics in the conduct of their duties and responsibilities. As employees and representatives of the association we must practice honesty and integrity in fulfilling our responsibilities and comply with all applicable laws and regulations. (approved, July 2010)
- The following bylaws changes were approved October 29, 2010: (1) “The directors shall be elected by the Members at the annual meeting (such Member-elected directors being hereinafter referred to as “at-large directors”).” was deleted in its entirety and replaced with “The directors shall be elected by electronic ballot, with the final vote tallied at the annual meeting.” (2) “At the annual meeting, after all at-large director positions are filled, Members representing a sub-region with an open sub-region director position shall elect a director to fill that sub-region’s director position, subject to approval by majority vote of the other directors.” was deleted in its entirety (3) “The fiscal year of the Corporation shall end on the last day of June in each year unless the Board of Directors shall determine otherwise.” was changed to “The fiscal year of the Corporation shall end on the last day of May in each year unless the Board of Directors shall determine otherwise.”

User Council

A formalized, Board-sanctioned process with new objectives was established in late summer, 2010 to optimize the continued use of and future agenda for the user council. The overall objective of the user council is to strengthen the connection between the observing system and the end user. To this end, the Council will be asked to 1. Identify potential new audiences for data and products 2. Provide input to improve data and products; and contribute, where possible, to the assessment of products 3. Suggest improvements in disseminating data and products [including advice on key communication vehicles such as an interactive, user friendly website] 4. Participate in the discussion of product development—cradle to grave- with an eye towards forming partnerships for funding and/or generating revenue and 5. Contribute to the dialogue of priority setting for the observing system. Successful Outcomes for the user council were defined as: 1) New audiences identified. Mid-Atlantic ocean observing community is expanded and the value/support of observations becomes apparent to larger number of constituents. 2) Improved data/products. Existing data/products are revamped and get integrated into the menu of benefits and services provided by the observing system. 3) Expanded Data/product dissemination. New channels for information share are identified and incorporated. And 4) New Products and product-partnerships are developed. Product development and technology transfer result in new sources for funding and/or generating revenue. For example, in addition to data and models, there may also be patent opportunities if new sensors, decision management tools, etc. are developed.

Membership

Membership increased 11% over the past six months, from 37 to 41 organizational members. Membership diversity continued to grow with an influx from the industry sector.



Member/Partner/Public Engagement, Education, and Outreach

Newsletters and Member support

The Enews and member newsletters continued to focus on updates in the Mid-Atlantic region, [free] workshops, conferences and meetings relevant to the ocean observing community, business and grant opportunities, and opportunities for testimony and comment.

• June 2	Enews-- Ocean Observations: Wind, Oil, and Biodiversity
• July 8	Enews-- Observations on Oil, Fish, and Scientists
• July 14	Opportunities for Comment distribution to BoD, PI, Members
• July 15	Opportunities to participate in Academy climate roundtable to BoD, PI, Members
• July 15	Opportunities for ocean science education for teachers in Norfolk, to CBOS constituents
• July 19	<i>Final Recommendations of the Ocean Policy Task Force</i> sent to membership
• July 26	Opportunities for comment, funding and presenting sent to members, PIs and Directors
• July 26	Diversity letter to members, PIs and directors from Lamont Dougherty
• July 27	Ocean Policies Update to BoD and members
• Aug 10	Enews- From Observation to Forecast
• Aug 31	Member Updates newsletter
• Sept 8	Enews-- Ocean Observations: Networking, Knowledge and Nowcasts
• Sept 26	Member Opportunities newsletter
• Nov 15-18	IOOS/NFRA meetings
• Nov 22	Member Opportunities newsletter

Comment

• June 17	Comment on Public Notice and ET Docket No. 10-123. reallocation of the 1675-1710 MHz frequency band from meteorological to broadband use. “ MACCOORA/MARCOOS provides a vast array of data for people whose lives or livelihoods are connected to the ocean. Many of these people, such as recreational fisherman and lifeguards, are not federally-employed. The MARCOOS satellite web “hits” indicate that the data is relevant to a number of citizens. Within the past 12 months, our satellite blue pages have received over 675,000 visits by 177,143 unique users with a total of 1.78+ million page views. 41% of the traffic were users who came here directly via booked marked pages, or manually typing the name. The rest were links from other pages or web searches.167,000+ visitors were sent to us via search engines after searching for sea surface temperatures (SST). In fact, the SST pages are the primary focus of the visits, hands down. The 1675-1710 MHz frequency band is relevant and important to our mission . If the frequency is transferred to the broadband community, it could be detrimental to our constituency. ”
• July 14	Signed: Final Letter in Support of ORCA Provisions of HR3534
• July 23	Signed letter to Senator Reid re: Senators Snowe (R-ME) and Whitehouse (D-RI) introduced S 3641, The National Endowment for Oceans Act.
• July 26	Sent to House staffers letter being circulated by Capp for greater IOOS funding
• Oct 15	Comment on letter from CoL to NOAA re: NOAA’s strategic framework and vision for a Climate Service

Event and Roundtable Outreach

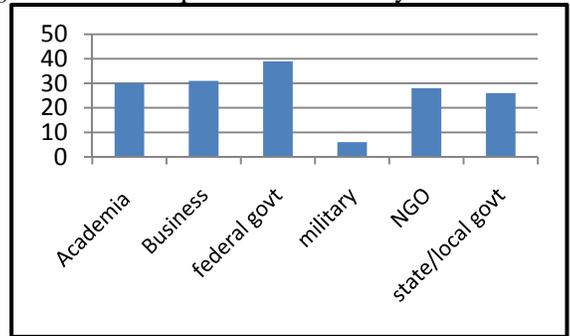
• June 5	The Smithsonian "Scientist Is In" exhibit on the Scarlet Knight Trans- Atlantic Mission
• June 8	Capital Hill Oceans Week: presentation to learn about the historic RU 27 glider flight.
• July 23	Participant: NOAA Climate Service Academic Roundtable
• July 27-30	Participant BEST workshop
• Aug 5	Provided feedback on MARCO portal
• Aug 12	MARCO teleconference: using our data
• Aug 18	Chesapeake Bay Office and CBOS support
• Aug 23	MD DNR Portal: using our data —interaction with developers
• Sept 14	IOOS water quality teleconference
• Oct 3	Ocean Day booth: Delaware
• Oct 21	CoL (Consortium for Ocean Leadership) meeting
• Oct 28-29	MACOORA Annual Conference and Exhibition
• Nov 15-18	IOOS and NFRA meetings

Updated Website

The website migration from dreamweaver to drupal was completed and the finished project was imported to a new server [at Rutgers University] for a complete redesign. The new website incorporates the information from the current MACOORA and MARCOOS websites, and is expanding to include an interactive asset map, data links, and more.

Annual Conference and Exhibition

165 participants from a diverse population of ocean observing professions registered for the annual conference, *From Observation to Forecast: Tools for Understanding a Changing World*. Participants from industry (business), non-government organizations, academia and state/local government as well as the federal government were evenly distributed, representing a heterogeneous population of users/interests. Fifty (50) percent of the MACOORA membership attended.



Themed on solutions and outcomes, the opening plenary panel discussion-- A Sea Change: Observations in Times of Need – presented by Carolyn Thoroughgood, Chair, Board of Directors, MACOORA; Michael Bruno, Dean, Schaefer School of Engineering and Science, Stevens Institute; Radley Horton , NASA Goddard Institute for Space Studies; and Dana A. Goward , Marine Transportation Systems Management , US Coast Guard provided an overview of the value of observations. MACOORA themes were fully integrated into the one and one half day program, with three panels focusing on fisheries, maritime safety and security, and inundation, and an additional two themes— water quality and offshore energy—addressed during the five break-out sessions, comprising the full complement of MACOORA themes. There were presentations on IOOS, NFRA, and MARCOOS. Two roundtable discussions, Visualizations and Governance, completed the agenda.

Upcoming Workshops/Pilot Projects

- Fisheries Workshop. MACOORA is currently planning a late spring or early summer, Mid-Atlantic Bight Fisheries Workshop to: define and develop a near-term demonstration on the utility of IOOS data in fisheries management. (i.e. scallop/yellowtail flounder and/or squid-butterfish by-catch); define and develop products related to the cold-pool variability research initiative as it relates to Marine Spatial Planning (MSP) and/or

Integrated Ecosystem Assessment (IEA) national programs; define and develop fisheries related products based on longer term climatic signals in the Mid Atlantic Bight. This will be an invitation only workshop, including MACOORA members and stakeholders, members from other regional associations, and federal agencies.

- Water Quality Pilot Project. MACOORA has agreed to collaborate with SECOORA and NERACOOS and support NFRA's interest in working with the IOOS National Office for a panel session on RA water quality efforts at CZ11 being held in Chicago, summer 2011.

Observing System and Data Management Accomplishments

Key accomplishments from the Phased Deployment and Operation of the Mid-Atlantic Regional Coastal Ocean Observing System (MARCOOS) during this time period are summarized as follows:

- Data Management and Communications progress during this reporting period included participation in RA DMAC conference calls and workshop; IOOS WSDE working group; OGC Working groups; and the NOAA RA DMAC Workshop. Significant accomplishments include: (a) 5 Thredds Servers (TDS) operational within MARCOOS partners; (b) Implemented Oostethys SOS services connected to Postgres database and a custom SOS service for WeatherFlow; (c) Coordinated with The Chesapeake Bay Observing System (CBOS) data management team; (d) Continued to contribute to the ncWMS open source code base; (e) An effort to expose all MARCOOS data to Google Earth through use of KML/KMZ. ASA has been writing Matlab code to convert observation and model data to KML/.KMZ and transferred this to the modelers/data providers for operational implementation; (f) Completed analysis and delivery of USCG drifter database to the modelers for model skill assessment for MAB (g) Completion of integration of HF Radar data and STPS derived forecast into USCG SAROPS EDS; (h) Initial implementation on asset map to integrate MARCOOS catalog.
- Deepwater Horizon Oil Spill Response included deployment of a web portal to help coordinate the national IOOS response; real-time Google Earth displays of cloud-filtered Sea Surface Temperature and Chlorophyll coverage area were expanded to span from Cuba north to Newfoundland and file format is being converted to netCDF4 to increase data storage and ease of data access; construction of numerous Google Earth interfaces to plan glider missions; writing a coordination blog during the intense response period; sending three gliders to the Gulf (two from Rutgers and one from the University of Delaware); installing STPS in the regions with HF Radar coverage; briefing state officials including a blog for Virginia; providing ASA's support of NOAA through forecasts and data management; and University of Maryland's participation in shipboard sampling cruises. The NSF COSEE-NOW was leveraged to produce communication interfaces with teachers, culminating in the Oil Spill Resources website.

3) Scope of Work

Priorities for the next funding period include continued pursuit of defining user groups and establishing formal guidelines and conduits for communication and support for the operating arm [liability issues, new areas for collaborations].

4) Leadership Personnel and Organizational Structure

New Board members were seated: James Manning, Northeast Fisheries Science Center, NMFS, was elected Sub-region Director; MA/RI. Genevieve Boehm-Clifton, NJDOT, Office of Maritime Resources, was re-elected Sub-region director; NY Bight. Daniel Leathers, University of Delaware, was elected Sub-region Director, Delaware. Wendell Brown, University of Ma, Dartmouth, was elected At-large Director.

5) Budget Analysis

Actual budget expenditures were closely aligned with anticipated budget expenditures. No modifications of the budget are expected. Financial reports are up to date.