



**RARGOM**  
**REGIONAL ASSOCIATION**  
**FOR RESEARCH ON THE**  
**GULF OF MAINE**

**HEADQUARTERS:**

Ocean Process Analysis Laboratory  
142 Morse Hall, 39 College Road  
University of New Hampshire  
Durham, NH 03824 USA  
telephone: 603-862-0067 facsimile: 603-862-0293  
[www.rargom.org](http://www.rargom.org) e-mail: [Lynn.Rutter@unh.edu](mailto:Lynn.Rutter@unh.edu)

## 2005 Annual Report

### Overview

RARGOM's mission is to facilitate communication, coordinate regional science activities and encourage collaboration among researchers and environmental decision-makers at its member institutions and in the broader Gulf of Maine community. RARGOM serves as an advocate for regional scientific research in the Gulf of Maine and as a bridge between the research and management communities. The four primary activities of our RARGOM action plan are:

- Meetings of RARGOM representatives (the Board), 3-4 times each year,
- Sponsorship of Theme Sessions, "regional conversations" on subjects that are hot regional issues for scientific research and environmental management,
- Development of the RARGOM website as a mechanism for fostering communication among the Gulf of Maine scientific community,
- Foster coordination and scientific quality in regional research activities and their applications.

We accomplish our mission with a modest budget and generous contributions of time from members of RARGOM community.

I would like to briefly review our activities in these four areas over the past year.

### Regular meetings

The RARGOM board meetings offer the opportunity to come together for a day to exchange regional news, plan events and meetings and make decisions about future actions and directions for the association. These meetings are an essential part of the life of RARGOM.

In the past year, we have held meetings UMass Boston June, 2005, the Gulf of Maine Research Institute (October, 2005), the University of New Hampshire (January, 2006) and most recently at the Wells Estuarine Research Reserve (June, 2006). The minutes for these meetings are posted on the RARGOM website.

Because they are day-long events (starting at 10 am and ending at 3 pm, with long drives for some), not all board members are able to attend at any given meeting. To ensure maximum participation, all RARGOM member institutions are encouraged to appoint one or more alternates. Ideally, the best situation would be a rotation of participation among alternate representatives. This rotation, on a yearly or biennial basis, would provide the board with new insights and energy and at the same time give broader exposure of the regional perspective to

individuals at member institutions. Over the next year we will also be looking at ways to increase Canadian participation at the meetings, either through location or by teleconferencing.

Starting with the recent meeting at the Wells NERR, we are designating the summer meeting as an opportunity to learn more about one of our member institutions in depth. The entire morning of the Wells meeting was devoted to exchanges of regional news and research activities, including presentations from NERR staff about their research activities. We will decide the location of the next summer meeting at the regular board meeting, to be held on November 17 at U Mass Boston.

## **Rargom Theme Sessions**

### ***Cliff House theme session on modeling needs***

After sponsoring three one-day theme sessions in 2004 (*Integrative Modeling, Tidal Wetland Restoration and Research Priorities for Habitat and Land Use Management*: see the RARGOM website), RARGOM focused its efforts on a two day workshop on *Modeling Needs Related to the Regional Observing System in the Gulf of Maine*, which took place in July at the Cliff House in Ogunquit, Maine. It was achieved with major funding from the NOAA Center for Sponsored Coastal Ocean Research and with the collaboration with GoMOOS, the Census of Marine Life and the Coastal Observing Center (UNH). There were 51 participants from a range of disciplines including coastal resource managers, biological oceanographers and especially physical oceanographers and modelers.

The proceedings of the theme session are published in a RARGOM report, an electronic version of which is available on the RARGOM website. One of the exciting outcomes of the report are explicit suggestions for the development of a regional modeling center to coordinate and advance regional physical and cross-disciplinary models for the Gulf of Maine, particularly in the context of their application to management needs. These suggestions and the need to act arise from the “grass roots” recognition of working scientists that regional coordination of modeling activities is necessary now, especially in light of the emerging observing systems for the Gulf of Maine, which will require models for sophisticated interpretation and application of the observing data.

The 2005 Theme Session at the Cliff House is another illustration of an important regional role for RARGOM as a catalyst for development of new research programs and infrastructure serving the regional interest. While it remains to be seen how the synthesis of ideas arising from the workshop will be implemented, (a subject in which RARGOM continues to be active- see theme sessions below), RARGOM is fulfilling its mission to be involved in regional coordination of research activities and connection to stewardship needs for the Gulf of Maine. RARGOM played a similar catalyst role in its 1998 report on the Gulf of Maine Observing System, which ultimately led to the formation of GoMOOS.

### **Upcoming theme sessions**

#### ***Theme session on the Gulfwatch Contaminants Monitoring Program (September, 2006)***

Gulfwatch ([www.gulfofmaine.org/gulfwatch](http://www.gulfofmaine.org/gulfwatch)) is chemical-contaminants monitoring program established in 1991 and administered by the Gulf of Maine Council on the Marine Environment. Since 1993, Gulfwatch has measured contaminants in blue mussels (*Mytilus edulis*) at 38 sites along the coast of Massachusetts, New Hampshire, Maine, New Brunswick, and Nova Scotia.

Tissue levels of 9 trace metals, 24 PCB congeners, 24 PAHs and 16 chlorinated pesticides have been monitored. In 1997, RARGOM conducted a review of the first five years of the program. It is now contracting with the Gulf of Maine Council to conduct a subsequent evaluation and this theme session will form part of the review process. It will be open to members of the Gulf of Maine community who wish to learn more about Gulfwatch and discuss its findings and future direction

***Modeling needs follow-up session (fall, 2006)***

We are planning a one-day follow-up to the Cliff House theme session. Our goal is to advance the development of coordinated regional modeling activities in the Gulf of Maine. This follow-up session has the following objectives:

- Provide an opportunity for the Gulf of Maine community, especially those who did not attend the Cliff House workshop, to comment and provide feedback on the discussions at the meeting in regard to the visions for a regional modeling center. Does everyone see the need for a center? What would people like to see as its structure? Should there be one or multiple, distributed centers?
- Bring together representatives from agencies and organizations representing users who would benefit from improved regional modeling and application, in order to move forward an interagency plan of action to implement a coordinated regional approach
- Provide an opportunity for the community to have input into the planning of a regional workshop on observing system analysis, modeling and prediction that is tentatively planned for next year with the support of the UNH Coastal Observing Center.

The location and date of the follow-up session will be announced later this summer.

***Linkage between nearshore and coastal ocean systems in the Gulf of Maine: does coastal human activity have a significant impact on the greater Gulf? (Spring, 2007)***

This theme session will address questions about change in nearshore habitats and connections to offshore Gulf of Maine ecosystems. During 2004 RARGOM theme sessions as well as other recent Gulf of Maine workshops and meetings, needs for better understanding of these connections have been identified:

- Members of the fishing community have expressed concerns that shifting land use patterns and coastal zone development, including introduction of contaminants, are affecting the life cycle and survival of sensitive early life stages of harvested populations of Gulf of Maine fish and invertebrate species. The scientific understanding of life cycles, habitats for early life history stages and impacts of changes to wetland habitats and land-derived contaminants in the Gulf of Maine, however, is rudimentary.
- While time series exist for water quality parameters in the GoM, it is unclear whether they have been analyzed with respect to the linkage to the offshore ecosystem and whether the appropriate water quality variables are being measured. A better understanding of biogeochemical exchanges, and of the transport and mixing of water between estuaries and the nearshore and offshore environments is needed.
- The need for multidisciplinary model development to describe linkages between estuaries, nearshore waters and the deeper waters of the Gulf, as well as linkages between the land and nearshore with respect to watershed discharge, stressor response and habitat change.

The theme session would bring together natural and social scientists, coastal managers and members of the fishing community to discuss these issues. The main objective of the theme session is the identification of specific questions, gaps, data needs and research priorities, which will be written up in a report for broad distribution in the community.

***Theme session on ecosystem metrics and indicators for the Gulf of Maine (scheduling TBA).***

This session will address the need to identify and develop new metrics and indicators for the Gulf of Maine. Organization of the session represents a collaboration between NOAA, EPA and the Gulf of Maine Ecosystem Indicators Partnership. Objectives and scheduling will be announced in early fall.

**New developments for the RARGOM Website**

For several years, RARGOM has maintained an unpretentious website ([www.rargom.org](http://www.rargom.org)), providing access to its theme session reports, archives and coordinates of its member institutions and representatives. Over the next few months, the website is getting a makeover as it migrates to a server housed in the Institute for the Study of Earth, Oceans and Space (EOS) at the University of New Hampshire. We have contracted the Research Computing Center (RCC) at EOS to upgrade and remodel our website, with the goals of improving the look, feel and readability, providing easier management, reducing turnaround time to correct problems and improving administrative tools necessary to keep the website dynamic and current. The RCC solution uses an Oracle back end for all database applications, offering in addition the capability to implement database-heavy applications that we are considering for the future.

In conjunction with the web migration, we acknowledge the need for a dedicated (funded) web master. This individual will be responsible for the day-to-day management of the web site, maintenance of some of the data entry (phone book, funding opportunities, etc), verification of links and site functionality, and other routine maintenance. The web master will also be responsible for either implementing or managing changes to the web site. The RCC migration package includes a RCC web management utility that will allow the web master to perform small changes to the web site unassisted. Larger projects and new functionality will be either handled by the web master, or the web master will oversee the execution of the project (probably through RCC). This is anticipated to be a part time position, with actual duties to be determined by hours (funds) available, and we have identified James DuPrie, who has been assisting RARGOM with the current website migration.

Our goal over the coming year is to provide more services on the website that will prove useful to the Gulf of Maine science community. Look for a page compiling announcements and links to *funding opportunities* and to *job and graduate student opportunities* at our member institutions. We plan to institute an *events calendar* that will include not only RARGOM events, but also compiles seminars, meetings and workshops of relevance across the region. We will do this on a trial basis and solicit feedback from our members.

**Promoting regional research**

RARGOM is currently involved in two activities that promote coordination and science quality in regional research. First, at the request of the Gulf of Maine Council, it is initiating scientific review of the Gulfwatch Contaminants Monitoring Program (see associated theme session above). RARGOM's role in this process is to oversee external scientific review and prepare a

report synthesizing review comments with recommendations for the future direction of the program.

RARGOM is also represented by five members on the advisory committee to the Northeastern Regional Association of Coastal Ocean Observing Systems. The Regional Association, based at the University of Southern Maine, has received funding from IOOS (Integrated Ocean Observing System) to establish infrastructure for the Coastal Ocean Observing System in the Gulf of Maine region. The advisory panel comprising individuals representing a number of regional management, research and industry interests will chart the direction of this important initiative for coordinated regional observing and interpretation of environmental change for application to management needs. RARGOM will be active in promoting regional coordination between this and observing programs supported by other agencies, such as EPA and the National Science Foundation.

### **Outlook for RARGOM, 2006-2007**

In the fall of 2006, I will be moving to the Gulf of Maine Research Institute in Portland, Maine, where I will have a position as a member of the faculty in the School of Marine Sciences at the University of Maine. I will still carry on in my role as chair through the next term, and the RARGOM office (Program Coordinator Lynn Rutter and our new Webmaster) will remain at the University of New Hampshire.

We have laid out an active action plan involving meetings, theme sessions and website development. We see that RARGOM must serve as a strong regional advocate for research on the Gulf of Maine as well as continue to foster communication to bridge the gap between research and stewardship of the Gulf of Maine. Keeping in mind our budgetary constraints, we are working to build visibility and define useful roles of service by RARGOM to the broad Gulf of Maine community. I encourage all members to participate in the ongoing process of fulfilling RARGOM's mission.

### **Membership and dues**

RARGOM relies on the support of its member institutions to sustain it as it evolves to meet the needs of the GoM region. We have in addition been successful in obtaining outside funds, in form of grants, staff support and participant registration fees, to offset many of the costs of the Theme Sessions. The Board welcomes new representatives and perspectives to help us develop a regional approach to promote regional research and its benefits supporting good stewardship of the Gulf of Maine.

The summary financial statement for RARGOM for 2005 with projections for 2006-2007 is provided in Table 1. Our operating budget is made possible by the annual dues payments by our member institutions. We try to maintain a carryover balance of approx. \$15,000 from year to year. Our carryover dips in 2006 because of the extra, one time expense of \$3,000 for the website upgrade and migration to the UNH server.

The underlying value of RARGOM, aside from its functional roles in regional issues, is the opportunity to meet colleagues in an atmosphere of cooperation, where the goal is to do what is best for the Gulf of Maine. We find the Board meetings to be genuinely informative and collegial. We feel that the development of trust and individual relationships can make all the

difference for research and management in the region. We thank you, the member institutions, for your continued support to make this happen.

Yours Sincerely,

Jeffrey A. Runge  
Chair  
June 22, 2006

**Table 1. Summary financial statement for the Regional Association for Research on the Gulf of Maine, 2004-2006**

|                           | <b>2005</b>   | <b>2006*</b>  | <b>2007*</b>  |
|---------------------------|---------------|---------------|---------------|
| <b>Carryover</b>          | <b>21,144</b> | <b>16,061</b> | <b>13,311</b> |
| <b>Income</b>             |               |               |               |
| <b>Dues</b>               | 17,425        | 20,950        | 22,450        |
| <b>Theme Sessions</b>     |               |               |               |
| <b>Scientific Reviews</b> |               | 5,000         |               |
| <b>Total income</b>       | <b>17425</b>  | <b>25,950</b> | <b>22,450</b> |
| <b>Expenses</b>           |               |               |               |
| <b>Personnel</b>          |               |               |               |
| chair                     | 6,000         | 6,000         | 6,000         |
| vice chair                | 1,000         | 1,000         | 1,000         |
| program coordinator       | 9,000         | 9,000         | 9,500         |
| <b>Operations</b>         |               |               |               |
| Theme sessions            | 3,000         | 2,000         | 2,000         |
| Website-related           | 3,000         | 2,000         | 3,000         |
| Website development       |               | 3,250         |               |
| Office related expenses   | 508           | 950           | 950           |
| Scientific reviews        |               | 4,500         |               |
| <b>Total expenses</b>     | <b>22,508</b> | <b>28,700</b> | <b>22,450</b> |
| <b>Carryover</b>          | <b>16,061</b> | <b>13,311</b> | <b>13,311</b> |

\*projected