

# Regional Association for Research on the Gulf of Maine

## 1994 Annual Report

---

### Overview

1994, the Association's third year, is highlighted by several achievements. The Association's objectives were to:

- sponsor a workshop series and produce the resulting report volumes;
- maintain active communication within the Association and with other related groups;
- serve as a source of information, advice and review, using the Association headquarters as the contact point;
- expand the Association membership, responding to and soliciting membership inquiries, and
- solidify the Association's financial status.

The administrative foundation established during 1993 provided the support for addressing the objectives listed above. We anticipate that these goals will continue to shape the Association's ongoing activities, and also note that new directions are emerging for the short and longer term horizon at the Association.

The Association's primary resource continues to be its membership; the accomplishments of 1994 could not have happened without the combined efforts, talents, and dedication of our individual representatives and their colleagues. It is with this sense of participation toward the mutual goal of understanding the complex and valuable Gulf of Maine ecosystem that the Association welcomes new members from both the Canadian provinces and the United States. Advocacy for a coherent Gulf of Maine research program remains a priority for the Association at both regional and national levels.

Looking to the future, the Association needs maintain its research focus, providing services that enhance research activity, with an atmosphere of inclusiveness and open exchange. It also needs to work with other active groups in the Gulf of Maine to move the broader regional agenda forward. The degree to which the Association balances these internal and external missions will influence its impact on the Gulf of Maine region.

---

### 1994 Progress

#### 1.) Regional Workshop Series

Three workshops were held during the past year, funded in part by the Council on the Marine Environment, the National Undersea Research Program, the Regional Marine Research Program, and the University of Maine and University of New Hampshire Sea Grant Programs. The successful execution of these events and their follow-on activities was a priority for the Association during 1994.

A **Data and Information Management** workshop was held November 3, 4, 5, 1993 at the University of New Hampshire. Its steering committee members were Marilyn Buchholtz ten Brink (USGS), Wendell Brown (UNH), John Paul (EPA), Don Phelps (EPA, Chair), and Jeff Rosen (AMS). Paul Boudreau (BIO) and Dan Lynch (Dartmouth College) served as working group leaders.

Don Phelps reported in his Executive Summary that "Several generic recommendations emerged [from both working groups]:

1. A regional Gulf of Maine Information Management System should be developed.
2. A distributed system utilizing INTERNET, as opposed to a centralized system, should be implemented.
3. The Gulf of Maine Information Management System should not re-invent any wheels. A vehicle should be put in place to generate and distribute a directory of the component systems and assure compatibility with important specific systems.
4. A Technical Start-up Committee should be established.
5. Charge the Technical Start-up Committee with proposing short and long-term goals for the RMRP components of a Gulf of Maine IMS; a "Vision Statement" to be presented to a broader group (see #6 below).
6. A broader (than the Technical Start-up Committee) Gulf of Maine IMS Oversight Group should be formed to ensure that the needs of various groups are incorporated in planning processes."

The proceedings of this workshop are referenced as RARGOM Report 93-1, *Gulf of Maine Data and Information Systems: Workshop Proceedings*, D. Phelps, et. al, editors.

A workshop on **Circulation Modeling in the Gulf of Maine** was held November 15 and 16, 1993 at Dartmouth College. The organizing committee comprised David Brooks (Texas A&M Univ.), David Greenberg (Bedford Institute of Oceanography), Daniel Lynch (Dartmouth College, Chair), Richard Signell (USGS), and David Townsend (Univ. of Maine/RMRP).

Dan Lynch proposed a similar need for regional collaboration in his Executive Summary. "The various modeling results achieved to date are full of promise. In addition, we are on the threshold of a quantum leap in the observational support for circulation models -- currents, drifter trajectories, hydrography, sea surface temperature -- made available by the union of the Regional Marine Research, Sea Grant, and GLOBEC programs in the Gulf region. It is therefore appropriate to contemplate the formation of a Gulf of Maine Modeling Center. Such a center would amplify individual modeling projects, make model results more accessible to the broader scientific community, and facilitate the evolution of more complex models which go beyond circulation per se. Specific technical activities of a center would include

- provide a point of access to archived model flow fields
- facilitate the transfer of models themselves from research institutions to operational agencies
- provide easy access to model input data: topography, climatology, winds, river flow, etc.
- maintain and develop visualization tools at various levels of sophistication
- define and service standards for large data files and their interface to diverse programs and packages
- development of interfaces to advanced 3-D visualization packages
- develop interfaces among models, in particular among circulation models and water quality and ecosystem models
- provide community access to pooled equipment (disk farm; advanced video hardware; etc.) as needed

Establishment of such a modeling center would be a major step toward broader utilization of circulation models and their evolution toward more complex models of the Gulf ecosystem. A basic challenge to all Gulf of Maine constituencies is to seek an appropriate institutional setting for such a center, and to begin its nurture toward a truly cooperative service organization connecting modelers, scientists, and the public interest."

The proceedings of this workshop are referenced as RARGOM Report 94-1, *Gulf of Maine Circulation Modeling: Workshop Proceedings*, E. Braasch, editor.

A **Habitat** workshop was held at the Maine Department of Marine Resources' laboratory in West Boothbay Harbor on April 12 and 13, 1994. The steering committee included Peter Auster (NURC-UCAP), Michele Dionne (Wells Reserve), Rich Langton (Maine DMR), Marilyn ten Brink (USGS), David Stevenson (Maine DMR, Chair) and Page Valentine (USGS).

David Stevenson noted in the Executive Summary that "In addition to management and research needs that were specific to each of the four topics, there were also several common themes which emerged during the workshop.

1. There is a need for basic information on size, location, and distribution of Gulf of Maine benthic habitat types. High resolution, spatially referenced data, compiled in detailed geographic data bases and displayed as maps and/or video images, are a fundamental need for both researchers and managers, especially when combined with similar information relating to the organisms that utilize those habitats collected at the same spatial scale. Similar data relating to water and sediment quality are also crucial, although the high cost of analyzing contaminants usually prevents the collection of these data at high resolution.
2. The need to understand the functions and values of individual habitat types in sustaining selected Gulf of Maine living resources, biodiversity, and ecosystem structure and function.
3. The need to quantify the effects of individual and multiple human impacts on specific habitats and ecosystems. This can be accomplished by comparing baseline data collected prior to, or during the early stages of, habitat degradation with data collected later on, as long as standardized data collection and analysis procedures are followed for each parameter.
4. The need to develop habitat-mediated models of populations, species, and communities that could be used to predict changes in the abundance and/or distribution of living marine resources in the Gulf that would result from changes in habitat characteristics. Such models would be of great value to environmental managers, especially if configured for visual (video) display.

Three recommendations of the Habitat Workshop are to:

1. Develop a geographic database. Considerable field work is required to conduct resource inventories and survey benthic habitats in order to obtain the necessary information to incorporate into geographic data bases. Surveys of transient habitat features which are subject to natural or human-induced alteration should be conducted initially at different times of years and then repeated annually or every few years as conditions change. Once available, these data should be incorporated into a centrally located Geographic Information System (GIS) data base which can be accessed by researchers and managers throughout the region. Current environmental data base development and mapping efforts in the region need to be supported and expanded.

At the same time, efforts need to be made to compile all existing information for GIS use (some of it is still missing). There are currently two projects of this kind underway in the Gulf of Maine. One is the development of a contaminated sediment data base and the other is a bathymetric survey and mapping of nearshore coastal waters. Both are funded by the Regional Marine Research Program. Given its importance for habitat management, and its regional nature, geographic data base development is an activity which should be supported by the Gulf of Maine Council and by government agencies in the U.S. and Canada which have habitat protection and restoration responsibilities.

Before any new survey or resource inventory work is initiated, a group of experts should be convened to evaluate what additional data are needed (and for which habitats), to establish standardized data collection protocols, to design the necessary data collection methods, and, if necessary, to obtain funds for collecting and compiling the information, analyzing samples, and compiling the results. It is recommended that the Regional Association for Research on the Gulf of Maine and the Gulf of Maine Council on the Marine Environment collaborate in organizing such a meeting and in implementing its recommendations.

2. Establish research priorities. There needs to be continued improvement in the process of establishing research priorities between scientists, managers, and the public. Optimally, managers would define what needs to be accomplished (with input from the public and affected user groups) and scientists would provide advice to them concerning what questions need to be asked and how to obtain the necessary information.

3. Communicate research results. It is not sufficient to perform and report results to research colleagues. Results of research projects should be summarized and made available in a usable form to a variety of audiences and user groups, including decision makers and politicians, agency managers, agency staff, resource users, general public, primary and secondary educators, and citizen volunteers."

The proceedings of this workshop are referenced as RARGOM Report 94-2, *Gulf of Maine Habitat: Workshop Proceedings*, D. Stevenson and E. Braasch, editors.

An additional, related activity has been the planning of an NRC Symposium, *Improving the Interaction between Sciences and Policy in the Gulf of Maine Region*, to be held in Kennebunkport, Maine on November 2-4, 1994. Two leaders in the Gulf of Maine region have co-chaired this effort: David Keeley, Maine State Planning Office, and David Townsend, University of Maine - Orono. RARGOM Executive Director Dan Lynch served on the steering committee. Other member institutions represented on the steering committee or as program speakers include the Bedford Institute of Oceanography, Bigelow Laboratory, Massachusetts Coastal Zone Management, NMFS-Gloucester, St. Andrews Biological Station, University of Maine Darling Marine Center, University of Massachusetts - Boston, and the University of New Hampshire. All Association representatives were invited to attend the symposium.

## **2.) Maintain Active Communication**

During 1994, the Association continued to conduct its meetings on a rotating basis at various locations within the Gulf of Maine region, to share the travel distance and the logistics of hosting the meeting. This approach has also provided an opportunity for members to become familiar with some of the other institutional programs and resources. The Woods Hole Oceanographic Institution hosted the January meeting, the April meeting was held at the University of Southern Maine Wolfe's Neck Conference Center in Freeport, Maine, and the Wells National Estuarine Research Reserve was the setting for a November meeting. While there was excellent attendance at the January and November meetings, the April meeting had an inadequate quorum of full members for decision making; and scheduled June and October meetings were canceled and relocated to accommodate researchers' other commitments. The Association planned its October meeting at the St. Andrews Biological Station in New Brunswick, Canada, hoping to inform U.S. researchers about Canadian activity and resources, and to generate Canadian interest in joining the Association. But travel time and cost issues for the existing U.S. members proved to be too great a barrier, so the meeting was moved to coordinate with the NRC symposium in early November. Minutes of all meetings are available from the headquarters office.

Association representatives have voiced the desire to hold fewer meetings during the year, and also expressed the need to discuss research related topics, rather than administrative issues. One proposal has been made to hold fewer meetings, and when meetings are scheduled, to attach them to other regional events, such as the NRC symposium held Nov. 2-4, 1994 in Kennebunkport, Maine. These ideas need to be addressed, and alternative mechanisms (such as electronic mail, conference calls, or smaller committee meetings) should be identified to provide members with opportunities for adequate discussion and timely decision-making on issues that contribute to the Association's mission.

A group electronic mail account has been established on the INTERNET to provide a mechanism for exchange of news and announcements from any member of the Association. The Association staff have found this to be very useful, but it has not been widely used by representatives for Association business. Not all member institutions have electronic mail capability; but the primary concern at this time is that the Association needs to develop communication channels that include, but are not dependent on, initiation by its staff. To ensure equal access and participation by the membership, all matters needing formal review and

decision making will continue to be discussed at meetings or via traditional channels (phone, mail, fax).

The **Gulf of Maine NEWS** has been produced on a quarterly basis with articles contributed by researchers from member institutions and as well as others whose work relates to the GOM research community. The newsletter's regular features include research articles; cruise and field reports; regional events; news from national programs such as NSF, NOAA, EPA, USGS, descriptions of new GOM project starts such as the U.S. GLOBEC and EMAP programs; new GOM publications received at the headquarters office, announcements of funding opportunities or jobs, and a calendar. Requests for the newsletter continue to grow, an indication of the need for this communication vehicle. Many people have contributed carefully crafted articles, and have provided other information and feedback about the newsletter this year. We expect that the newsletter will continue to evolve into a publication that reflects the science activities and ideas of the GOM research community, with expansion of its scientific content.

The staff prepared several special projects as extra inserts to the newsletter during 1994: an extensive literature search resulting in a 1993 Bibliography of published GOM research articles, a bibliography compiled for the Circulation Modeling workshop, and the 1994 cruise vessel schedule. We thank the many individuals who contributed to these efforts at summarizing GOM research activity.

### **3.) Expand Association Membership**

In 1994, the Association membership totaled 13 Full Members and 11 Associates. The 1994 target put Canadian participation as a priority. This has proved to be a difficult goal. Several institutions have been contacted, and at this time there are two potential memberships in process, Dalhousie University and the Huntsman Marine Science Centre. One impediment to Canadian membership is participation at Association meetings; and as we noted earlier, this issue needs to be addressed for our existing members. On the other hand, membership in the U.S. continues to spread geographically; we were pleased to welcome Cornell University as a Full member in July and Texas A&M University as an Associate member in February. We regret Tufts University's decision to withdraw its Associate membership.

### **4.) Solidify the Association's Financial Status**

The Association decided to increase its revenues through a modest raise in membership dues for 1994 (Full Membership was \$2975., up \$17., and Associate Membership was \$600., up \$100.). All 1993 members sent in their dues, but at the time of this report, while all members have committed to sending in their 1994 dues, not all dues have been received, creating an uncertain final fiscal quarter for the Association. Dartmouth College, the Association host institution, has been generous in providing accounting staff support and short term coverage of Association expenses.

Eugenia Braasch, Associate Director

Daniel Lynch, Executive Director

Gordon Wallace, Chair