

**RARGOM Theme Session on Integrated, Multidisciplinary Modeling  
July 15, 2004**

**Plenary Session Notes (A. Bilgili)**

**OVERALL RARGOM**

There is strong and general agreement that RARGOM's efforts have been/are/will be useful.

**DATA AND RARGOM**

Modelers would like to see RARGOM as the one-stop shop for available data in the Gulf of Maine. This is especially important for real time modeling.

There needs to be a one-stop source for data as well as model input and output. We need to encourage a regionally specific data lab to handle all of our information.

We need to develop exchange nodes for environmental information. Funding for this may be requested from offices such as the EPA.

Data to be made available should be prioritized.

**MODEL AND DATA PERFORMANCE**

We need standards for data and model evaluation. One question that RARGOM may help answer is "How do we measure data and model performance?".

There needs to be a clear understanding of what model does what good. What are the time scale and length scale classifications of models?

**LOCAL AND REGIONAL RESEARCH**

Regional research should go hand in hand with regional observing. This interaction would generate more opportunities for additional observing and research.

Real-nearshore research is too site specific and it is hard to get national interest, thus national funding. Local institutions compete for local funding. Unifying solution needed for real-nearshore research.

There is a large gap in local coastal monitoring (estuaries, bays). How do we bring larger observation efforts to a more local level? How should we close this large gap?

**ATMOSPHERIC MODELING and GOM**

Gulf of Maine needs a mesoscale atmospheric model, which needs to be common tool. RARGOM may take the lead on this.

**BIOGEOCHEMICAL MODELING**

The biogeochemical aspect should be made a priority and brought into our modeling right away. Otherwise, it will be harder as we wait. We should not miss any early opportunities to introduce biogeochemical models into our long term plans. We should work on this as RARGOM immediately.

A clear understanding of the sources and sinks in the Gulf of Maine from a biological standpoint is needed. Maybe a workshop?

### **MODEL LIMITATIONS AND POSSIBILITIES**

RARGOM should play a role in defining the limiting fields for modeling: Physics, biology, chemistry? Overall consensus is that physics is probably not the most limiting field relative to others.

We may need to reach beyond the Gulf of Maine community to investigate these limitations and possibilities and to find out what can or cannot be modeled with our current or near-future knowledge.

We need to help others understand that models are actually going to help them make bigger leaps in their research. Nationwide (at least) experts need to be lured in to discuss the possibilities. One way of doing this is to make them understand that both parties will learn and gain from the collaboration.

### **RARGOM AND MANAGERS**

RARGOM needs to make a priority of making managers understand how observations and research can help them. Guidelines are needed here.

There needs to be a knowledge that we have years of investments as far as research, tools and data are concerned. This is necessary and needs to be emphasized to generate a link between managers and scientists.

### **RARGOM AND OVERALL RESEARCH AND FUNDING ISSUES**

Modeling efforts should be derived from needs and research questions. RARGOM needs to work on defining these questions and identifying the needs by being a link between various other organizations, especially managerial.

What are the opportunities to generate local (especially important because of funding limitations and local competition) and regional funding to address these needs and research questions? What can RARGOM's role on this be?

Critical partner organizations should be identified to generate research and funding.

We need to get together for a modeling center. Maybe we should work on a mega-fund through private or federal agencies. These are the parties to mainly pay for environmental damages so the research would be useful for them. The proposal should not compete with other regional/local institutions.