

The Gulf of Maine RMRP: Moving Toward Ecosystem Simulation and Prediction

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Many if not most management issues pertinent to the marine environment seem ultimately to translate into the following fundamental questions: What have been, are, and will be the impacts of human activities on the marine environment? What have been, are, and will be the effects of these impacts on our society? and, How do we quantify these impacts and effects? All of these at base require an understanding of the structure and functioning of marine ecosystems. Neither marine environmental managers nor the marine science community have been well prepared or structured to cope with these fundamental questions in effective ways. The institutional, political and reward systems in our society represent significant barriers.

The new and developing Regional Marine Research Programs (RMRP) offer some ways of overcoming these barriers and addressing these questions. In principle, they provide an effective means for developing high quality, scientifically credible information on a regional basis in support of efforts to safeguard water quality and ecosystem health in the coastal regions. Each region's program is intended to maintain a long-term perspective, have a broad regional impact, foster cooperation, and complement other on-going programmatic research pertinent to the region.

To address the fundamental questions noted above and to be responsive to the intent of this National program, the RMRP for the Gulf of Maine (GOM) with significant assistance from the management and research communities has developed the following long-term goal: to develop a set of models that collectively simulate what we know and what we can learn about the Gulf of Maine ecosystem and its interacting components--how they function in their natural state, and how they would function under stress and/or when perturbed. In pursuit of this goal, the GOM RMR Program has attempted to articulate the primary societal problems facing us, to translate them into classes of scientific questions, and to identify and prioritize the related scientific information that will be needed. It is in the initial stages of supporting that regional, ecosystem-level research on the Gulf of Maine that it believes is necessary if we are to progress toward this long-term goal.