

**General Needs:**

- Dynamic tools for prediction and forecasting. Ex: Hydrologic forecasting, how to use data systems? Modeling system
- Coordinate with Regional governing system.
- Stream stats tool to national/fed level
- Real time forecasting by MACOORA
- Connections between space and trophic levels for SE

**Next Steps for NERACOOS:**

- Develop tools to quantify nonpoint sources using SPARROW, HUC 12, for municipal based utilities.
- Improve models of DO, mixing, and primary production for Long Is sound. Consider climatic events (e.g. NAO) and wind effects.

**Next Steps for SECOORA:**

- Effects of tropical events, improved coverage for observ. data, beach usage, bacterial source tracking, sedimentation re-suspension
- Mapping synoptically with high resolution, using gliders and profilers.
- Ecosystem based management, gaps of COOS including models (marine spatial planning)

**Next Steps for MACOORA:**

- Nearshore ocean ecosystem assessment project, tie glider QW profiles with benthic community info
- Spatially disconnected chlorophyll data, but does tell where blooms might be. No toxic species, so not an effect on shell fish population. Chesapeake Bay has several years worth of air flight data, which has not (to-date) been used for management.
- Better continuous cover at boundary of estuary, monitoring a higher frequency, DO real time in shallow water for oysters, need sensors for more parameters to do multi-variant relationships.
- Need connections from inland to estuary well defined in models before doing predictive tools

**Next Steps for Data Integration and Exchange:**

- Sharing of complex geospatial data between multi-jurisdictional agencies to support environmental decision making
- Extending real time observations and gridded model products to other regions, with sustainable and open, transferable standards and cost effective
- Harness new web technologies
- Feed multidisciplinary prediction models for eutrophication, beach health, invasive species...with hierarchy of watershed water-quality models, integrate with river networks, common hydrologic model with flow and rainfall.
- Test and enhance Open Geospatial Consortium (OGC) standards for water observations and expand nationally for GW Network

- Create modeling tool box (model portal) – space, time, phenomenon, different hydrologic media and specialize it
- Considering ground water and meteorological observations
- Semantic web: build repository of terms and relate it back to the data

Group Brain storming:

- Lack of observations in water bodies themselves even though many observations in other parts.
- How science works, particularly with platforms, gliders will get transformed into management decisions?
- As Manager in state gov, how to get data into open standards, especially with smaller staff?
- From Policy perspective, how do data integration impact management decisions? Should be considered for future planning and QW workshop at 2010 NMC.
- How does IOOS relate to Coastal Zone management?
- What is outcome to the nation from all data and models (stemming from getting funding to continue studies...) How to get to outcomes and better articulate and communicate and use of info
- Coastal managers need to get beyond QW - consider ocean energy and what we can allow in our waters. Marine spatial planning and use of glider, use of QW, infrastructure, with what is living underneath and what will be replaced.
- Short term observations and dissemination of info (e.g HABs) vs long term scenario modeling to support decisions making (e.g Long Is Sound on ecosystem properties) in terms of minimum set of observations for model. Need to keep questions ahead of you and determine management questions driving it.
- Common Threads from Pixie:
  - How much data do we need? Where is cost/benefit ratio? How Qs are answered with more or less data?
  - Heard about modeling and ground-truthing and observations – balance of minimum, interplay between monitoring, modeling, and management and carrying uncertainty.
  - Value added of new technologies (e.g. gliders and sensors)?