NOAA's FY 2007 Regional Integrated Ocean Observing System Funding Opportunity

Bob Connell, Chief
NJDEP/WM&S Marine Water Monitoring

Presented at: NJ Water Monitoring Council Meeting
May 30, 2007

NJ Related Proposals

- Phased Deployment and Operation of the Mid-Atlantic Regional Coastal Ocean Observing System (MARCOOS)

- Three-Dimensional Spatial and Temporal Monitoring of Dissolved Oxygen (DO) in Coastal Waters Using Automated Underwater Vehicles

Phased Deployment and Operation of the Mid-Atlantic Regional Coastal Ocean Observing System (MARCOOS)

- Partners – Rutgers, Stevens Institute, Monmouth University, U. Mass., Old Dominion U., U. Maryland, URI, UConn, NASA, SUNY, PSE&G

- MARCOOS will leverage existing observational, data management, and forecasting assets and expertise in the Mid-Atlantic Region to generate real-time and historical data, as well as nowcasts and forecasts of the coastal ocean extending from Cape Cod south to Cape Hatteras.

Existing Assets for MARCOOS

- High resolution weather measurement and forecast capability
- Daily Satellite SST & Ocean Color
- Sea Surface Currents (CODAR network)
- Autonomous Gliders
- Search and Rescue capabilities
- Ocean modeling capabilities
- Education/Outreach

Expected Products

- Maritime Safety will be a priority
  - setting up the links between CODAR surface currents, Short-term Predictive System forecasts & the Coast Guard Environmental Data Server
- Rip current forecasting
  - NOAA WRF model will be set up at the regional scale, and work to include high resolution windfields to provide existing nearshore wave and current products for rip current forecasting.

Expected Products

- MARCOOS will enter into an operational phase of 3-D forecasting supported by:
  - satellite imagery
  - regional CODAR surface currents
  - 12 monthly glider flights in the north and 12 in the south
- 3-D models will provided 3-D forecasts to support fishing activities through the MARCOOS website.

Three-Dimensional Spatial and Temporal Monitoring of Dissolved Oxygen (DO) in Coastal Waters Using Automated Underwater Vehicles

- Partners:
  - NJDEP/WM&S – Marine Water Monitoring
  - Rutgers University – IMCS
  - USEPA/ORD – Atlantic Ecology Division

- Demonstration of the feasibility of utilizing autonomous underwater vehicles (AUVs) to continuously monitor dissolved oxygen levels over a broad spatial area for the purpose of specific problem identification, diagnosis, and coastal ecological assessment.

Objectives

- Develop the capability within the NJDEP to operate and maintain gliders and associated data management software.
- Deploy these gliders on a biweekly basis in the ocean waters of the State of New Jersey during the critical time period of June through September.
- Characterize oxygen conditions both spatially and temporally and interpret these data relative to an ecosystem assessment from which new benthic diversity information will be provided from the ongoing USEPA REMAP study in these same waters.

Data Management

- Measurements and data assessments available to the public through:
  - NJDEP web site
  - USEPA web site
  - Rutgers University's Coastal Ocean Observing Laboratory (COOL)
  - Mid-Atlantic Regional Coastal Ocean Observing System