Federal-State Task Team

of the
Subcommittee on
Integrated Management of Ocean Resources
(SIMOR)

Ocean Research Science and Technology Priorities

of the
Coastal and Ocean
Resource Management Community

Federal-State Task Team on Research Priorities

WHO:

Co-Chairs

- **Debra Hernandez**, former Director of Policy and Program Development, South Carolina DHEC/OCRM
- **Holly Greening**, Senior Scientist, Tampa Bay Estuary Program
- **Peyton Robertson**, Deputy Director, NOAA Chesapeake Bay Office

States

- **Brian Baird**, Assistant Secretary for Resources, Resources Agency of CA
- **Peg Bostwick**, 404 Program Coordinator, Michigan Department of Environmental Quality
- **Rick DeVoe**, Executive Director, South Carolina Sea Grant Consortium
- **Lisa Sharrard Jones**, State Coordinator, Flood Mitigation Programs, South Carolina DNR
- **Denby Lloyd**, Director, Alaska Division of Commercial Fisheries
- **Bill Rohring**, U.S. Virgin Islands Coastal Zone Management Program
- **Steven Rumrill**, South Slough National Estuarine Research Reserve, Oregon
- **Susan Snow-Cotter**, Massachusetts Coastal Zone Management Program

Federal-State Task Team on Research Priorities

WHO:

Federal Agencies

- **Joan Pope**, U.S. Army Corps of Engineers
- **Richard Corley**, U.S. Department of Transportation, MARAD
- **Bill Lang** and **Stephanie Gambino**, Minerals Management Service
- **Gary D. Brewer**, Associate Regional Biologist, U.S. Geological Survey
- **Phil Colarusso**, EPA New England
- **Bob Howard**, EPA Region 4 [alternate]
- **Paul DiGiacomo**, NASA Jet Propulsion Laboratory
- **Sheryl Kunickis**, USDA Natural Resources Conservation Service

Support

- **Melissa Ladd**, NOAA Coastal Services Center
- **Kristen Laursen** and **Kristine Hiltunen**, NOAA Office of Program Planning and Integration

Federal-State Task Team on Research Priorities

WHAT:

- Input from federal and state ocean and coastal resource managers to Joint Subcommittee on Ocean Science and Technology (JSOST) for Ocean Research Priorities Plan and Implementation Strategy

WHY:

- Need for perspective of federal and state resource managers on basic and applied research priorities

WHEN:

- Input by January 2006

Federal-State Task Team on Research Priorities

CHARGE:

1. Advise/participate in drafting of 2-pagers by JSOST on Research Issue Areas
2. Make recommendations to JSOST on:

- high priority ocean/coastal research needs
- specific problem areas
- immediate needs for addressing resource management challenges

Research Priorities of Ocean and Coastal Resource Managers

- Team used existing information sources and surveys
- 75 information sources represent input from many agencies, academics and local/state governments
- Captured national, regional and local research priorities needed for ocean and coastal management

Resource Management Research Priorities: Natural Hazards

- Ability to monitor and anticipate extreme natural events with effective early warning systems
- Maps and models to forecast shoreline waves, currents, storm surge, flooding potential, wetland loss
- Predict erosion, sediment dynamics, sand budgets and resources
- Cost-effective, science-based response, mitigation and restoration strategies, including cost/benefit analyses for building or retrofitting infrastructure to withstand hazards
- Effective dissemination to resource management community Information management, including maps, images and improved visualization techniques.

Resource Management Research Priorities: Ecosystem Health

- Transport, fate and impacts of pollutants, eutrophication, sediments and nutrient cycling
- Assessing and restoring ecosystem services and linkages
- Resource management effectiveness
- Land and water use and interactions
- Invasive species: prevention and management
- Socio-economics: link to ecosystem health

Resource Management Research Priorities: Oceans and Climate

- Understand interrelationships among land use, climate, freshwater flow, habitat, nutrient and pollutant loadings
- Forecast effects of climate change and variability on coastal communities (natural and anthropogenic), including impacts of changing sea levels and storm frequency and strength
- Enhanced assessment techniques to evaluate sea-level changes and assess impacts of changes on ecosystem condition

Resource Management Research Priorities: Human Health

- Real-time or rapid assessment of microbial densities and source identification
- Detection of pathogens, contaminants (particularly mercury) and toxins in seafood
- Improved understanding of occurrence and pathways of pollution and toxics effects (including HABs), and effects on human health

Resource Management Research Priorities: Basic Ocean Research

- Understand natural climate and event-scale variability in the ocean environment
- Better understand anthropogenic forcing and its impacts on global, regional and local scales
- Develop and disseminate improved maps, models and information to meet user information needs, and facilitate timely transfer of research discoveries and techniques to resource managers.

Resource Management Research Priorities: Marine Operations

- Effective control methods for reducing invasive species introductions
- Evaluation of effects of noise from marine operations
- Accessible and more rapid spill trajectory tools
- Assessment of contamination risks in dredged material and methods for identifying disposal options
- Effective restoration techniques for damage from hazardous material spills, and more effective spill prevention measures

Resource Management Research Priorities: Living and Non-living Marine Resources

- Baseline surveys of marine habitats and populations
- Sustainable fisheries and marine aquaculture
- Land-use patterns, demographic changes and trend analyses
- Cumulative impacts of multiple stressors
- Ecological interactions and natural variability
- Infrastructure for science, management and policy

Resource Management Research Priorities: The Bottom Line

- Resource management research priorities include both basic research and applied research topics
- Applied topics important to resource managers include cost/benefit analyses, restoration and mitigation effectiveness evaluations, and information exchange and dissemination tools.

Scorecard

- Clarity
- Alignment
- Comprehensiveness
- Specificity
- Timeliness
- Priority

Results

Theme	Clarity	Alignment	Priority
Enhancing Human Health	Medium	Low	Medium
Improving Quality of Life	Low	Medium	Low
Predicting Climate Variability & Change	Medium	Medium	Medium
Mitigating Effects of Natural Hazards	High	Medium	Medium

Results

Theme	Clarity	Alignment	Priority
Sustaining Natural Resources	Medium	Medium	High
Improving Ecosystem Health	High	High	High
Promoting Marine Operations	Medium	Medium	Medium (High for Great Lakes)

Critical Issues

- Estuary and nearshore emphasis
- Level of specificity
- Priority of known problems
- Temporal and geographic scale
- Regional differences
- Science – Management Communication