Gulf of Mexico Coastal Ocean Observing System

Ann E. Jochens
Executive Director

GCOOS Board of Directors Meeting
14-15 March 2012
Gulfport, MS
Background Updates

• 2011 GCOOS-RA Progress and Success
• View from U.S. IOOS Office
• National Synthesis of RA Build-Out Plans
• GCOOS Strategic Build-Out Plan
• GCOOS FY12 IOOS Funding Award
GCOOS Strategic Build-Out Plan

- Long-term effort (decades)
- Integration of distributed observational-forecast systems into a System
  - State, Federal, Local Governments
  - Private Industry, NGOs
  - Academia-Research Institutions
- Based on needs of stakeholders

Photo Credit
Gulf of Mexico Sperm Whale Seismic Study Project
U.S. Minerals Management Service, 2002
GCOOS-RA Themes

- Safe and Efficient Marine Operations
- Mitigation of Effects of Coastal Hazards
- Public Health and Safety
- Healthy Ecosystems and Water Quality
- Climate change
Defining the GCOOS Elements

Toward a foundation for a sustained, integrated, operational ocean observing system
Integrated Stakeholder Requirements

- Accurate bathymetry and topography
- Improved coverage of real-time currents
- Improved real-time, offshore meteorological measurements
- Improved forecasts & nowcasts of sea level, winds, waves
- Improved monitoring, forecasts and dissemination of hurricane and wave severity
- Enhanced water quality measurements
- Coastal storm surge/inundation maps for mitigation planning
- Improve real-time forecasts of coastal inundation
- Improved Harmful Algal Bloom/Hypoxia monitoring
- Improve dissemination of information to diverse groups
GCOOS Elements

- Surface Currents and Waves Network
- The GCOOS Mooring Plan
- Glider/AUV
- Satellite Observations and Products
- Bathymetry-Topography
- Autonomous Meteorological Measurements
- Monitoring of River Discharge to the Gulf
- Water Level Network
- Aircraft Observations
- Enhanced PORTS

- Physical Modeling
- Ecosystem Modeling
- Data Management
- Ecosystem Parameter Monitoring
- Harmful Algal Bloom Integrated Observing System
- Beach Quality Monitoring
- Hypoxia Monitoring
The GCOOS Build-Out Plan

• 10-year build-out plan
• Provides a framework for the GCOOS
• Meets the needs of the diverse U.S. Gulf coast stakeholders
• Build-Out Plan version 1 at
  http://gcoos.tamu.edu/BuildOut/GCOOS_BuildoutPlan_V1.pdf
• Comments Welcome (ajochens@tamu.edu)
The Minimum Base Plan

• Continued support of currently deployed assets
  • Fixed assets
    – Moorings in critical ‘blank’ spaces
    – HF radar
    – Beach Conditions Reporting System
  • Mobile Assets
    – AUV/glider fleet
• Minimum Start up costs ~ $20-25M
• Minimum Annual costs ~ $16-20M
• Jobs!
Mooring Transects, Gliders/AUV Tracks, HF Radar Sites

Parameters to be Measured

- Physical (Oceanographic and Meteorological)
- Chemical (including hydrocarbon)
- Biological
- Geological
Harmful Algal Bloom Monitoring

GCOOS & GOMA WQ PIT HAB Working Group: HAB Integrated Observing System Implementation Plan
Hypoxia-Eutrophication

State Waters: Estuaries, Bays, Tidal Reach of Rivers

Working with GOMA Nutrient Reduction and Water Quality PITs

- Hypoxia-Nutrient Data Portal
- Planning for Increased Monitoring
Water Quality: Rivers to the Gulf

GCOOS + GOMA WQ PIT:

- SW FL Water Quality Integration Pilot Project
  - First Data Provider: Sanibel-Captiva Conservation Foundation: Caloosahatchee river and estuary
  - Expanding: Workshop to bring in new Data Providers from Charlotte Harbor to Tampa Bay
- Expand Water Quality Integration Project to All U.S. Gulf States
FY12 funding level: $1,440,586
  – Requested: $4M

Mandated activities: $155,289
  – HRF: minimum of $133K
  – IOOS DMAC extension to biological data services: $17.5K
  – Travel funds to assist NOAA with development of annual strategic initiatives for the GCOOS region: ~$4.8K
Board established priorities for the descoping of FY12 activities:

1. Maintain the Regional Association Governance & Stakeholder Engagement Structure
2. Maintain the Data Management & Data/Products Portal Capability
3. Maintain the Outreach and Education Capability
4. Maintain the flow of real-time data, currently being provided by non-federal entities (local data nodes), into the IOOS data stream
5. Add new, non-federal real-time data providers willing to provide their data and provide support to help them with meeting IOOS standards
6. Provide support, if possible, for key, real-time observation systems that are in jeopardy of closing down
7. Other enhancements
### Table 1. GCOOS-RA Priorities and Associated Budgets for FY2012

<table>
<thead>
<tr>
<th>#</th>
<th>Description</th>
<th># Sub-awards</th>
<th>Revised FY12 Budget</th>
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<tbody>
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<td>1</td>
<td>Maintain the Regional Association Governance and Stakeholder Engagement Structure</td>
<td>0</td>
<td>$370,714</td>
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<td>2</td>
<td>Maintain the IOOS DMAC &amp; Data/Products Portal Capability</td>
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<td>$326,744</td>
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<td>3</td>
<td>Maintain the Outreach and Education Capability</td>
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<td>$140,000</td>
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<td>4</td>
<td>Maintain the flow of real-time data, currently being provided by non-federal entities (local data nodes), into the IOOS data stream</td>
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<td>$523,209</td>
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<td>Provide support, if possible, for key, real-time observation systems that are in jeopardy of closing down</td>
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<td>5</td>
<td>Add new, non-federal real-time data providers willing to provide their data and provide support to help them with meeting IOOS standards*</td>
<td>0</td>
<td>$0</td>
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<td>6</td>
<td>Other enhancements (Ecosystem model; Satellite Products)</td>
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<td>$79,919</td>
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</table>

**Total** 14 $1,440,586

* New data providers are being identified, but will not receive funding under this award