Overview of GCOOS Plans for 2006

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Texas A&M University

For
GCOOS Board of Directors

Meeting of GCOOS Parties
Mobile, AL
11 January 2006
Outline

• Strengthen the organization
• Integrate existing components
• Identify prioritized requirements
• Plan and implement enhancements
• Initiate education and outreach activities
• Monitor activities and measure progress
• 2006 Calendar of GCOOS meetings
Strengthen the GCOOS-Regional Association
The Board continues to review the Memorandum of Agreement enabling the Regional Association and will suggest revisions as needed.

The Board is investigating requirements for insurance.

The Executive Committee is considering advantages of moving to a not-for-profit corporation.
• The Board will complete the third draft of a Business Plan for the GCOOS-RA.

This will require refinement of initial priorities for observations and products and for pilot projects to better integrate existing observing system elements and initiate enhancements.
Integrate Existing Components
In an effort to coordinate and integrate observing system elements of our neighbors to the south, we have established contacts with planners of the Caribbean Regional Association of IOOS and of GOOS MX as well as with representatives of Pemex.

During 2006, we will visit potential partners in Mexico City as well as Villahermosa in Tabasco. Our objectives are:

- To convince Pemex to join the GCOOS-RA and to begin data sharing and
- To encourage an alliance among observing system organizations in Mexico and with those in Central American countries.
We are in the processing of establishing:
- Products and Services Committee
- Data Management and Communication Committee
- Observing Systems Committee

Their first meetings will be during Summer 2006.

These committees will provide guidance for better integration of existing observing elements as well as enhancements to the system.
Observing Systems Committee

Jim Byous, Ocean Specialists (P)
Don Conlee, NDBC (G)
David Heil, Seafood Safety, FL Department of Agriculture (G)
Stephan Howden, University of Southern Mississippi (A)
Gary Jeffress, TAMU Corpus Christi (A)
Dawn Lavoie, USGS (G)
Linda Lillycrop, Mobile District, USACE (G)
Nick Shay, University of Miami (A)
Jan van Smirren, Fugro GEOS (P)
Neil Trenaman, RD Instruments (P)
Mike Vogel, Shell (P)
Nan Walker, LSU (A)
Bob Rogers, MMS (G)
Buzz Martin, GCOOS Board Liaison
Mark Luther, GCOOS Board Liaison
Data Management and Communications Committee

Steve Anderson  Horizon Martin  (P)
Brenda Babin, LUMCON  (A)
Steve Beaudet, SAIC/NDBC  (P/G)
Bill Burnett, NDBC  (G)
Jennifer Colee, Mobile District, USACE  (G)
Scott Duff, TAMU Corpus Christi  (A)
Matthew Howard, TAMU  (A)
Edward Kearns, (G) South Florida Natural Resources Center
Jay Ratcliff , New Orleans District, USACE  (G)
Robert Raye, Shell  (P)
Vembu Subramanian, USF  (A)
Susan Starke, NCDDC
Alfredo Prelat, GCOOS Board liaison
Jan van Smirren, GCOOS Board liaison
Products and Services Committee

Russell Beard, NCDDC (G)
Frank Bub, NAVOCEANO (G)
Richard Crout, National Data Buoy Center (G)
Mark Dortch, Vicksburg District, USACE (G)
Dave Driver, BP (P)
Robert Hetland, Texas A&M University (A)
Alexis Lugo-Fernandez, Minerals Management Service (G)
Kathleen O'Keefe, Florida (G)
Frank Muller-Karger, University of South Florida (A)
Patrick Hogan, Naval Research Laboratory (G)
Mitch Roffer, Roffer's Fishing Service (P)
Nancy Rabalais, GCOOS Board liaison
Raymond Toll, GCOOS Board liaison
Identify Prioritized Requirements for Data and Products
We have a GCOOS Stakeholder Council

Vern Asper (A) University of Southern Mississippi
Stuart Burbach (P) Retired, Pogo Oil
David Buzan (G) TX Parks & Wildlife Department
Thomas Chance (P) C&C Technologies, Inc.
Tricia Clark (P) Skaugen Petro Trans
Cort Cooper (P) Chevron (Liaison to GCOOS Board)
David M. Donaldson (G) Gulf States Marine Fisheries Commission
Jim Feeney (P) Horizon Marine
Tom Fry (P) NOIA
Tom Gustafson (A) Nova Southeastern University
Paul Kelly (P) Rowan Industries
Chris Oynes (G) Minerals Management Service
Robert Stickney (A/G) Texas Sea Grant (Council Chair)
Kerry St. Pé (G) Barataria-Terrebonne Estuary Program
Dave Yeager (G) Mobile Bay Estuary Program

This Council will advise on ways to identify user requirements and build advocacy.
Focused Stakeholder Workshops

The GCOOS-RA is holding a series of stakeholder workshops focused on specific sectors of potential users of coastal ocean data and/or products. The primary objective is to identify prioritized measurements and products of value to these sectors. This is important to build the GCOOS user base, identify and implement needed observing system elements, provide rationale and priorities for developing GCOOS, and build advocacy.
Harmful Algal Blooms: The Role of GCOOS in Detection, Monitoring, and Prediction

13-15 April 2004, St. Petersburg, FL

• To review HAB data and information needs of agencies, managers, and scientists
• To assess current capabilities
• To formulate an action plan to improve capabilities
HABS Workshop

- 45 participants representing 31 organizations.

- Formal presentations and breakout sessions focused on needs and priorities.

- Agreement on needs for observations, model development, common standards and protocols, research and development.

Objectives
• Obtain agreement on a short list of recommended products of highest priority to these industry sectors.
• Identify users for these priority products.
• Obtain guidance regarding what observations are needed to produce these products.
• Discuss which products are for common use, and so likely produced at government expense, and which are niche products, best produced by the private sector.

Participation
• 47 attendees; representing oil and gas companies, state and federal government, offshore service companies, environmental forecasting firms, data management companies, and academia.

Result
• Identified priority needs for data and products.
# Identified High Priority Needs

<table>
<thead>
<tr>
<th>Product Needs</th>
<th>Measurement Needs</th>
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<tbody>
<tr>
<td>Hurricane Severity Forecasts</td>
<td>Hurricane severity model improvement</td>
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<tr>
<td>Surface current forecast maps</td>
<td>Operational satellite altimeters (near real-time)</td>
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<tr>
<td>Measurement &amp; Product archive</td>
<td>Operational satellite radiometers (near real-time)</td>
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<td>Operation maps of SSTs</td>
<td>Operational satellite wind (QuikSat)</td>
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<tr>
<td>Forecast maps of 3-D deepwater currents</td>
<td>2Hz wave data (not real-time)</td>
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<tr>
<td>Forecast maps of winds and waves</td>
<td>Improve hurricane severity forecasts (real-time)</td>
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<tr>
<td>3-D current forecasts on shelf</td>
<td>Offshore meteorology measurements (real-time)</td>
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<tr>
<td>Probability maps of bottom hazards</td>
<td>Upper column current and temp/salinity profiles</td>
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<td></td>
<td>Marine mammals and sea turtle sightings</td>
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<td></td>
<td>High resolution coastal bathymetry, topography, and subsidence rates</td>
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Future Focused Stakeholder Workshops

- Fisheries — regulatory, commercial, and recreational
  Lamkin, NOAA SE Fisheries Science Center, suggested this effort begin with a short workshop to introduce IOOS and the RAs to all fisheries sectors: regulatory, commercial, recreational, and academic. That would be followed by in-depth workshops to develop requirements of the sectors separately. A steering committee for the initial workshop, including a representative of SECOORA, has been formed.

- Storm surge and flooding—energy management; Joint CSC/NOAA-SECOORA-GCOOS sponsorship. Discussions scheduled for January 23 at CSC.

- Maritime transportation—including shipping agents, port authorities, shipping lines, and pilots.

- Recreational boating, including marinas, power squadrons, yacht clubs.

- Water quality.

Key on Gulf of Mexico Alliance Plans and on results of U.S. IOOS Public Health Workshop scheduled for 23-25 January 2006.
Plan and Implement Enhancements
A pilot project is defined as an organized, planned set of activities with focused objectives designed to provide an evaluation of technology, methods, or concepts within a defined schedule and having the overall goal of advancing the development of the sustained, integrated ocean observing system. A pilot project may be targeted to improvements in measurements, data management, products, education, outreach or a combination of these. Each GCOOS Pilot Project will have a tangible result within a known time frame on which we can build for the future. Specifically, the outcome of a pilot project should result in a recommended pathway for converting the workshop deliverables into an operational product.
Based on the prioritized user requirements for data and products, Pilot Projects will be prepared and proposed for funding. This will ensure user participation in enhancements and user advocacy.

We already have suggested Pilot Projects and observing system enhancements based on workshops focused on harmful algal bloom prediction, detection and forecasting and on needs of the oil, gas and related private sectors.
Pilot projects under consideration include:

(1) Instrument tankers that occupy regular tracks between Texas and Florida ports with flow-through surface parameters (T/S, Chl, nutrients, DO), ADCPs, and meteorological sensors with real-time telemetry.

(2) Most county/state health departments make regular water quality measurements for human pathogens. These take 24 to 48 hours to culture and obtain results. These observations are placed into databases that could be made internet-accessible. Linking these together into a GOM-wide beach health indicator map would be very useful to beach managers. Ultimately, such observations could be linked with physical transport observations and models to give predictive capability.

(3) Pilot projects focused on products recommended by the GCOOS and the Private Sector: Oil and Gas and Related Industry Workshop are

- Surface Current Forecast Maps (H) & Forecast Maps of 3-D Deepwater Currents
- Measurement & Products Archive (H)
- Marine Mammal & Turtle maps (M)
- Probability Maps of bottom Hazards (H-) and Maps of Hydrocarbon seeps (L)
- Improving forecasting of hurricane severity using high density network of humidity sensors on offshore platforms.

(4) Initiate a pilot GCOOS Operations Center.
A Program of GOOS and GCOOS Education and Outreach Activities
GCOOS Education and Outreach Council

**Alabama**
John Dindo, Dauphin Island Sea Lab  
Lloyd Scott, Mobile Bay School District  
Margaret Sedlecky, Weeks Bay NERR  
Lee Yokel, Mobile Bay NEP

**Florida**
Mike Spranger, UF/Florida Sea Grant *(Liaison to GCOOS Board)*  
Gary Lytton, Rookery Bay NERR  
Chris Verlinde, Santa Rosa County Extension  
Charlene Mauro, Navarre High School

**Out of Region**
Rusty Low, UCAR-DLESE

**Louisiana**
Jessica Katler, LUMCON  
Dianne Lindstedt, LSU Sea Grant  
Jean May-Brett, LA Dept. of Education

**Mississippi**
Sharon Walker, J.L. Scott Marine Center  
*(Liaison to GCOOS Board)*  
Joe Swaykos, Stennis Space Center  
Jennifer Buchanan, Grand Bay NERR

**Texas**
Shelly Du Puy, Flower Garden Banks National Marine Sanctuary  
Rick Tinnin, University of Texas  
Ralph Rayburn, Texas Sea Grant  
Rob Smith, Shell Inc.  
Lisa Spence, NASA
The Education and Outreach Council will hold its initial meeting in April 2006.

Priorities for Council actions were suggested by the 2004 meeting to consider GCOOS Education and Outreach activities. They have been considered and endorsed by the Board. These actions include:

- Hire a GCOOS Regional Education/Outreach Coordinator.
- Organize initial meeting of GCOOS Education and Outreach Council (EOC).
- Conduct intensive needs assessments among specific user groups on what education/outreach products and services are needed.
- Inventory existing IOOS materials available for use in education and outreach activities.
- Identify groups that can extend GCOOS Education and Outreach activities.
Monitor Activities and Measure Progress
The GCOOS Board assisted by the Office has developed a draft discussion document on "Suggested Functions and Elements of a Regional Operations Center for an IOOS Regional Association".

The Board believes that a 24/7 GCOOS Operations Center will be required to provide system oversight to operational activities. Its primary function will be to monitor and report the availability of all near real-time data streams and regularly-produced products offered by provider members of the GCOOS-RA.
During 2006, the Board intends to propose the establishment of an Operations Center as a Pilot Project. The lessons learned will be of broad use to IOOS Regional Associations.

It may prove feasible to centralize many of the functions into a national IOOS Operations Center, leaving special functions to the relevant regional centers. This pilot will enable decisions of this type to be made.
2006 GCOOS Workshops and Meetings

Board of Directors Meeting, 12-13 January 2006, Mobile, AL

Meeting of National Federation of Regional Associations, 9-10 March 2006, DC

The State of the Gulf Summit 2005+, 28-30 March 2006, Corpus Christi, TX

Education and Outreach Council Meeting, April 2006, Pensacola, FL

Third IOOS Implementation Conference, May 2006, DC Area

Meetings of Observing Systems Committee, Data Management and Communication Committee, and Products and Services Committee, Summer 2006, Site TBD

Meetings with Mexican counterparts, June 2006, Mexico City and Tobasco

Board of Directors Meeting, August 2006, Site TBD

Fisheries Industries Workshop, Summer 2006, Site TBD

Storm Surge (GCOOS/SEACOOS/NOAA CSC) Workshop, Site TBD