

**GCOOS-RA Board of Directors Meeting
25-26 August 2005
Sofitel Houston Hotel
Houston, Texas**

Thursday, 25 August 2005

1.0 Opening of the Meeting

1.1 Welcome, introductions, logistics

The meeting was called to order at 0815 hr by Worth Nowlin, who welcomed the newly elected Board members to Houston for their first GCOOS-RA Board of Directors meeting. Nowlin noted that Alfredo Prelat and Chris Oynes would not be attending; other Board members were in attendance as was Dr. Ann Jochens. Attendees with affiliations are given in Appendix 1.

Each attendee was invited to give his/her affiliation, regular job description, and interactions to date with GCOOS, the U.S. Integrated Ocean Observing System and the Global Ocean Observing System.

Nowlin reviewed logistics for the meeting.

1.2 Selection of interim meeting chair

It was moved, seconded and passed without dissent to have Nowlin serve as the interim meeting chair for the first day. This allowed members to become better acquainted prior to election of the Executive Committee on day two.

1.3 Adoption of meeting agenda

The draft agenda was provisionally adopted with the addition of item 3.8 IOOS Public Health Workshop, as suggested by Nancy Rabalais. Later in the meeting, Nowlin introduced an additional report on Results of July 25-26 IOOS Federal Summit as agenda item 3.9. The final agenda is given as Appendix 2.

The documents list for the meeting is given as Appendix 3. All are available electronically at <http://ocean.tamu.edu/GCOOS/BoD.htm>.

2.0 Memorandum of Agreement (MoA)

2.1 Changes to the MoA

Prior to the meeting, recommended changes to the MOA underpinning the GCOOS-RA had been prepared by Nowlin and Jochens and circulated for comments by all Board members. These recommended changes were suggested at the January 2005 GCOOS Stakeholders Meeting by Parties and potential Parties to the MoA and entities excluded by the original MoA. Notes regarding these recommended changes follow:

Section VI, b: These changes are required for clarification and to remove an error in timing.

Section VI, c: These changes clarify what is meant by "voting Parties", allow for individuals to become voting parties (a desire expressed at the January 2005 stakeholder meeting) provided they contribute resources, and create a new class of membership, "Associates", by which non-U.S. entities may participate in the GCOOS-RA.

Section VII: These changes are editorial.

Section VIII: These changes clarify the conditions under which GCOOS-RA funds can be used for advocacy. This has been requested by potential parties and is now consistent with the MOA of the northwestern Regional Association, NANOOS.

Section XIII: This new section further defines the role and responsibilities of "Associates".

Section XIV: Changes to this renumbered section (1) further clarify the distinctions between Parties and Associates and (2) provide for compliance with the dispute resolution policies to which Parties must otherwise adhere.

After thorough discussion, the recommended changes to the MoA were accepted by the Board with some editorial modifications. In addition, clarification of the geographical extent of the GCOOS was suggested in Section II, paragraph two. The MoA with resulting changes is given in Appendix 4.

Changes to the GCOOS-RA MoA must be agreed by a majority of the voting Parties to the MoA. The Board recommended without dissent that the Parties to the MoA be asked to vote in favor of the accepted changes.

[Action: The GCOOS Office will send to all voting Parties a copy of the MoA with changes highlighted. On behalf of the Board, Parties will be asked to vote in favor of the changes. The request will include a note that according to Section XIV.2 of the MoA any Party may withdraw from the GCOOS-RA should they disagree with the MoA in revised form or for any other reason.]

2.2 Fiscal sponsor

The MoA requires that the GCOOS-RA select one or more "fiscal sponsors" willing and able to apply for grants and contracts, implement funded grants and contracts, and, in general, accept the overall coordination of funds among GCOOS Parties as required. Terms and conditions of sponsorship are to be detailed in a separate document between the GCOOS-RA and the sponsor.

In response to a request from Nowlin on behalf of the GCOOS-RA, the Texas A&M Research Foundation offered in writing that they would be willing to act as a fiscal sponsor for a very reasonable indirect cost rate. The Foundation meets all the requirements of a fiscal sponsor. The Board voted without dissent to accept the agreement with the Foundation that they become a fiscal sponsor for the RA.

3.0 GCOOS-related Activities/Reports

3.1 Second Annual IOOS Implementation Conference

This conference was held May 3-5, 2005. The plan was that the Ocean.US Office would prepare a Second Annual IOOS Development Plan. Due to lack of funds, the Plan was not ready in time for the Board meeting.

[Action: When the Plan is complete it will be sent by the GCOOS Office to the Board for information and comment. Board will formulate suggestions on how the Annual IOOS Implementation Conference might be modified to result in improved annual Plans.]

3.2 Meeting of National Federation of Regional Associations (NFRA)

The first NFRA meeting was held May 2, 2005, in Washington, DC. Based on that meeting a series of recommendations regarding the development of the U.S. IOOS was sent to the Ocean.US Executive Committee. The Board was informed of the recommendations and the Executive Committees' response (Appendix 5).

3.3 Gulf of Mexico Fisheries Management Council

Nowlin was invited to and attended a meeting of the Gulf of Mexico Fisheries Management Council held May 9-11, 2005, in Biloxi, MS. He made a plenary presentation introducing the U.S. IOOS and giving some detail regarding GCOOS. That was well accepted. Nowlin has since received invitations to subsequent Council meetings and has been asked to provide data needed for council decisions.

It is important that continuing contact be maintained between GCOOS-RA and the Council.

A related matter is the invitation to GCOOS by Nancy Thompson, Director of the Southeast Science Fisheries Center in Miami, to attend a meeting with Center personnel and

representatives from AOML/NOAA in Miami on October 4, 2005. The purpose is to discuss NOAA involvement in GCOOS. Nowlin will attend but one or more additional fishery experts from GCOOS might also attend.

[Action: Identify and invite other attendees from GCOOS with fishery expertise.]

3.4 Gulf of Mexico Alliance

The Gulf of Mexico Alliance is an effort lead by the five U.S. Gulf states to involve major constituent groups toward the goal of achieving sustainable economies and healthy marine environments within the Gulf of Mexico region. The Alliance has identified five priority focus areas, which represent a starting point for action:

- Reductions in nutrient loading;
- Improvement of Gulf water quality, with emphasis on beaches and shellfish beds;
- Restoration of coastal wetlands;
- Identification of Gulf habitats to inform management; and
- Gulf of Mexico environmental education.

Beginning in early summer 2005, series of meetings have been held throughout the Gulf region to prepare action plans for these five focus areas. Plans are to hold a State of the Gulf Summit 2005 on November 7-9, 2005, in Corpus Christi, TX. This will create an opportunity to build awareness, understanding, and an action plan. Five GCOOS-RA Board members have been invited and plan to attend.

EPA and NOAA/NOS have been especially involved in Alliance planning. On July 20, 2005, Don Roman, Worth Nowlin, and Rick DeVoe (via phone) met in New Orleans with Bryon Griffith, EPA Gulf of Mexico Program, to learn his views of the relative roles of the Alliance and GCOOS. Griffith stated his belief that the Alliance would set priority requirements. Some of those requirements would be for ocean observations and products. GCOOS might be able to help provide those data and products. The Alliance might be able to assist GCOOS by helping garner resources. An expanded statement of relative roles was prepared by Nowlin and sent on August 24, 2005, to a number of Alliance planners on the Gulf. The Board felt that statement (given as Appendix 6) was a good expression of the desired relative roles of GCOOS vis-à-vis associations, such as the Gulf of Mexico Alliance, that seek to bring focus to the requirements of constituent groups for environmental information.

The Board agreed that GCOOS must take into consideration the five areas of state interest being given priority by the Alliance. The Alliance could be a powerful impetus for development and perhaps new resources.

3.5 Energy Sector-GCOOS Workshop in November 2005

Nowlin reviewed for the Board plans for a Workshop between GCOOS and the Energy producing sector and related private sectors to be held November 2-5, 2005. The draft agenda is given in Appendix 7. Several Board members were on the Steering Committee for the workshop.

3.6 Status of IOOS federal legislation

It was pointed out that Glen Mandigo is working as an advocate for passage of a bill to authorize the U.S. IOOS, including Regional Associations. Mandigo produces a monthly legislative update for the Ocean Observation System Coalition.

[Action: The GCOOS Office will ask Mandigo to add van Smirren, Spranger, Cooper, and Rabalais to his distribution list. Other Board members already receive these legislative updates.]

3.7 Status of GCOOS-RA finances

A proposal was prepared in November 2004 for three years of support (in the amount of \$1.1 M) to develop the GCOOS-RA. That proposal was reviewed by the Coastal

Services Center of NOS/NOAA and was subsequently revised and resubmitted. It has been approved for funding but the granting process has been delayed for many months.

Nowlin presented copies of the budget detail and a time line of proposed activities and milestones. It was agreed that modifications to the time line were necessary because many activities already are completed.

[Action: When grant is made, the GCOOS Office will revise the time line and submit to the Board for approval.]

3.8 IOOS Public Health Workshop

An IOOS Public Health Workshop is being planned for January 23-25, 2006, in St. Petersburg FL. The workshop goals are to:

1. Identify decision processes and critical information gaps experienced by coastal public health officials that could be filled by the Integrated Ocean Observing System, with a specific focus on reducing the risk of illness or injury from direct human exposure to coastal waters from microbial pathogens, marine biotoxins and harmful algal blooms, and emerging coastal public health threats.
2. Identify coastal water quality information needs to make more timely public health, beach closure or advisory decisions through the use of predictive models and improved monitoring techniques, including data and information that will improve local and regional climate models used to predict water (marine)-borne diseases.
3. Prioritize data and information parameters required to fill the above gaps.
4. Develop a mechanism to maintain the involvement of this community (beach managers and public health officials) in the efforts to ensure the flow of accurate, integrated and sustained ocean and coastal data and information for public health benefit.

The workshop deliverables are:

1. Blue print for ocean and coastal observations for public health--relevant findings of this workshop and guidance for IOOS.
2. Description of one or more pilot projects for developing or testing new products or information, with performance metrics identified. Such a description could be used by NOPP agencies in considering options for IOOS pilot projects.
3. List of next steps, responsibilities, and pathways for ongoing communication.

Travel funding is available for one representative from each Regional Association. Dave Buzan, Texas Parks and Wildlife Department, will attend on behalf of GCOOS. Buzan is a representative of state agency making operational decisions regarding HABs and pathogens.

3.9 July 25-26 IOOS Federal Summit

On July 25-26, 2006, a summit meeting of representatives from federal agencies on the Ocean.US Executive Committee, David Martin (representing the NFRA), and Nowlin (representing the U.S. GOOS Steering Committee) was held. Discussed were: the relationships between Regional Associations and Regional Ocean Council as called for in the Ocean Policy Commission Report of 2005; a funding model for IOOS; federal involvement in regional development; the cost of regional development; and Ocean.US checklist for governance and business criteria for IOOS Regional Associations (see agenda item 8).

The agenda for and a draft statement of outcomes of this summit are given as Appendix 8. Nowlin noted that the summit outcomes failed to reflect the results of several decisions made; Nowlin had so informed Tom Malone of Ocean.US Office.

The Board felt that summit decisions in two areas were flawed. They felt that forming regional Federal Working Groups for each Regional Association and conveying information to the Regional Boards by one member of such Working Groups would not result in effective communication. Also they thought that a rigorous analysis of future resource needs is impractical for most RAs at this time.

[Action: Don Roman and Mark Luther agreed to draft a statement from the Board which would be circulated by the GCOOS Office for agreement and then conveyed to the Ocean.US Office.]

4.0 Establish GCOOS Councils and Committees

The Board had received the short bios of candidates nominated by stakeholders for GCOOS Councils and Committees. Also they had terms of reference for these groups as spelled out in the MoA. Prior to the meeting one or two Board members were requested to screen nominees and prepare recommendations for membership. Mike Spranger and Sharon Walker led discussion of the Education and Outreach Council; Don Roman and Cort Cooper for the Stakeholder Council; Buzz Martin and Mark Luther for the Observing Systems Committee; Jan van Smirren for the Data Management and Communications Committee; Nancy Rabalais and Ray Toll for the Products and Services Committee; and Worth Nowlin for the Membership Committee.

After lengthy discussion final slates of potential members were selected for all Councils and Committees (Appendix 9). Board member Cooper agreed to serve on the Stakeholders Council and both Spranger and Walker agreed to serve on the Education and Outreach Council. This fulfills a requirement of the Memorandum of Agreement.

[Actions: (1) Board members were assigned to contact potential members who had not been previously nominated and so had not been contacted prior to the meeting as to their willingness to serve. (2) The GCOOS Office will contact all members agreeing to serve and will assemble brief bios from all. The bios will be shared with other members of councils or committees. (3) The GCOOS Office will inquire of members of the Stakeholders Council as to their willingness to serve as chairperson. That information as well as bios of the members will be sent to the Membership Committee. (4) The Membership Committee will organize an election of a chairperson for the Stakeholders Council. (5) The GCOOS Office, working with the Executive Committee, will schedule initial meetings of Councils and Committees according to the general timetable agreed on after the next GCOOS-RA development grant is made.]

5.0 GCOOS-RA Business Plan

The first draft Business Plan was prepared by a committee chaired by Stephan Howden (USM) and presented at the GCOOS Stakeholder Meeting in January 2005. There many suggestions for improvements and commitments to assist were made. Following that meeting, Stephan Howden incorporated comments received and the Plan was lightly edited by Nowlin and Jochens to produce the second draft. The Board considered that draft.

Clearly, considerable improvement to the Business Plan will be necessary. Some areas of needed improvement are:

- Added attention to non-physical variables and products/services therefrom;
- Addition of proper emphasis on Education and Outreach activities;
- Re-consideration of reliance on IOOS to provide an IOOS Operations Center as opposed to creating a stand-alone GCOOS Operations Center;
- Inclusion of plans for additional Stakeholder workshops and pilot projects;
- Revision of the funding base for current GCOOS observational and product producing activities;
- Reconsideration of the high priority enhancements to the National Backbone in the Gulf of Mexico and of the high priority enhancements and additions to activities coordinated/managed by the GCOOS-RA. This will include revised out year budget estimates and sources.

[Actions: (1) Board members agreed to read the Business Plan and add changes/suggestions/comments in track changes. These documents will be sent to Jochens for incorporation into a revised Plan. (2) Nowlin and Jochens will develop a short list of potential specific stakeholder workshops to be supported over the near year. Board will prioritize. Suggestions include:

- Oil and gas industry — planned for 2-4 November 2005
- Fisheries — commercial and recreational
- Storm surge and flooding — energy management; Joint CSC/NOAA-SECOORA-GCOOS
- Maritime transportation, including shipping agents, port authorities, shipping lines, 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 January 2006

(3) GCOOS Office and Executive Committee will review, as feasible, current priorities before the Stakeholder and Education and Outreach Councils meet. (4) GCOOS Office with Executive Committee will develop a short list of potential pilot projects to be considered by the Councils. One such mentioned was a pilot to aggregate Gulf wide water quality measurements. (5) The GCOOS Office will provide the Board with the set of comments on the Business Plan.]

6.0 Ratification of GCOOS Representatives to the NFRA and Coordinators

6.1 It was unanimously agreed that Robert (Buzz) Martin and Raymond Toll should continue to serve as the GCOOS-RA representatives to the National Federation of Regional Associations.

6.2 Ann E. Jochens was unanimously appointed as GCOOS-RA Regional Coordinator supported part time through the GCOOS Office. Likewise, Matthew K. Howard, who serves as the NFRA representative to the IOOS DMAC Steering Team, was unanimously appointed as the DMAC Coordinator for the GCOOS-RA.

7.0 Election of Executive Committee

Nancy Rabalais offered to chair these elections and her offer was accepted. Don Roman was elected by acclamation to a two-year term as chairman of the GCOOS-RA Board of Directors. The following Board members were elected without dissent to one-year terms on the Executive Committee: Raymond Toll, Robert (Buzz) Martin, Mike Spranger, and Worth Nowlin.

This selection gives representation from government, private sector, academia, and education and outreach.

8.0 Certification of the GCOOS-RA

To determine what remains to be done for certification of the GCOOS-RA, the Board evaluated the Memorandum of Agreement (Memorandum of Agreement) and the Draft Business Plan of the GCOOS-RA against the Ocean.US checklists of the criteria for a governance structure (Appendix 10) and a business plan (Appendix 11). Each item on these checklists was reviewed for a yes (Y) or no (N) determination of completion. Applicable page numbers where each item is addressed are indicated on these checklists where possible. The goal is to have the material ready for submission in March 2006.

Under the governance structure criteria, discussion centered on the issues of liability and insurability, what was meant by "binding guidelines" of the NFRA, and how the Memorandum of Agreement should cover the development of metrics for system performance. The Board agreed that the GCOOS-RA Memorandum of Agreement adequately addresses all but two of the criteria: liability and insurability. No determination could be made on these two items without further information. It was thought there are no NFRA binding guidelines at present; the NFRA representatives for GCOOS-RA will track this issue for the Board. It was decided that the Memorandum of Agreement provides for the development of metrics to evaluate system performance by creation and responsibilities of the Observing Systems Committee. Serious consideration leading to action items was given to issues of liability and insurability.

[Action items identified for further evaluation are:

1. Evaluate what governing structures are available and whether a structure other than a Memorandum of Agreement would better meet the needs of the GCOOS (Executive Committee to research).
 - a. Circulate governance structure materials (Worth Nowlin)
 - b. Review and evaluate materials (Board of Directors)
2. Add a disclaimer on use of data to the GCOOS-RA and associated web sites. NOAA COAPS disclaimer might be used as a model (GCOOS-RA Office).
3. Evaluate the liability and insurability issues (Executive Committee to research).
 - a. Circulate the liability memo from Sea Grant Law Center (Mark Luther)
 - b. Investigate getting a general insurance policy to cover liability from injuries at GCOOS-RA meetings (GCOOS-RA Office; 1 October 2005)
 - c. Evaluate liability associated with data users (e.g., GOMOOS insures against losses) and accidents involving observing platforms (ships, buoys, etc.)
 - d. Evaluate the personal liability of the Board members
 - e. Have Sea Grant Law Center look into insurability of various scenarios, e.g., equipment loss, liability from data or products provided by GCOOS-RA directly or that others provide through the GCOOS-RA (Worth Nowlin)
 - f. Provide a status report to the Board on these issues (Executive Committee; 1 December 2005).]

Under the business plan criteria, the Board agreed that there remain a number of improvements required in the draft Business Plan before it could meet the criteria for certification. They concluded that, in general, the draft Business Plan provides the necessary processes, procedures, and responsible Committees that will lead to the accomplishment of the goals of each criterion. They further concluded that the Business Plan itself should not contain all the details, but that such details should be included in annually modified Appendices to or Committee Reports referenced in the Business Plan.

[Action items are

1. Review and comment on draft Business Plan (Board of Directors; 1 October 2005)
2. Augment education and outreach material in the Business Plan (Mike Spranger and Sharon Walker).
3. Add to the Business Plan (Worth Nowlin)
 - a. Maintenance of the systems already operational to be added to the priority list
 - b. Table with non-federal funding levels and sources for out years to be added after Fig. 4-1.
 - c. GoM success stories (5 examples; e.g., Tampa Bay Ports)
4. Discuss with other RAs how they are going to handle the Operations Center aspects (Ray Toll).
5. Add page numbers from the pertinent Business Plan sections to the certification criteria checklist (Ann Jochens; see Appendix 11).
6. Nowlin to send to Board members the web site for JCOMM metrics to consider as an example.]

9.0 Education and Outreach

With brief discussion the priorities for GCOOS Education and Outreach activities presented in advance by Mike Spranger and Sharon Walker were approved. They are given as Appendix 12.

It was noted by Sharon Walker, who has been working with others to prepare an action plan for the Gulf of Mexico Alliance, that as of August 11, 2005, the Environmental Education Priorities for the Alliance were:

- Develop an inventory of successful professional development programs and work with appropriate university education faculty and/or informal educators in “bridging the gap” between their research and the relevance of their data in order to enhance the content knowledge and instructional strategies of the pre-college teachers.

- Review, revise, and/or develop curricula—as hard copy or in electronic version—that can be adopted by State Boards of Education for incorporation in statewide learning objectives.
- Understand the Seven Essential Principles and Fundamental Concepts about the functioning of the ocean.
- Market current programs for underrepresented and underserved students toward Gulf State populations.
- Develop exhibits, programs for festivals, aquariums, museums, and science centers that reflect the Gulf of Mexico Alliance Education and Outreach Network’s message.
- Identify, evaluate, and integrate existing economic valuation studies for a broader Gulf wide perspective.
- Create recommendations for state line item budgets for K-20, as well as public and adult continuing education for Gulf of Alliance strategic priorities; and request Congress to set aside Outer Continental Shelf revenues for environmental education, working with five Gulf States and Coastal States Organization.

[Actions: (1) Board and GCOOS Regional Coordinator to keep informed of Gulf of Mexico Alliance activities in Environmental Education and inform Education and Outreach Council for their consideration. (2) Priorities for GCOOS Education and Outreach to be transmitted to Education and Outreach Council prior to their first meeting.]

10.0 Other Business

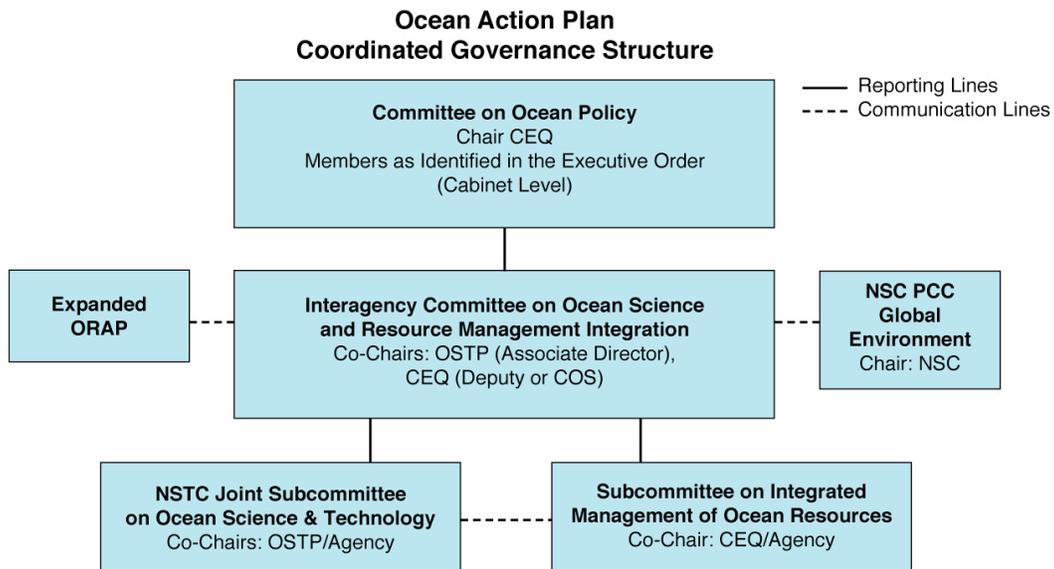
The Board discussed the need for GCOOS publicity directed to: (1) Entities external to the Gulf such as NFRA and Ocean.US, and (2) Entities within the Gulf Region.

[Action: The GCOOS Office should develop a calendar of meetings with potential for GCOOS discussions.]

The Board decided to schedule the first Stakeholders Council meeting sometime during the week of 9-16 January 2006. The next Board of Directors meeting will be back-to-back with the Stakeholder Council Meeting. The Parties to the MoA will be invited to the Board meeting and the first morning of that meeting will include a review of GCOOS-RA activities and plans to date.

It was agreed that [Action: The Regional Coordinator will arrange a conference call among Board Members and self every two months].

Ray Toll introduced for information the current coordinated Governance Structure for the U.S. Ocean Action Plan (see figure below).



He noted that the Expanded ORAP will likely be renamed the Ocean Research and Resources Advisory Group. He also noted that the NSTC Joint Committee on Ocean Science and Technology deals principally with research while the Subcommittee on Integrated Management of Ocean Resources deals principally with resources.

Adjournment

Don Roman adjourned the Board meeting at noon on August 26, 2005.

AFTER WORD: Many of the planned meetings and activities discussed in the minutes have been postponed or have unknown dispositions because of the impacts of Hurricanes Katrina and Rita on the Gulf Coast.

Appendix 1. GCOOS Board of Directors meeting attendees with affiliations

Cortis Cooper	ChevronTexaco
Raymond Toll	Science Applications International Corporation
Jan van Smirren	Fugro GEOS
Robert (Buzz) Martin	Texas General Land Office
Don Roman	University of Southern Mississippi
Mark Luther	University of South Florida
Worth Nowlin	Texas A&M University
Nancy Rabalais	Louisiana Universities Marine Consortium
Mike Spranger	Florida Sea Grant Program
Sharon Walker	J. L. Scott Marine Education Center & Aquarium
Ann Jochens	Texas A&M University

Appendix 2.

GCOOS-RA Board of Directors Meeting

25-26 August 2005

Sofitel Houston Hotel

425 N. Sam Houston Parkway East

Houston, Texas 77060

Agenda

The objectives of this meeting are given in BD-I/2. All documents labeled BD-I/X are available via the meeting web site accessible via <http://ocean.tamu.edu/GCOOS/BoD.htm>. Other documents listed in this agenda have or will be mailed to Board members.

Thursday, 26 August 2005

0800 Coffee and juice

1. Opening of Meeting

0815

1.1 Welcome, Introductions, Logistics

Each member would be asked to give his/her affiliation, regular job description, and interactions to date with GCOOS or IOOS.

1.2 Selection of interim chair to conduct meeting prior to election

Nowlin is willing to serve as the interim chair for day one.

1.3 Adoption of agenda [Doc. BD-I/3]

2. Memorandum of Agreement

0900

2.1 Recommend necessary changes to the MoA. They must be approved by a majority of the Parties. [Doc. BD-I/7]

Consensus will be sought by email prior to the meeting.

2.2 The MoA requires that the Board select a "fiscal sponsor". We have an offer from the Texas A&M Research Foundation (TAMRF). [Doc. BD-I/6, TAMRF Articles of Incorporation and By-Laws (mailed 8/1/05)]

3. GCOOS-related activities/reports

0930

3.1 Second Annual IOOS Implementation Conference

Consider how to develop comments to the resulting Annual IOOS Development Plan

3.2 Meeting of National Federation of RAs

3.3 Gulf of Mexico Fisheries Management Council

1000 Break

1015

3.4 Gulf of Mexico Alliance [<http://www.dep.state.fl.us/gulf/default.htm>]

3.5 Energy Sector - GCOOS meeting in November 2005 [Draft agenda and list of invitees]

3.6 Status of IOOS legislation

3.7 Status of GCOOS-RA finances

3.8 IOOS Public Health Workshop

3.9 July 25-26 IOOS Federal Summit

4. Establish GCOOS Councils and Committees

[Docs. BD-I/4a&b which gives nominees for each entity, Doc. BD-I/10 which gives

bios of the nominees, Doc. BD-I/7 which contains terms of reference for all entities, and terms of reference emailed on 08/17/05.]

1100

Consider any special instructions not included in terms of reference; consider and appoint members to all councils and committees. [Two Board members have been asked to consider nominees for each council/committee, to make recommendations, and to lead the discussion of nominees at the meeting.]

- 4.1 Stakeholder Council (Cort Cooper and Don Roman)
- 4.2 Education and Outreach Council (Mike Spranger and Sharon Walker)
- 4.3 Observing Systems Committee (Mark Luther and Buzz Martin)
- 4.4 DMAC Committee (Alfredo Prelat and Jan van Smirren)
- 4.5 Products and Services Committee (Nancy Rabalais and Raymond Toll)

1200 Lunch

1330 Conclude agenda item 4

5. *GCOOS-RA Business Plan*

1400

- 5.1 Discussion of draft Business Plan [Doc BD-I/5]
- 5.2 Make assignments needed to complete. [Doc. BD-I/11 gives requirements as stated by Ocean.US.]

1530 Break

1600 Conclude agenda item 5.

6. *Ratification of NFRA Representatives and Coordinators*

1630

- 6.1 GCOOS-RA representatives to the NFRA
Robert (Buzz) Martin and Raymond Toll now serve in this capacity and are willing to continue.
- 6.2 Initial Regional Coordinator and DMAC Coordinator for GCOOS Office
Ann Jochens is the interim Regional Coordinator and Matthew Howard is the interim DMAC Coordinator; Howard also serves as the representative from the National Federation of Regional Associations to the IOOS DMAC Steering Committee. [CVs of Jochens and Howard mailed]

1700 Complete any unfinished business

1730 Adjourn for day

Friday, 27 August 2005

0800 Coffee and juice

7. *Election of Executive Committee*

0830

The Board will elect a Chair to serve for two years and four other members of an Executive Committee. [Brief Bios of Board members BD-I/9]

8. *Certification of the GCOOS-RA*

0900

Determine what remains to be done prior to submission of materials to Ocean.US with request that the RA be certified. Prepare calendar of remaining action items. [Doc. BD-I/11]

1000 BREAK

1015 Conclude agenda item 8.

9. *Education and Outreach*

1045

Consider priorities for GCOOS Education and Outreach [Doc. BD-I/8]

10. *Other business*

1145

Any remaining or unfinished business items will be completed.

1230 Adjourn full meeting; Lunch

11. *Executive Committee Meeting*

1345

11.1 Appoint a Membership Committee

At this time there are no nominees.

11.2 Determine whether to pursue consideration/evaluation of other governance structures at this time

11.3 Other items of business

1500 Adjourn Meeting

Appendix 3. Documents List for GCOOS Board of Directors Meeting I

<u>Doc. No.</u>	<u>Doc. Title</u>	<u>Responsibility</u>	<u>Status</u>
BD-I/1	Documents list	Nowlin	Updated 08/18/05
BD-I/2	Board actions needed at BD-I	Jochens and Nowlin	Posted 06/24/05
BD-I/3	Agenda for BD-I	Nowlin & Board	Updated 08/18/05
BD-I/4a&b	Slates of nominees for GCOOS Councils and Committees	Nowlin and S. Martin	Posted 07/18/05
BD-I/5	GCOOS Business Plan, draft 2	Howden and Nowlin	Posted 08/18/05
BD-I/6	Proposal for GCOOS-RA Fiscal Sponsor	Nowlin	Posted 07/28/05
BD-I/7	Suggested revisions to MoA for the GCOOS-RA	Nowlin and Jochens	Revised 08/12/05
BD-I/8	Priorities for GCOOS Education and Outreach Council	Spranger, Walker, and Nowlin	Posted 08/18/05
BD-I/9	Short bios for GCOOS Board members	S. Martin	Posted 07/18/05
BD-I/10	Short bios for Nominees for Councils/Committees	S. Martin	Posted 08/08/05
BD-I/11	Checklists for Governance and Business Criteria for IOOS Regional Associations	Ocean.US	Posted 08/08/05

**Appendix 4. Memorandum of Agreement to Establish
the Gulf of Mexico Regional Coastal Ocean Observing System (GCOOS)
Regional Association**

Section I. Parties

This Memorandum of Agreement (“MOA”) is entered into by the signatories and any other entities that may become signatories to this agreement in the future (the “Parties”).

Section II. Introduction to the GCOOS Regional Association

This MOA establishes the Gulf of Mexico Coastal Ocean Observing System Regional Association (GCOOS-RA). The GCOOS-RA is committed to (1) providing integrated, remotely-sensed and *in situ* information about the northern Gulf of Mexico coastal region and related ecosystems in real or near real time for use by researchers, managers, military, industry, educators and others seeking to understand this coastal environment, manage ocean and littoral resources, and develop commercial uses of marine resources, data and information; (2) developing new sensor technologies; and (3) stimulating innovation and supporting commerce. It will be a component of a national ocean observing system (see Section III).

The geographic extent of the GCOOS-RA is the *U.S.* coastal zone and ~~the~~ Exclusive Economic Zone (EEZ) ~~in the region to include Texas, Louisiana, Mississippi, Alabama, and western Florida~~ *along of* the Gulf of Mexico. The Florida region also is part of the Southeast Coastal Ocean Observing Regional Association (SECOORA), which reflects the overlapping and interrelated nature of regions. The coastal zone extends inland to the end of tidal effects in estuaries. Also of interest to the GCOOS are discharge rates of rivers affecting the coastal zone, loads and concentrations of suspended and dissolved materials in such rivers, and observations and models that encompass atmospheric forcing and transport processes affecting the Gulf of Mexico.

The GCOOS-RA is established and responsible for the development, operation, and improvement of the ocean observing system elements in the U.S. sector of the Gulf of Mexico that will provide data, information and products on marine and estuarine systems deemed necessary to the users in a common manner and according to sound scientific practice. It will serve the needs of users with measurements and data transmission, data management and communications, and data analysis and modeling and will include the infrastructure and expertise required for this system. The GCOOS-RA will be responsible for coordination of GCOOS activities with those of the National Backbone within the Gulf of Mexico, with those of the SECOORA, and with observing system elements of Mexico and Cuba in the Gulf of Mexico. This Regional Association will represent GCOOS within the National Federation of Regional Associations (NFRA).

Section III. Background

The Global Ocean Observing System (GOOS) is an intergovernmental system of marine observations, data management, analysis, and production and delivery of data, products and services to users for socioeconomic benefit. GOOS is coordinated through a group of United Nations agencies, lead by the Intergovernmental Oceanographic Commission of UNESCO. Some 100 coastal nations are participating in the GOOS. The Integrated Ocean Observing System (IOOS) is the U.S. contribution to the GOOS. IOOS consists of an end-to-end system of observations, data management, and production and delivery of products and services. It is being developed under the auspices of the National Ocean Leadership Council (NOLC) of the National Oceanographic Partnership Program (NOPP) with coordination through the Ocean.US Office. It is designed to meet the following national needs

- Detecting and forecasting oceanic components of climate variability;
- Facilitating safe and efficient marine operations;
- Ensuring national security;
- Managing resources for sustainable use;
- Preserving and restoring healthy marine ecosystems;
- Predicting and mitigating against coastal hazards; and
- Ensuring public health

A Data Management and Coordination (DMAC) subsystem of the IOOS is being developed to better manage data and products in support of IOOS and of ocean data in general.

The IOOS will consist of (1) a major contribution to the global module of GOOS, focused on climate variability and its effects and on maritime services and (2) a coastal module. The coastal module of IOOS will systematically acquire and disseminate data and information on past, present, and future states of the nation's Exclusive Economic Zone (including those of U.S. Territories), contiguous estuaries, and the Great Lakes. The coastal module will consist of a National Backbone of federally sponsored observations and products complemented by a series of Regional Coastal Ocean Observing Systems (RCOOSs).

An RCOOS may be thought of as a system of distributed observing systems (or of elements of such systems) in a region, which, taken as a whole, efficiently and effectively acquires the observations and enables the modeling, analysis, and delivery of information needed by those who use, manage, or study the oceans. An RCOOS may increase the time-space density of observations of the National Backbone's core variables to adequately portray and predict local conditions, and adds other types of measurements of importance to users in the region. The RCOOS is the infrastructure of observations, modeling, and data management and communications; each will be coordinated and governed by a Regional Association. Together the Regional Associations will constitute a National Federation of Regional Associations (NFRA).

The Gulf of Mexico Regional Coastal Ocean Observing System (GCOOS) is the RCOOS for the U.S. waters of the Gulf of Mexico. It is a part of the coastal module of the U.S. IOOS. It is understood that some observing system elements operated from Florida may prefer to be associated with the RCOOS being developed for the southeastern U.S., i.e., SECOORA. This is understandable in view of the fact that Florida has coasts on the Atlantic Ocean as well as the Gulf of Mexico. The GCOOS will be coordinated with the southeastern RCOOS to assure that all observing system data and products from the Gulf of Mexico are accessible to the stakeholders of both systems.

The GCOOS Regional Association is established and responsible for the development, operation, and improvement of the GCOOS as an RCOOS in the U.S. sector of the Gulf of Mexico, including bordering estuaries. This Regional Association will be responsible for coordination of GCOOS activities with those of the National Backbone within the Gulf of Mexico, with those of the southeastern U.S. RCOOS, and with observing system elements of Mexico and Cuba in the Gulf of Mexico. This Regional Association will represent GCOOS within the NFRA.

Section IV. Findings

- There is a need for more rapid detection and timely prediction of a broad spectrum of ocean/climate conditions.
- There are impacts on society as a result of changes in these conditions.
- Priorities for detecting and predicting changes in the marine and coastal ecosystems vary among regions in the United States.

- Regional associations, responsible for the development and operation of regional observing systems, provide the most effective means for identifying users and user needs and developing observational programs to satisfy data and product development needs.
- The GCOOS Regional Association will serve as the Gulf of Mexico regional node for coordinating and integrating coastal and ocean observing activities under the evolving U.S. Integrated Ocean Observing System.
- The Gulf of Mexico Coastal Ocean Observing System will not compete with the private sector because it will not distribute commercial products and services, which are those produced by commercial enterprises.

Section V. Purpose

This MOA outlines the initial functions and responsibilities agreed to by the participating Parties to establish a Regional Association to develop, operate, and improve the regional coastal ocean observing system known as GCOOS (Gulf of Mexico Regional Coastal Ocean Observing System). The GCOOS-RA will serve as the Gulf of Mexico member of the National Federation of Regional Associations. The association will serve as the Gulf of Mexico regional node for integrating and coordinating coastal and ocean observing activities. The Gulf of Mexico is of strategic importance in terms of natural resources, commerce, transportation, human utilization, and military operations. As a result, a number of disconnected observing system efforts already exist in coastal waters of the Gulf of Mexico. These can add greatly to the goal of an integrated national ocean observing system. There is a need to develop technology to generate real-time information from disparate and disconnected observing programs, and deploy observing systems where none exist. Further, there is need to develop the scientific bases to assist in defining ecosystem boundaries and processes that are required for multi-use management strategies and to assist in developing policy options and possible management strategies based on scientific principles. To protect the many vital local, state and national interests in the Gulf of Mexico, there must be a concerted effort and commitment to develop and maintain required ocean observing system elements in the Gulf of Mexico. This can be accomplished, in part, through collaborative, coordinated efforts by the Parties to this MOA, each of which has an interest in the coasts and oceans of the Gulf of Mexico. This MOA will provide a framework for the Parties to work cooperatively to accomplish their individual and common missions and to enhance broad user access to ocean knowledge, data, tools, and products.

Section VI. Definitions

- a. Regional Coastal Ocean Observing System. A system that links the needs of users to measurements of the coastal oceans on regional or sub regional scales.** The integrated Gulf of Mexico Coastal Ocean Observing System will be a heterogeneous, distributed system of linked elements, with organizational structures and interfaces developed where common good is identified. The GCOOS-RA will provide those organizational structures and will be the regional point for relating Gulf of Mexico ocean observing system elements to the national Integrated Ocean Observing System (IOOS) and the intergovernmental Global Ocean Observing System (GOOS). The system will be a virtual system, consisting of the physical links, servers, and other elements that contribute to the overall purposes of GCOOS, regardless of their ownership or operational responsibility. The system will comprise seven main activities:
 - Operational and routine ocean observations;
 - Long-term research operations;
 - Technology development to support the GCOOS objectives;
 - A web-based “commons” for access to models, algorithms, numerical techniques, etc. to foster improved predictions by the users;

- Data and information products such as nowcasts, forecasts and maps to meet user needs;
- Investigations to better understand the Gulf of Mexico ocean and nearby coastal regimes, including hydrology;
- GCOOS membership, feedback and program development.

GCOOS-RA will integrate and coordinate assigned elements within these seven areas, and foster and integrate linkages among the many other partner elements.

The GCOOS-RA will establish, fund, and provide for the operation of selected components of the observing system. Those components will include functionality that cuts across the roles and interests of the individual participating entities and provide data or products that fill high priority needs of the stakeholder community. Examples might include network links, master databases and indexes, observing capability or collaborative tools and services.

Finally, GCOOS will actively seek collaborations with other nations and regional coastal ocean observing systems bordering the Gulf of Mexico in the design and implementation of a Gulf-wide regional observing system.

b. Functioning Bodies. The following bodies are established by this MOA:

- (1) GCOOS-RA Board of Directors. The Board of Directors will be composed of representatives from federal, state, and local agencies, academic and research institutions, private entities, and non-governmental organizations that are both ~~p~~*P*arty to this Agreement and who provide personnel or resources to GCOOS. The Board will be composed of no more than 15 individuals elected by the Parties, and Board members will rotate every 3 years. The initial Board will be elected to staggered terms: 5 members for 1 year, 5 members for 2 years, and 5 members for 3 years. Parties can stand for re-election to the Board. The Board of Directors will provide policy guidance, ensure sustained support by the Parties, and approve implementing documents, including fiscal plans. The Board shall elect a Chair when GCOOS-RA is activated. The first chair shall serve ~~until the second summer Board meeting through the second December 31~~ following activation of the RA; thereafter, the Chair shall serve for a two-year term. Decisions shall be by consensus, or if no consensus exists, by majority vote of those members present. Meetings: The Board will meet at least two times per year. The primary meeting will be held in conjunction with the Annual Meeting of Parties to be held in January of each year. At this meeting, elections will be held and priorities for the allocation of resources received by GCOOS-RA will be determined. *Newly elected Board members will begin serving at* ~~T~~*he second meeting of each year that* will be held in July or August and will include development of comments on the Annual IOOS Development Plan. Special meetings will be at the discretion of the Board. Notice of any regular or special meetings shall be given at least ten days prior to the meeting by email or written notice delivered personally or mailed to each director at such director's address. Resignations: Any director may resign at any time by giving written notice to the president of the Board of Directors. The resignation shall take effect at the time specified in the notice or, if no time is specified, upon delivery. Unless otherwise specified in such notice, the acceptance of the resignation shall not be necessary for it to become effective. Removal from Office: Any director may be removed at a meeting of the Parties called expressly for such purpose, provided that a statement of such proposed action is contained in the Notice of Meeting. A majority of the Parties present constitute the quorum required for the

purpose of this section. A two-thirds majority of the Parties present and voting shall be sufficient to remove any or all directors, with or without cause.

Vacancies: Any vacancies occurring in the Board of Directors may be filled by a majority vote of the directors then in office for the unexpired portion of the three-year term.

- (2) Executive Committee. The Board shall elect *annually four members of* an Executive Committee *that* shall consist ~~ing~~ of 5 members lead by the Chair. The Executive Committee shall provide leadership direction. One task for the Executive Committee is to examine what form of governance structure would be most appropriate in the future as applied to the existing and expected participants and needs of the GCOOS and to make recommendations to the Board of Directors, if needed. As part of its consideration of the governance structure, the Board may consider qualifications of voting Parties.
- (3) GCOOS Office. The GCOOS Office will function as the official day-to-day representative of GCOOS and its Regional Association. The Office will provide staff support for the activities of the Board and the various GCOOS Committees. The GCOOS Office will have ongoing responsibility for coordination and tracking of the extant activities of the GCOOS and for coordination of development activities of the GCOOS. It initially will consist of a Regional Coordinator with overall responsibility for GCOOS Office duties, a Data Management and Communications Coordinator who will assist with development of common data management standards and other information technology issues, an Education and Outreach Coordinator who will assist with development of educational and outreach activities, and a modest administrative/support staff, as appropriate, including IT support. The GCOOS Office will provide oversight to an Operations Center that will manage the daily GCOOS data operations and linkages between users and providers, as defined in the Business Plan, The Office will initially be located at Texas A&M University, College Station, Texas.
- (4) GCOOS Regional Coordinator. Reports to the Board of Directors for the performance of duties and functions as the GCOOS Operations Officer. Initially, the Regional Coordinator of the GCOOS Office will be an employee of Texas A&M University, paid through GCOOS funding. Subsequent Regional Coordinators will be selected by majority vote of the Board of Directors from a slate of qualified applicants assembled by the Executive Committee.
- (5) GCOOS Membership Committee. Reporting to the Board of Directors for the performance of their duties, the Membership Committee shall consist of 3 Parties selected by the Executive Committee of the Board of Directors. The Membership Committee will be responsible for elections and for fostering and developing membership. It will organize the slate of nominees for chairperson and other officers of the Stakeholder Council, where the other officers are those determined to be required by the Board of Directors or Stakeholder Council. It will monitor all elections, reporting to the Board the election results. It will strive to continually develop and expand the membership, including development of new stakeholders. It will organize and support the Stakeholder Council.
An interim Membership Committee consisting of Landry Bernard, Robert Martin, and Worth Nowlin will organize and conduct the election of the initial Board of Directors.
- (6) GCOOS Stakeholder Council. Once potential users and stakeholders for GCOOS have been identified, a Stakeholder Council will be established to ensure that GCOOS is developed with user benefits in mind. Stakeholder Council members will be appointed by the GCOOS Board of Directors and will reflect the broad spectrum of users and stakeholders interested in the products of ocean observing systems. The Stakeholder Council will provide advice on

policies, identify potential new audiences for data and products, provide input to improve data and products, assist or advise on ways to support the activities and enhance the national resources of the National Federation of Regional Associations, and suggest improvements in disseminating data and products to users and decision makers. They will advise on other matters as may be requested by the GCOOS-RA Board and Committees. The chairperson and other officers, as may be determined to be necessary by the Council members or the Board of Directors, will be elected by the Stakeholder Council members through an election organized by the Membership Committee. At least one member of the Board of Directors shall serve on the Stakeholder Council.

- (7) GCOOS Education and Outreach Council. The GCOOS Education and Outreach Council (EOC) is the primary body to provide guidance and assistance to the GCOOS Regional Association in matters of education, outreach and public awareness. The EOC plays the lead role in developing, implementing and evaluating the Education and Outreach Plan for the GCOOS Regional Association. The EOC ensures that the Plan is consistent with the current Integrated Ocean Observing System (IOOS) Development Plan and the GCOOS Annual Business Plan. The EOC collectively is expected to be familiar with the GCOOS functions and operations, ocean science education standards, education and outreach pedagogy and evaluation techniques, and constituency building techniques among diverse audiences in the Gulf of Mexico. EOC membership will include representatives from formal, nonformal and informal education communities that reside in the Gulf of Mexico region. The members will be appointed by the GCOOS Board of Directors. At least one member of the Board of Directors shall serve as a member of the EOC Council. The Chair of the EOC will be selected by the Council.
- (8) GCOOS Data Management and Communications Committee (DMAC). The DMAC Committee will oversee development of the data management and communications component of GCOOS and ensure its alignment with the IOOS DMAC Plan. The DMAC will make recommendations to the Board on research or pilot projects that are needed to sustain and enhance the coastal ocean observing system and associated data use. The DMAC also is responsible for recommending to the Board annual updates to the business plan for data management and communications activities. The DMAC Committee will be appointed by the GCOOS Board of Directors and the chair will be elected by the members of the Committee.
- (9) GCOOS Observing Systems Committee. The Observing Systems Committee will be established to aid in the technical and scientific development of GCOOS observations. The Committee will be responsible for the development of standards, QA/QC procedures, consideration of and recommendations on technology improvements necessary to meet present and future user needs, and development of requirements for scientific research and pilot projects. The Committee will be composed of experts in the various fields of ocean observing systems such as biological, physical and chemical oceanography, fish and shellfish, seabirds, marine mammals, atmospheric science, remote sensing, fisheries technology, and aquaculture and mariculture. The Observing Systems Committee also is responsible for recommending to the Board annual updates to the business plan for observational issues associated with the GCOOS. Members will be appointed by the Board of Directors and the chair will be elected by the members of the Committee. The Committee can use targeted workshops and establish working groups to develop its scientific and technical advice.
- (10) GCOOS Products and Services Committee. The Products and Services Committee will be responsible for identifying the products and services

necessary to meet the requirements of the GCOOS user community. The Committee will define the initial user input and feedback processes and develop the products and distribution mechanisms. The Committee also will make recommendations to the Board on research or pilot projects that are needed to sustain and enhance the products and services provided under the coastal ocean observing system. Members will be appointed by the Board of Directors. The Products and Services Committee also is responsible for recommending to the Board updates to the business plan for user services and products. The chair will be elected by the members of the Committee and will work with the chairs of the DMAC and Observing Systems Committees and the Stakeholder Council to closely link the work of these committees/council.

c. Membership. The Parties to this MOA consist of those *U.S.* institutions or individuals who are actively engaged in some aspect of coastal ocean observing system elements in the Gulf of Mexico or are principal end-users of data, products, and services from coastal ocean observing system elements in the Gulf of Mexico. Parties may include, but are not limited to, state agencies, local government agencies, federal agencies, private industry, academic and/or research institutions or individual researchers there from, port or harbor authorities, water management districts, non-governmental organizations, or other entities with these characteristics.

A voting Party is a GCOOS-RA Party who (1) represents a signatory organization and/or (2) provides funding to the GCOOS-RA. *Funding is defined here to mean an annual contribution to the GCOOS-RA of at least \$2000 U.S. or an in kind contribution to the GCOOS-RA of personnel or equipment of equivalent or greater value. For these purposes, an organization is an entity that coordinates and carries out business, academic, governmental, or non-governmental organization activities.*

Non-U.S. organizations or individuals meeting the same criteria as Parties may become signatories to the MOA as "Associates". Associates are non-voting signatories but may attend meetings of the Parties and nominate members to the GCOOS Councils and Committees and so participate in activities of the Association (see Section XIII).

d. Geographic scope. Initially, the geographic scope of GCOOS will include the U.S. estuaries, discharge, load and concentration of dissolved and solid constituents in rivers affecting the coastal zone of the Gulf of Mexico, and U.S. Exclusive Economic Zone in the Gulf of Mexico.

e. Decision-making. The Board of Directors will establish fiscal policy for GCOOS, approve and publish the GCOOS Business Plan containing both the annual and projected budgets and authorized expenditure plans. The councils and committees will develop and advise on fiscal and policy plans. The GCOOS Office will support preparation of such plans and associated budgets and will facilitate their dissemination to the stakeholders. The stakeholders will review and comment on the plans and budgets. The Board will provide the final approvals.

Section VII. Functions & Responsibilities

To be successful, GCOOS and its Regional Association require active participation of the involved **P**Parties in promoting collaboration between agencies, institutions, and other parties and in ensuring compatibility and interoperability. Parties to this MOA agree to work cooperatively and collaboratively toward the development, implementation, and improvement of the GCOOS. The Parties also agree to work within the framework of a regional partnership to share scientific insight, and possible management and policy options, to address ecosystem issues within the region. Other

responsibilities of the Parties may be defined by the Board as the GCOOS evolves. Each Party to the MOA will be responsible for supporting its staff detailed to the GCOOS-RA Board, GCOOS Office or other GCOOS councils, committees, or working groups. Costs for operating the Office are intended to be shared among the Board of Directors members at levels commensurate with their involvement and with the availability of federal funds slated for this purpose. Transfer of funds or personnel for this effort will be made pursuant to other appropriate authorities, agreements, or by amendment to this agreement.

Annually, a GCOOS Annual Business Plan will be developed and approved by the Board of Directors with inputs from the GCOOS Councils and Committees. The GCOOS Office will assist the Board through coordination and dissemination of information to the Councils, Committees, and Board, preparation of associated materials for the Board, and otherwise as directed by the Board. The GCOOS Annual Business Plan will set out strategic and fiscal goals of the GCOOS for each year and for the 4-year planning cycle of Ocean.US and IOOS. It will identify the goals and objectives of GCOOS and describe the needs, benefits, product development and marketing for the next year. It will outline the methods and procedures to link the observations to models and other products and identify gaps in the linkages. It also will describe the observing, data management and communication, and data analysis and modeling subsystems and how they are linked. The plan will discuss the current operational capabilities relative to the goals and objectives and provide priorities for research and pilot projects needed to improve the observing system to achieve those goals and objectives. The GCOOS Annual Business Plan will present plans for obtaining, increasing, sustaining, and diversifying revenues for the system design, implementation, operation, and improvement of the GCOOS. It also will include an evaluation of the GCOOS system and identify milestones and metrics to be used to evaluate the success of the system and its elements on a regular schedule.

Members of the Board of Directors and other serving members of the GCOOS-RA will use due diligence to avoid conflict of interest or the perception of conflict of interest in conducting their GCOOS-RA activities.

The Board of Directors and the Parties will:

1. Support the GCOOS Office by designating representative(s) as needed, and/or, providing adequate funding support to the Office.
2. Provide leadership and policy guidance to the GCOOS Regional Coordinator, and GCOOS-RA Committees.
3. Establish Committees and working groups as required.
4. Assist coordination efforts throughout the region.
5. Develop Fiscal Policy, develop, approve and publish Business Plans.
6. Establish channels to communicate with resource managers, and State and Federal Government institutions and leaders, to help define ocean and coastal policy and management strategies.

The Executive Committee will:

1. Act on behalf of the Board of Directors to provide executive level leadership to the GCOOS Coordinator, GCOOS Office and Committees in accordance with policies approved by the Board.
2. Recommend appropriate change and addition to GCOOS policy and program guidance.
3. Support the efforts of the GCOOS-RA Coordinator and Committees.
4. Prepare executive correspondence for signature by the Board of Directors as necessary.
5. Assist the preparation of top-level fiscal plans and reports as necessary to support the regional association and the Board of Directors, to include a "GCOOS Annual Business Plan".
6. Define communications channels between GCOOS and resource managers, and State and Federal Government institutions and leaders.

The Chairs of the Committees and Councils will work together to maintain communications and linkages between the various committees and councils and to avoid confusion and duplication of effort.

The GCOOS Regional Coordinator will:

1. Act as the GCOOS Office's Operations Officer by overseeing daily operations and the execution of Office duties.
2. Execute fiscal guidance as approved by the Board of Directors.
3. Conduct and submit to the Board of Directors an annual audit of GCOOS and office funds and expenditures.
4. Support the functions of and coordinate with GCOOS Committees and working groups.
5. Foster the development of the regional program.
6. Prepare appropriate reports, documents, and executive level correspondence for the Board of Directors approval as may prove necessary.
7. Prepare for public release a "GCOOS Annual Business Plan" that details the previous year's budget and program execution, as well as the next year's budget and program projections, based on the Board of Directors approved budget and expenditures plan.
8. Facilitate communication and linkages between the various councils and committees to enhance the efficient integration of their activities and to help avoid duplication of effort.
9. Facilitate communications with resource managers, and State and Federal Government institutions and leaders, and interact with these to help define ocean and coastal policy and management strategies.

The GCOOS Office will:

- 1) Develop and maintain a document outlining the long-range vision of the integrated ocean observation and prediction system for Gulf of Mexico, as approved by the Board of Directors. This document will serve as the strategic plan for the system and be incorporated into the Business Plan.
- 2) Serve as the Gulf of Mexico regional node to coordinate GCOOS activities with IOOS, Ocean.US and the National Federation of Regional Associations of Coastal Ocean Observing Systems, other federal and non-federal partners, Mexico and Cuba, and other regional Coastal ocean observing systems.
- 3) Monitor and support the work of the DMAC, Observing Systems, Products and Services, and Membership Committees, the Education and Outreach Council, the Stakeholder Council, and other Committees and Work Groups that may be established under the GCOOS-RA.
- 4) Report regularly to the Board of Directors for guidance. Provide an annual assessment of the observing system status, products and planned directions including results of external reviews, as appropriate.
- 5) Compile recommended enhancements to existing systems, new projects, need for research and development, and identification of system components suitable to transition from research to operations, suggest priorities and report to the Board for approval.
- 6) Carry out other tasks as directed by the Board of Directors.
- 7) Coordinate with the Operations Center, as defined in the Business Plan.

Section VIII. Fiscal Sponsorship

GCOOS-RA will secure fiscal sponsorship from appropriate entities to enable GCOOS-RA to apply for grants and contracts, implement funded grants and contracts, and, in general, accept the overall coordination of funds among GCOOS Parties as required. The terms and conditions of the fiscal sponsorship will be detailed in a separate document drafted between each fiscal sponsor and GCOOS-RA. The fiscal sponsor(s) must have the ability to enter into enforceable contracts.

Through the fiscal sponsor(s), GCOOS-RA will receive and distribute GCOOS-related funding and other resources from federal, state, other public agencies, foundation sources, corporations, and private donors, according to the identified priorities. Funds contributed directly from GCOOS Parties for the overall coordination of GCOOS will not be used to fund the specific regional priorities. Funding for the priorities will come separately to GCOOS-RA, but also through the fiscal sponsor(s).

The GCOOS-RA is authorized to collect non-federal, non-state funds from Parties to the MOA to support advocacy efforts of the NFRA on behalf of IOOS development. *Funds from state and federal Parties will be kept separate from funds from other Parties and will not be spent on any activities that conflict with their agencies' policies or guidelines. Advocacy efforts will be supported by private (non-governmental) Parties dues and other private funds. Funds contributed directly from Parties for the overall coordination and administration of GCOOS will not be used for other purposes.*

Section IX. Information and data

To enhance communications and availability of information, the Parties agree to:

1. Provide non-proprietary and non-commercial data required to support GCOOS operations, research and education efforts in accordance with applicable laws, regulations and policies of the participating entities.
2. Develop compatible data standards and quality control procedures so data are of the highest quality and compatible between participating agencies; and
3. Cooperate in jointly synthesizing the results of ongoing monitoring and research efforts undertaken by the Parties and other research entities.

Section X. Shared resources

To reduce costs, increase efficiency, and avoid duplication of effort, the Parties agree to expedite access to and sharing of each other's facilities and equipment, pooled inventories of costly technology development projects, and scarce human skill sets, consistent with each Party's policies and regulations.

Section XI. Joint meetings

The Parties agree to meet jointly as often as needed. These meetings will help to foster cooperation among the Parties, share findings with other participatory agencies, evaluate plans and progress in implementation, and coordinate in establishing priorities for the system. To the extent possible electronic technologies will be used for meetings and communications, with the intentions of minimizing travel expenses, participation time, and scheduling difficulties.

Section XII. Participation of other entities and facilities

The Parties recognize that adding new participatory organizations to this MOA will better enable participatory organizations to reach shared goals. The Parties agree to:

1. Recognize and promote the participation of other organizations that may contribute to the shared interests of monitoring and research in the Gulf of Mexico; and
2. Establish a mechanism through which new participants can participate in planning for the ocean observing system.

3. Establish mechanisms to foster cooperation and integration of activities with the neighboring coastal ocean observing systems of Mexico and Cuba, as well as other U.S. Regional Associations and intergovernmental Regional Alliances such as IOCARIBE GOOS.

Section XIII. Associates

Participation of Associates in GCOOS will enhance the success of GCOOS by facilitating collaborations in the design and implementation of a Gulf-wide regional observing system. Associates to this MOA agree to work cooperatively and collaboratively toward the development, implementation, and improvement of the GCOOS and to work within the framework of a regional partnership to share scientific insight, and possible management and policy options, to address ecosystem issues within the region and the wider Gulf of Mexico. Other responsibilities of Associates may be defined by the Board as the GCOOS evolves. Associates may attend the annual or other meetings of the Parties and may nominate members to the GCOOS Councils and Committees, but not to the Board of Directors or the Membership Committee. Each Associate to the MOA will be responsible for supporting its staff detailed to the GCOOS councils, committees, or working groups.

Section XIV. General provisions

1. Effective date. This MOA becomes effective upon the date of the signature of the tenth Party to execute it and is subject to availability of funds. This MOA may be executed in counterparts, each of which will be considered an original document.
2. Withdrawal. Any Party to this MOA may withdraw without obligation upon six months formal written notice to the other Parties. *Any Associate to this MOA may withdraw without obligation upon one-month formal written notice to the Chair of the Board of Directors.*
3. Termination. This MOA shall remain in effect until it is terminated by agreement of the Parties.
4. Dispute Resolution. Disputes among the Parties will be resolved according to a policy adopted by the Board. *That policy will include a provision that will authorize resolution of disputes involving governmental agencies to be in accordance with the applicable federal or state Dispute Resolution process for that governmental agency.*
5. Authority. Nothing in this MOA shall be construed to limit or modify the authority or responsibility of any participating agency.
6. Third parties. This MOA is not intended to, nor shall it, vest rights in persons or entities who are not Parties.
7. Amendment. This MOA may be amended in writing by the written agreement of a majority of the voting Parties.
8. Antideficiency. Nothing in this MOA shall be construed as obligating any of the Parties, their agents or employees, to expend funds in excess of that authorized by law.
9. Effect. This MOA is intended to express the good faith plans and general intentions of the Parties *and Associates*, but does not create any legally enforceable obligations.
10. Notice. Any notice, request, order, or communication to the *Parties or Associates* pursuant to this MOA shall be in writing to each Party *or Associate* at the address that follows:
Department of Oceanography, Texas A&M University, 3146 TAMU, College Station, Texas 77843-3146, or to such other addresses as any Party *or Associate* may designate in writing.

Accepted as affirmed by our signatures below.

Name, Institution

Date

Representing

Appendix 5.

EXCOM response to NFRA

SMD/ESSD/Research and Analysis Program

David L. Martin, Ph.D.
Associate Director
Applied Physics Laboratory
University of Washington
1013 NE 40th St.
Seattle, WA 98105-6698

Molly McCammon
Director
Alaska Ocean Observing System
1007 W. Third Ave., Suite 100
Anchorage, AK 99501

Dear Dr. Martin and Ms. McCammon:

Thank you for your June 8, 2005 letter communicating recommendations of the National Federation of Regional Association (NFRA) Governing Committee concerning regional development of the Integrated Ocean Observing System (IOOS). Before responding on behalf of the Ocean.US Executive Committee (EXCOM), I wish to apologize for the delay in my response. I assure you that this is not indicative of the importance the Committee attaches to regional development and the role of the NFRA.

The EXCOM continues to support resolutions from the 1st and 2nd IOOS Implementation Conferences concerning Regional Association (RA) development, implementing the Data Management and Communications (DMAC) plans, and regional pilot projects. We are working with our agencies and Ocean.US to determine the means, time lines and levels of funding. However, the transition to the new governance structure outlined by the President's Ocean Action Plan has delayed approval of the *First Annual IOOS Development Plan* which has slowed progress toward achieving these objectives. We are confident that once the new committees are in place and functioning, the process will proceed in a much more orderly fashion. Responses to your specific recommendations are given below.

Recommendation 1: "Federal agencies should recognize the RAs as the primary structure for RCOOS development and the main conduit from which to gather information on regional priorities for enhancing the National Backbone."

As articulated in the First Annual IOOS Development Plan approved by the EXCOM late last year, the EXCOM recognizes RAs as the governance mechanism for developing RCOOSs. This does not mean that all EXCOM agencies see regional development as a high priority and worthy of funding. The objective of the EXCOM is to increase the number of agencies that prioritize regional development consistent with their own mission objectives, but this will take time. A portion of the challenge is to convince the regional organizations within the federal agencies that there is value added when working with RAs to establish RCOOSs that provide data and information that help them do their jobs better. The regional groups working to establish RAs can help by engaging these organizations in their regions.

As the body representing RA interests at the federal level, we see the NFRA as the primary "conduit" for federal agencies and RAs to reach consensus on priorities for enhancing the National Backbone. Ocean.US, under the direction of the federal government, is expected to facilitate and enable this process through IOOS Implementation Conferences, Regional Summits, and other mechanisms.

Recommendation 2: “Ocean.US, NOPP agencies and the RAs should develop an enhanced pathway for RA input into the IOOS DMAC decision making process.”

The DMAC Steering Team (DMAC ST) is aware of this important concern and plans to address this issue through the NFRA. Of course, some RAs are already represented on the DMAC ST. More importantly, the ST has just begun the process of establishing expert teams and caucuses for metadata and discovery, standards development, archival, systems engineering, private sector engagement, modeling and international coordination. Nascent RAs will be well represented on these teams and caucuses given the appropriate expertise. These are not total solutions, but they are steps in the right direction and the ST welcomes nominations of qualified individuals.

Recommendation 3: “Ocean.US, the NFRA and NOPP agencies should convene and empower a Standing Working Group to better define this [the National Backbone] vital component of the IOOS.”

This is one of Ocean.US’ primary functions and the EXCOM does not see the need for another committee. We believe that the sources of confusion lie in the delay in approving the *First Annual IOOS Development Plan*, in the lack of a Systems Engineering Plan, and in the diversity of groups (and cultures) that are being (or need to be) engaged in IOOS development. The *First Annual IOOS Development Plan* recommends programs for building the initial backbone (Part II, Table 4) and the establishment of interagency committees responsible for implementing the various elements of the backbone (Part I, Table 3). Federal agencies are responsible for funding all of these programs and for operating many of them. The first development plan is currently being updated by Ocean.US based on the President’s Ocean Action Plan, NFRA recommendations, results of the 2nd Annual IOOS Development Conference, and guidance from the EXCOM and the Joint Subcommittee on Science and Technology (JSOST).

Recommendation 4: “The NFRA should be formally granted a voting position on the Search Committee for the next Ocean.US Director.”

We appreciate your concern and have asked for and received questions that the candidates will be asked to address. Concerning a voting position on the Search Committee, the MOA creating Ocean.US states that the Director shall be appointed by the EXCOM. Thus, the Search Committee consists of members of the EXCOM.

Finally, your letter identified several issues and concerns of the NFRA members that will require follow-up in the near future. The EXCOM appreciates that you brought these issues to our attention. We consider questions concerning RA organization and IOOS development seriously and discussions of these issues are ongoing.

Again, I would like to apologize for the delay in our response. The EXCOM appreciates your concerns and looks forward to working with the NFRA to make the IOOS a reality.

Sincerely,

Jack A. Kaye
EXCOM Chairperson

cc:
Ocean.US/T. Malone

Science Mission Directorate/ L. Tsaoussi

- P. Bontempi
- E. Lindstrom
- J. Ellis

Appendix 6.

Email letter (dated August 24, 2005) to Larry McKinney, Texas Parks and Wildlife Department, and selected other state planners for the State of the Gulf Summit 2005

As suggested by Quenton Dokken, I am writing to offer any assistance I might provide you in your role as chair of the Environmental Sustainability Panel at the State of the Gulf Summit 2005.

I believe that my thoughts are in general agreement with most of the other leaders trying to establish Regional Associations to oversee Regional Coastal Ocean Observing Systems (RCOOS) as a part of the U.S. Integrated Ocean Observing System. I see each of these RCOOS as system of smaller observing systems with a variety of operators using a variety of funding sources. These funds are commonly supplied to the subsystem operators because the funding sources need specific data or information. (An example is the Texas Automated Buoy System funded by TGLO to provide surface current data and predictions for spill remediation.) However, all of these data sets if assembled, quality controlled, and made openly available can be used by a broader group of users to provide information needed for purposes other than just the original uses. (We have increased the number of marine met. observations flowing through the National Data Buoy Center (NDBC) by over 20% during the last two years by interfacing non-federal producers of real time data with NDBC who quality control their data and make them universally available. These data are used by both public and private marine forecasters for both public good and private profit.) It is the place of the Regional Associations managing the RCOOS to integrate existing observing subsystems and to seek support for enhancements and additions.

However, those enhancements and additions must be driven by requirements of stakeholders. In each region there will be many stakeholders with requirements for ocean data, analyses, and forecasts. In the Gulf of Mexico, which is served by the Gulf of Mexico Coastal Ocean Observing System (GCOOS, see <http://www.gcoos.org>), we have the MetOcean specialists of Oil and Gas Producers representing needs of offshore energy producers, the Gulf of Mexico Fisheries Management Council, the Gulf of Mexico Accord, and many others. The Gulf of Mexico Alliance may develop into yet another group representing requirements for ocean (among other types) data and products. In my opinion, the Alliance is not likely to replace all of these other organizations representing distinct classes of stakeholders.

It will be the task of the GCOOS-Regional Association to interface with as many of these stakeholder organizations as possible, to receive their requirements for ocean data and products, and to manage the ocean observing system that meets as many of these requirements as feasible.

It will be the task of the stakeholder organizations, including the Gulf of Mexico Alliance, to specify prioritized requirements for ocean data and products to the GCOOS-Regional Association and to assist with obtaining financial support for enhancements and additions to the regional coastal ocean observing system.

I would be pleased to provide additional information regarding GCOOS and/or its Regional Association.

Worth Nowlin

Appendix 7.

GCOOS and the Private Sector: Oil and Gas and Related Industry

Chevron

2811 Hayes Road

Houston, TX

November 2-4, 2005

Draft Workshop Objectives and Agenda

Workshop 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, better produced by the private sector.

It is expected that this workshop will further engage private sector participants in the planning for and support of the Global Ocean Observing System (GOOS), specifically in the U.S. Integrated Ocean Observing System (IOOS) and its Regional Associations.

Results of this workshop will be transmitted to the pertinent Regional Associations (particularly the Gulf of Mexico Coastal Ocean Observing System, GCOOS), the national Federation of Regional Associations, and the Ocean.US Office.

Workshop Foci

To provide structure to the workshop foci will be placed on products related to (1) operations, (2) extreme events, and (3) other environmental issues. Speakers and breakout sessions will focus on those areas, though the first two may be treated together.

Workshop Agenda

(All speakers are suggestions only.)

Wednesday, November 2, 2005

6:00 pm	Reception, (location to be determined)
7:00 pm	Dinner
8:30 pm	Welcome and Presentation on GCOOS, IOOS, and Workshop Goals (Mark Luther and Worth Nowlin)

Thursday, November 3, 2005

8:00 am	<u>Coffee and Juice</u>
8:30 am	Welcome, introductions, logistics
9:00 am	Welcome from Ocean.US EXCOM (_____)
9:20 am	Industry view of an ocean observing system (_____)
9:40 am	Overview of IOOS/GCOOS (Landry Bernard, Worth Nowlin)
10:15 am	<u>Coffee Break</u>
10:30 am	Overview of issues related to operations and extreme events (_____)
11:00 am	Overview of environmental issues (_____)
11:30 am	Discussion of charge to breakout groups

Noon Luncheon

Breakout Sessions

1:00 pm One group dealing with operations and extreme events; one dealing with other environmental events

3:00 pm Coffee Break

Plenary Session

4:30 pm Talk on Industry ADCP measurements and other data available from the National Data Buoy Center (Paul Moersdorf)

5:30 pm Adjourn for the day; dinner on your own

Friday, November 4, 2005

8:00 am Coffee and juice available

Presentation and discussion from each group; chairs prepare one page summary points for distribution.

9:00 am Facilitator, along with the panel of working group chairs, lead the discussion based on group reports from Thursday, November 3. Arrive at consensus on deliverables.

Noon Adjourn

Charges to Working Groups

What are the highest priority products for the oil and gas and related industry sectors? Who will be the end users?

What observations are needed to produce these products?

Which are common use products and which are niche products?

Expected Workshop Deliverables

1. Prioritized list of needed products with users
2. Suggested observations needed to produce these products
3. Delineation between common use and niche products

Appendix 8.

Agenda and draft statement of outcomes

Summit on Regional Development Ocean.US, 25 - 26 July 2005

Agenda

25 July 1900 Working Dinner (Village Bistro, Arlington)

26 July 0900 - 1500 (Ocean.US, lunch will be brought in)

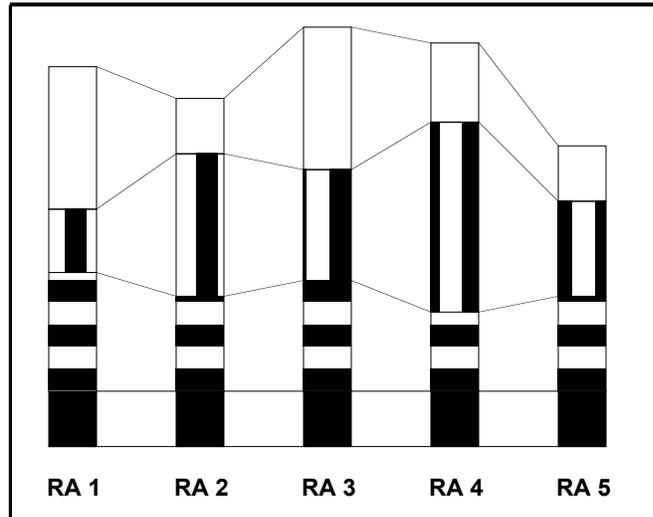
1. Regional Ocean Councils (ROCs) and Regional Associations (RAs)
 - 1.1 To what extent does RA development meet the goals and objectives of Regional Ocean Governance?
 - 1.2 Should RAs be pushed as the "seeds" of ROCs? In terms of goals and objectives, are RAs the equivalent of ROCs. If not, how are they similar and how do they differ? Should these two efforts (and possibly others) be coordinated? If so, how?
2. RAs and Federal Agencies (existing and planned)
 - 2.1 What roles should Federal Agencies have in the design, implementation and operation of RCOOSs?
 - 2.2 How can these roles be implemented most effectively and efficiently?
 - 2.3 How can regional initiatives of federal agencies be harmonized and coordinated most effectively with RA development?
3. RAs and the Gulf of Mexico (GoM) Alliance
 - 3.1 What is the relationship between the IOOS RAs in the Gulf of Mexico and the GoM Alliance? How does the Alliance and its plan of action differ from the GCOOS-RA and SECOORA and their action plans? How are they similar?
 - 3.2 How can the efforts of the GoM Alliance be harmonized most effectively with those of the GoM RA and SECOORA for mutual benefit?
4. What is the role of the ORAP in IOOS development.
5. RA Certification
 - 5.1 Review requirements that must be met to become eligible for certification as an RA.
 - 5.2 Discuss procedures for certifying regional groups as RAs

REGIONAL DEVELOPMENT OF THE IOOS

1. Funding Model

The funding model described below is intended to provide both long-term stability for regional operations as well as flexibility that reflects regional differences in observing system requirements for both the National Backbone and RCOOSs. While it is expected that RAs will receive, manage and allocate funds for coordinated engagement of data providers and users in the development of RCOOSs, some elements RCOOSs may be funded directly by federal agencies.

IOOS Funding Model



- Regional priorities, non-federal funding: Levels of funding for RA activities and RCOOS operations from non-federal sources will vary substantially among regions depending on regional priorities and the ability of RAs to attract state funding and funding from private sectors and foundations.
- Regional activities funded by federal agencies: Priorities for funding will be determined by consensus between RAs and the funding (federal) agencies. The level of funding will vary among regions based on the priorities of stakeholders in each region and on observing system requirements for providing data and information in forms and at rates specified by the stakeholders.
- Federal funding for the National Backbone will also vary among regions based on regional differences in sampling regimes (size of the region, spatial resolution), but will not vary as much among regions as non-federal funding or funding
- The base cost of RA operations will be federally funded and stable with little variability among regions when normalized to ??? (number of clearly defined stakeholders? miles of coastline?....)

Issues

There is a third dimension to this conceptualization that scales funding for research and education, e.g., research to improve the backbone and research to improve the RCOOSs, education networks considered to be part of the backbone versus networks that are part of regional development.

How do Analysis and Forecast Centers fit into this scheme?

2. Federal Involvement in Regional Development

2.1 From a systems engineering perspective, RAs and regional bodies of federal agencies must work together to develop an IOOS that improves the data and information base used by

decision makers in these agencies and informs RAs of federal plans for agency-specific, regional development.

2.2 To enable the consensus building needed to establish and fund regional priorities and ensure coordination among federal agencies and RAs (i.e., harmonize regional initiatives of federal agencies with the development of RA-RCOOSs), Regional Federal Working Groups will be needed for each RA-RCOOS that consist of representatives from regional federal bodies in each region (NWS Regions, Fisheries Management Councils, EPA Regions, USACE Regions, etc.). One member from each WG should serve on RA Boards as an *ex officio* liaison.

3. Requirements for Becoming Eligible for Certification as a Regional Association

GOVERNANCE CRITERION

Requirement	Y/N
1. Documentation of a legal structure	
• Pursuant to articles of incorporation in home state, <i>or</i>	
• Pursuant to a binding agreement	
• Documentation of a legal mechanism for:	
○ Accepting and dispersing funds, including the determination of the distribution of funds provided or raised based on a well-defined system for setting priorities for funding based on performance	
○ Entering into enforceable contracts, grants, or cooperative agreements	
○ Addressing issues of liability	
○ Accountability	
○ Insurability, if not deemed an instrumentality of the U.S. government	
2. Adoption of membership policy	
• Articulates the process by which individuals or organizations become members, maintain their membership, or may lose their membership status	
○ Defines qualifications for membership	
○ Defines rights and responsibilities of membership	
• Includes one or more categories of members	
• Insures organizational diversity (public and private sectors)	
• Insures geographical diversity	
• Includes non-voting members from adjacent regions or nations, when appropriate	
3. Creation of a governing board with the powers and responsibilities to ensure its autonomy	
• With bylaws, signed articles of agreement, or similarly binding agreement that:	
○ Enables the functions described above	
○ Provides for the formulation and implementation of a business plan, including a budget	
○ Establishes an advisory panel or equivalent mechanism that ensures engagement of all stakeholders	
○ Provides for procedures for calling meetings of the board and in reaching decisions that are to be executed by or in behalf of the RA	
• Required to be public in all transactions	
• Represented on and conforms to the binding guidelines of the NFRA	
• Authority to establish the policies of the RA and to amend by bylaws	
• Reflects diversity of members	
• Appoints a chief administrative officer or executive body with:	
○ Signatory authority	
○ Duties and authorities defined	
• Develops metrics to monitor, analyze, and improve system performance	
• Able to carry out such powers and authorities designated by law or terms of agreement(s) between or among the parties comprising the RA	
• Establishes active/ongoing outreach and marketing program, detailed in the business plan, that:	
○ Includes a person or entity responsible for education, communication, and outreach who reports to the RA governing board, chief administrative officer, or executive body	
○ Documents the design and deployment of the observing subsystem that is responsive to stakeholder needs	
○ Frequently gauges user needs and provides for the evaluation of the information on a regular and continuing basis	

BUSINESS CRITERION

Requirement	Y/N
1. Introduction: Provide background and context for the business plan	
• Role of the RCOOS in the sustained development of IOOS	
• Summary statement about how the RA will engage in the Ocean.US planning cycle	
• Relationship between the RA governance plan and implementation of this plan	
• The process that will be used to update this plan	
• Brief description of the RCOOS assets and partners	
2. Goals and objectives	
• Clear relationship to societal goals	
• Consistent with IOOS design principles	
• Consistent with governance plan	
• Objectives that clearly relate to the RA's immediate priorities for:	
o Establishing and meeting user requirements for data and information	
o Considering and, as appropriate, integrating private sector data and products	
o Improving education and outreach	
o Assuring data management and communications	
o Contributing to IOOS as a whole	
3. Needs, benefits, product development, and marketing	
• Identifies the social and economic sectors that will benefit and how	
• Links objectives to benefits and product development	
• Presents a 5-year plan for product development and marketing of IOOS data and information	
• Short term goal to engage non-academic user and provider groups in product development; long term goal to diversify the user base	
• Identifies short-term contributions to IOOS	
• Identifies long-term contributions to IOOS	
• Describes how all stakeholder groups may be involved as data providers, data users, and/or sources of new technologies and knowledge; how the interests of these groups will be accommodated & nurtured by the RA	
4. Funding: Presents a plan for obtaining, increasing, sustaining, and diversifying revenues	
4.1 Budget – annually develop a 5-year budget plan, broken down into research, pilot/pre-operational, and operational activities, that include:	
o Operating costs for RA management office and activities	
o Operating costs for the infrastructure	
o Support for building the capacity of the RCOOS	
o Costs to transition promising user-needs focused research or pilot projects to pre-operational or operational	
o Systems engineering and capital costs	
o Education and inreach/outreach activities	
o Cost-benefit studies	
o Support to ensure adequate participation by non-governmental community and state agencies	
o Documentation of the process by which the RA will identify its priorities and communicate them to Ocean.US in the planning cycle	
o Description of the process for engaging all stakeholders in the process and identify their potential contributions, both funds and in-kind	
4.2 Income	
o Identifies current sources of funding and in-kind support	
o Presents a plan for diversifying funding base and partnering with other programs or groups	
o Describes projected sources of funding and their status (e.g., committed, proposal	

submitted, in preparation, or planned)	
○ Shows projected income distribution to research, pilot/preoperational projects, and operational activities	
5. Linking observations to models and other products	
• Identifies current assets and projections for short term (1-5 years) acquisitions for achieving objectives	
• Performs and presents a gap analysis comparing current capabilities with those required to achieve long term goals	
• Clear use of national standards and protocols	
• Identifies procedures for linking observations, data transmissions, data management and communication, data analysis, and data products	
• Presents a plan for acquiring, ingesting, and distributing data at rates and in forms needed by stakeholders	
• Includes a commitment to use nationally established guidelines and criteria and ensures their implementation	
5.1 Observations and data transmission:	
○ Show that the sampling program will provide sufficient geographical coverage and provide measurement of a broad suite of parameters supporting diverse needs	
○ Describe the operations plan, including:	
- Real-time support and maintenance of the observational infrastructure (<i>in situ</i> and information distribution)	
- Evaluation mechanism to ensure that the plan is responsive to user needs	
- Identification of an operations center for oversight of all observing elements	
- Staff assignments for operational oversight and response	
- Backup instruments and sensors	
- Requirements for observations, such as variables, resolution, and data collection interval and rate	
○ Annually updated one and five year plans for incorporating and enhancing existing assets, regionally and in the context of the national backbone, and which include:	
- Techniques (platforms, sensors, and methods)	
- Responsible entity	
- Support cost	
- Location	
- Parameters measured	
- User group which benefits	
- Observational requirements (time-space resolution, precision and accuracy, existing assets, gaps)	
- Requirements for data transmission (such as 24/7 operations or delayed transmission)	
5.2 Data Management and Communications	
○ Details how data will be collected, integrated, stored and archived, verified and certified, and retrieved and disseminated	
○ Verifies the integrity of the data and products guaranteed in the short and long terms	
○ Address current capabilities for DMAC in the RA	
- Identifies what kind of data will be integrated and from what sources	
- Describes how requirements will be met for:	
❖ QA/QC	
❖ Serving real time data	
❖ Archival	
❖ Metadata management	
❖ Produce generation	
- Plans for the development of the system in the next year and four following years	
- Proposes the relationship between the regional systems and the developing federal DMAC effort	
5.3 Data Analysis	
○ Identifies user requirements for data, information, and products	
○ Describes current capabilities of the RA's subsystem in terms of serving data and	

information at rates and in forms that satisfy stakeholder needs	
○ Establishes plans for calibration, validation, and inter-calibration, as needed	
○ Describes through an annually updated 5-year plan how capacity will be increased through model development, transitioning research models to operational, etc.	
5.4 Data Products	
○ Insures that data products are available to users	
○ Provides for coordination with private sector data production	
○ Identifies the person(s) responsible for data products	
6. Research and development	
• Identifies research and development priorities for improving operational capabilities, describes the purpose of the R&D or pilot project, and estimates its cost	
• Describes mechanisms for transitioning new technologies and knowledge into an operational mode, including estimates of cost	
• For unfunded projects, describes the plan for acquiring the necessary funding.	
7. Training	
• Details plans for growing the workforce necessary for IOOS development	
• Explains how the user community will be trained to access the data, information, or products	
8. System performance	
8.1 Maintaining operational continuity	
○ Describes how operational continuity will be monitored and improved	
○ Establishes a process to monitor the flow of data and information among observing, DMAC, and data analysis and modeling subsystems	
○ Includes appropriate calibration and servicing approaches for sensors	
8.2 User satisfaction	
○ Includes a plan for assessing user satisfaction, including:	
- A self-assessment mechanism whereby users can address, on a recurring basis, the adequacy of the systems and subsystems	
- Procedures for responding to user feedback	
- A mechanism to evaluate the effectiveness of measures taken to respond to user feedback	
8.3 Gap analysis	
○ Describes how deficiencies will be identified through a gap analysis process to assess current capabilities against the infrastructure needed to achieve the goals of the RA	
○ Prioritizes the deficiencies to be addressed	
8.4 Cost/Benefit – describes how the value of the system will be periodically measured to evaluate the economic and social value of the proposed system	
9. Stakeholder endorsements – includes testimonies of the importance of the system to stakeholders and success stories about how the system has provided benefit; copies provided to the NFRA	

4. The Cost of Regional Development

The National IOOS enterprise consists of a global ocean-climate component and a coastal component. The former is a federal responsibility that is an international collaboration. The latter is a federal responsibility in collaboration with Regional Associations (RAs).

Regional Coastal Ocean Observing Systems (RCOOSs), established, run and improved by Regional Associations (RAs) in the IOOS construct, are a critical component of the IOOS enterprise and will require substantial new, stable and sustained funding for successful implementation. At maturity, it has been estimated (Ocean.US, USCOP) that regional development will account for approximately half of the new federal resources required for the coastal component of the IOOS. Accordingly, sufficient new resources shall be provided through a federally run, regular competitive process to begin the capitalization, operation and management of RA-run RCOOS efforts.

To ensure that these efforts contribute to the successful development of the IOOS as a whole, the Administration, through the Committee on Ocean Policy, shall periodically provide an adequacy report on the IOOS, including an assessment of RAs in terms of cost-schedule performance (timely achievement of milestones within budget), adequacy of funding levels, status of RA accreditation, and a rigorous analysis of future resource needs. The first adequacy report will be submitted within 1 year.

Appendix 9.

**GCOOS Councils and Committees
Selected by Board on August 26, 2005
(To Be Finalized After All Contacts are Made)**

These names will be posted when finalized.

Appendix 10. Ocean.US Checklists for Governance and Business Criteria for IOOS Regional Associations

Governance Criteria: Citations are to sections in the GCOOS-RA Memorandum of Agreement dated 25 January 2005, with revisions of 22 August 2005.

Governance Criteria	Y/N?	Section
1. Documentation of a legal structure	?	ALL
• Pursuant to articles of incorporation in home state, <i>or</i>	NA	NA
• Pursuant to a binding agreement	Y	MoA
• Documentation of a legal mechanism for:		
○ Accepting and dispersing funds, including the determination of the distribution of funds provided or raised based on a well-defined system for setting priorities for funding based on performance	Y	VIII. VII
○ Entering into enforceable contracts, grants, or cooperative agreements	Y	VIII
○ Addressing issues of liability	1	-
○ Accountability	Y	VII
○ Insurability, if not deemed an instrumentality of the U.S. government	2	-
2. Adoption of membership policy	Y	VI(c), XIII, XIV(2), VI(b)(5)
• Articulates the process by which individuals or organizations become members, maintain their membership, or may lose their membership status	Y	I, VI(c), XIV(2)
○ Defines qualifications for membership	Y	VI(c)
○ Defines rights and responsibilities of membership	Y	VI(c), VII, XIII
• Includes one or more categories of members	Y	VI(c)
• Insures organizational diversity (public and private sectors)	Y	VI(c)
• Insures geographical diversity	Y	VI(c), VI(d)
• Includes non-voting members from adjacent regions or nations, when appropriate	Y	VI(c), XIII
3. Creation of a governing board with the powers and responsibilities to ensure its autonomy	Y	VI(b)(1), VII
• With bylaws, signed articles of agreement, or similarly binding agreement that:		
○ Enables the functions described above	Y	VI, VII, VIII, XIII
○ Provides for the formulation and implementation of a business plan, including a budget	Y	VII, VI(e)
○ Establishes an advisory panel or equivalent mechanism that ensures engagement of all stakeholders	Y	VI(b)(6)
○ Provides for procedures for calling meetings of the board and in reaching decisions that are to be executed by or in behalf of the RA	Y	VI(b)(1)
• Required to be public in all transactions	Y	5
• Represented on and conforms to the binding guidelines of the NFRA	3	III
• Authority to establish the policies of the RA and to amend by bylaws	Y	VII
• Reflects diversity of members	Y	VI(c), VI(b)(5)
• Appoints a chief administrative officer or executive body with:	Y	VI(b)(2)
○ Signatory authority	Y	VII
○ Duties and authorities defined	Y	VII
• Develops metrics to monitor, analyze, and improve system performance	4	VI(b)(9)
• Able to carry out such powers and authorities designated by law or terms of agreement(s) between or among the parties comprising the RA	Y	VI(b)(1), VII

• Establishes active/ongoing outreach and marketing program, detailed in the business plan, that:	Y	VII
○ Includes a person or entity responsible for education, communication, and outreach who reports to the RA governing board, chief administrative officer, or executive body	Y	VI(b)(7)
○ Documents the design and deployment of the observing subsystem that is responsive to stakeholder needs	Y	VI(b)(9)
○ Frequently gauges user needs and provides for the evaluation of the information on a regular and continuing basis	Y	VI(b)(10)

NOTES ON GOVERNANCE:

1 - Needs review: Executive Committee

2 - Needs review: Executive Committee

3 - What is meant by "binding guidelines"?

4 - Needs work: Operations Committee

5 - Requirement to be public in all transactions seems to be implied, not explicitly stated

Appendix 11. Business Criteria: Citations are to pages in the GCOOS-RA draft Business Plan dated 17 August 2005.

Business Criteria	Y/N?	Page
1. Introduction: Provide background and context for the business plan	?	Section 1: pp. 1-4
• Role of the RCOOS in the sustained development of IOOS	Y	1
• Summary statement about how the RA will engage in the Ocean.US planning cycle	Y	4
• Relationship between the RA governance plan and implementation of this plan	Y	3-4
• The process that will be used to update this plan	N-1	4
• Brief description of the RCOOS assets and partners	Y	**
2. Goals and objectives	Y	Section 2: pp. 4-6
• Clear relationship to societal goals	Y	4
• Consistent with IOOS design principles	Y	4
• Consistent with governance plan	Y	4
• Objectives that clearly relate to the RA's immediate priorities for:	Y	4-6
o Establishing and meeting user requirements for data and information	Y	4
o Considering and, as appropriate, integrating private sector data and products	Y	5-6
o Improving education and outreach	Y	6
o Assuring data management and communications	Y	4-6
o Contributing to IOOS as a whole	Y	4-5
3. Needs, benefits, product development, and marketing	?	Section 3: pp. 6-15
• Identifies the social and economic sectors that will benefit and how	Y	6-14
• Links objectives to benefits and product development	Y	14-15
• Presents a 5-year plan for product development and marketing of IOOS data and information	N-2	14
• Short term goal to engage non-academic user and provider groups in product development; long term goal to diversify the user base	Y	6
• Identifies short-term contributions to IOOS	Y	**
• Identifies long-term contributions to IOOS	Y	**
• Describes how all stakeholder groups may be involved as data providers, data users, and/or sources of new technologies and knowledge; how the interests of these groups will be accommodated & nurtured by the RA	N-3	14-15
4. Funding: Presents a plan for obtaining, increasing, sustaining, and diversifying revenues	?	Section 7: pp. 33-38
4.1 Budget – annually develop a 5-year budget plan, broken down into research, pilot/pre-operational, and operational activities, that include:	?	33-34, 36
o Operating costs for RA management office and activities	Y	36-37
o Operating costs for the infrastructure	Y	36-37
o Support for building the capacity of the RCOOS	Y	36-37
o Costs to transition promising user-needs focused research or pilot projects to pre-operational or operational	Y	36-37
o Systems engineering and capital costs	Y	**
o Education and inreach/outreach activities	?-4	36-37
o Cost-benefit studies	Y	** (40)
o Support to ensure adequate participation by non-governmental community and state agencies	Y	**

○ Documentation of the process by which the RA will identify its priorities and communicate them to Ocean.US in the planning cycle	Y	33-34
○ Description of the process for engaging all stakeholders in the process and identify their potential contributions, both funds and in-kind	Y	**
4.2 Income	N	38
○ Identifies current sources of funding and in-kind support	N-5	38
○ Presents a plan for diversifying funding base and partnering with other programs or groups	Y	**
○ Describes projected sources of funding and their status (e.g., committed, proposal submitted, in preparation, or planned)	N-6	**
○ Shows projected income distribution to research, pilot/preoperational projects, and operational activities	Y	36-37
5. Linking observations to models and other products	?-7	Section 4: pp. 15-26
• Identifies current assets and projections for short term (1-5 years) acquisitions for achieving objectives	Y	15-19
• Performs and presents a gap analysis comparing current capabilities with those required to achieve long term goals	Y-8	**
• Clear use of national standards and protocols	Y	22
• Identifies procedures for linking observations, data transmissions, data management and communication, data analysis, and data products	Y	16
• Presents a plan for acquiring, ingesting, and distributing data at rates and in forms needed by stakeholders	Y	**
• Includes a commitment to use nationally established guidelines and criteria and ensures their implementation	Y	**
5.1 Observations and data transmission:	Y-9	19-21
○ Show that the sampling program will provide sufficient geographical coverage and provide measurement of a broad suite of parameters supporting diverse needs	Y-10	**
○ Describe the operations plan, including:	Y	19-20
- Real-time support and maintenance of the observational infrastructure (<i>in situ</i> and information distribution)	Y	20
- Evaluation mechanism to ensure that the plan is responsive to user needs	Y	20
- Identification of an operations center for oversight of all observing elements	Y-10	20, 15
- Staff assignments for operational oversight and response	Y	19-20
- Backup instruments and sensors	Y	20
- Requirements for observations, such as variables, resolution, and data collection interval and rate	N	19
○ Annually updated one and five year plans for incorporating and enhancing existing assets, regionally and in the context of the national backbone, and which include:	Y	20
- Techniques (platforms, sensors, and methods)	Y	20
- Responsible entity	Y	20
- Support cost	Y	20
- Location	Y	19
- Parameters measured	Y	**
- User group which benefits	Y	**
- Observational requirements (time-space resolution, precision and accuracy, existing assets, gaps)	Y	19
- Requirements for data transmission (such as 24/7 operations or delayed transmission)	Y	19

5.2 Data Management and Communications	Y-11	22-24
○ Details how data will be collected, integrated, stored and archived, verified and certified, and retrieved and disseminated	Y	22-24
○ Verifies the integrity of the data and products guaranteed in the short and long terms	Y	22
○ Address current capabilities for DMAC in the RA	Y	22
- Identifies what kind of data will be integrated and from what sources	Y	**
- Describes how requirements will be met for:	Y	22-24
❖ QA/QC	Y	**
❖ Serving real time data	Y	23-24
❖ Archival	Y	24
❖ Metadata management	Y	22
❖ Produce generation	Y	**
- Plans for the development of the system in the next year and four following years	Y	**
- Proposes the relationship between the regional systems and the developing federal DMAC effort	Y	**
5.3 Data Analysis	Y-12	25-26
○ Identifies user requirements for data, information, and products	Y	26
○ Describes current capabilities of the RA's subsystem in terms of serving data and information at rates and in forms that satisfy stakeholder needs	Y	**
○ Establishes plans for calibration, validation, and inter-calibration, as needed	Y	25
○ Describes through an annually updated 5-year plan how capacity will be increased through model development, transitioning research models to operational, etc.	Y	26
5.4 Data Products	Y-12	26
○ Insures that data products are available to users	Y	26
○ Provides for coordination with private sector data production	Y	26
○ Identifies the person(s) responsible for data products	N	**
6. Research and development	Y	Section 5: pp. 26-31
• Identifies research and development priorities for improving operational capabilities, describes the purpose of the R&D or pilot project, and estimates its cost	Y	28-31
• Describes mechanisms for transitioning new technologies and knowledge into an operational mode, including estimates of cost	Y	26-28
• For unfunded projects, describes the plan for acquiring the necessary funding.	Y	**
7. Training	N-13	Section 6: pp. 31-33
• Details plans for growing the workforce necessary for IOOS development	N	**
• Explains how the user community will be trained to access the data, information, or products	N	**
8. System performance	Y	Section 8: pp. 38-40
8.1 Maintaining operational continuity	Y	38-39
○ Describes how operational continuity will be monitored and improved	Y	38
○ Establishes a process to monitor the flow of data and information among observing, DMAC, and data analysis and modeling subsystems	Y	38-39
○ Includes appropriate calibration and servicing approaches for sensors	Y-14	**
8.2 User satisfaction	Y	39

○ Includes a plan for assessing user satisfaction, including:	Y-14	39
- A self-assessment mechanism whereby users can address, on a recurring basis, the adequacy of the systems and subsystems	Y-14	39
- Procedures for responding to user feedback	Y-14	39
- A mechanism to evaluate the effectiveness of measures taken to respond to user feedback	Y-14	39
8.3 Gap analysis	Y	39-40
○ Describes how deficiencies will be identified through a gap analysis process to assess current capabilities against the infrastructure needed to achieve the goals of the RA	Y	39
○ Prioritizes the deficiencies to be addressed	Y	40
8.4 Cost/Benefit – describes how the value of the system will be periodically measured to evaluate the economic and social value of the proposed system	Y	40
9. Stakeholder endorsements – includes testimonies of the importance of the system to stakeholders and success stories about how the system has provided benefit; copies provided to the NFRA	Y-15	**

NOTES ON BUSINESS PLAN FROM BoD MEETING:

- 1 - Needs reworking
- 2 - Needs work by Stakeholders and E/O Councils, Products Committee, Executive Committee, Board of Directors
- 3 - "Nurturing interests" needs work by Stakeholders and E/O Councils, Products Committee, Executive Committee, Board of Directors
- 4 - May need work; Mike and Sharon to consider
- 5 - Needs non-federal sources added in (in Appendix); reference in plan after figure 4-1
- 6 - Add back in table with non-federal sources in Appendix; Worth has it; reference in plan
- 7 - Procedures described; details not included (see 9-11 below)
- 8 - Gap analysis needs work by committees
- 9 - Details for 5.1 to be in an operations plan (appendix) by Operations Committee
- 10 - Needs work
- 11 - Details for 5.2 to be in a data plan (appendix) by Data Management Committee
- 12 - Details for 5.3 and 5.4 to be in a products plan (appendix) by Products Committee
- 13 - Needs work by E/O Council with assistance of Stakeholders Council, Operations Committee, and Products Committee
- 14 - Details in operations plan and/or appendix
- 15 - Details in an Appendix or Stand Alone Report that is referenced in the Business Plan

PAGE IDENTIFICATION

** - Description or discussion covering this point is needed in this section

Appendix 12. Priorities for GCOOS Education and Outreach Activities

- 1) **Organize initial meeting of GCOOS Education and Outreach Council (EOC).** This would establish organizational internal structure, discuss operational and programmatic issues and processes, initiate education and outreach planning and actions.
- 2) **Identify groups (SG, NERRs, NEPs, COSEE, etc.) that can extend GCOOS Education and Outreach activities.** ("Inreach" – to build capacity among ourselves). Inreach should precede outreach. We could develop a "train the trainer" educational program on IOOS that could be used in various states as part of the training of education and outreach organizations such as SG, NEERs, NEPs, and COSEEs. As an example, the Southeast Atlantic Regional Association brought together Sea Grant Extension agents from the four states to be briefed on IOOS, SEACOOS, and what resources might be available. That meeting also included scientists working on the observing system.
- 3) **Inventory existing IOOS materials (fact sheets, curricula, PowerPoints, videos, websites, etc.) available for use in education and outreach activities.** These could be evaluated for their use and applicability for the GCOOS. It also would provide some gap analysis of what is missing. IOOS funds could possibly be leveraged with other funds to put these materials into formats useable for the GCOOS. Identify existing products and services that could be used in initial GCOOS public awareness campaign.
- 4) **Conduct more intensive needs assessments among specific user and super-user groups on what education/outreach products and services are needed in IOOS related activities.** The GCOOS Stakeholder Council can provide assistance here. This could involve formal, informal, and workforce education networks, as well as specific user groups. Since funds are limited, we must consider carefully which audiences should be addressed first, then develop both education and outreach activities and products that meet their needs. We should also develop evaluation tools to measure the effectiveness of these activities and materials in meeting their needs. This would help for future funding and other spin-off activities.
- 5) **Identify, support, and hire a GCOOS Regional Education/Outreach Coordinator (full or part-time).** This was a general recommendation at the GCOOS Education and Outreach Formation Meeting. (If not a coordinator, perhaps a graduate student could be found to carry out the initial footwork.)
- 6) **Create a Listserve for discussion and dissemination of information among the interested Education and Outreach community in the Gulf of Mexico.** This would establish communication network within region for educators and outreach specialists interested in IOOS activities.
- 7) **Use the NOAA-supported studies as a starting point for more in-depth study of the potential economic impacts of GCOOS and how to best package products for users.**