

Meeting Minutes
GCOOS-RA Board of Directors
12 January 2006
University of South Alabama
Mobile, Alabama

Thursday, 12 January 2006

1.0 Welcome, Introduction, Logistics, Adoption of Agenda

The meeting was called to order at 0830 CST by Don Roman, Chair of the GCOOS-RA Board of Directors. He welcomed the board members as well as Ann Jochens, GCOOS Regional Coordinator, and Alexis Lugo-Fernández with the Minerals Management Service. Attendees with affiliations are given in Appendix 1.

Each attendee was invited to give his/her affiliation, regular job description, and interactions with GCOOS.

The draft agenda (Appendix 2) was adopted provisionally without change.

2.0 Committees and Councils: Status and Guidance

The status of the membership of each of the councils and committees was discussed, together with plans for activities in 2006.

2.1 Stakeholder Council (Board liaisons: Cort Cooper and Don Roman)

The first meeting of the Stakeholder Council was held 10-11 January 2006 at the University of South Alabama in Mobile, AL. Don Roman announced to the Board that Robert Stickney and Stuart Burbach had been elected Chair and Vice Chair of the Stakeholder Council, respectively. He also provided the Board with a summary of the meeting (http://ocean.tamu.edu/GCOOS/Office/meetings/2006_Jan/stakeholder.htm).

The summary of the report given by Mary Altalo, Director of the Ocean.US Office, to the Stakeholder Council meeting resulted in discussion of the certification process. Mike Spranger moved that GCOOS submit the MOA and Business Plan to Ocean.US with a request that the GCOOS-RA be certified. Ray Toll seconded and the motion passed unanimously.

[ACTION: Board to complete review of the business plan (see 5.0 below). The MOA and Business Plan, once finalized, will be submitted to Ocean.US with request for certification.]

Also reported to the Stakeholder Council were the activities of GCOOS Board members Nowlin and Prelat in pursuing connections with Mexico and Caribbean counterparts. The Board supported continued pursuit of these connections and endorsed that invitations be extended to the University of Tabasco and PEMEX to join the GCOOS RA as an Associate Member.

[ACTION: Nowlin to send an invitation to the University of Tabasco, and Nowlin/Prelat to deliver an invitation in person to PEMEX Exploration & Production in June.]

The fifth meeting of the Florida Coastal Ocean Observing Systems Caucus will meet in Sarasota, FL, on 4 April 2006. GCOOS has been invited to present a featured talk of 20 minutes followed by a question and answer session.

[ACTION: Select a speaker and announce to Tom Gustafson by 19 January 2006. Don Roman volunteered with Ray Toll as backup.]

Discussion of methods that might be used to provide federal funding to IOOS Regional Associations led to consideration of cooperative agreements rather than grants or contracts.

[ACTION: GCOOS should contact Ocean.US and suggest that future procurement of federal funds by IOOS RAs should be done using cooperative agreements.]

2.2 Education and Outreach Council (Board liaisons: Mike Spranger and Sharon Walker)

Mike Spranger reported that membership of the Education and Outreach Council (EOC) is nearly complete. Appendix 3 lists members as of 12 January 2006. The first meeting is targeted for 1.5 days in late April. Locations under consideration include Pensacola and Biloxi. It is anticipated the EOC will meet once per year as a group and then conduct business through teleconferencing, email, and small working groups. It seems likely that the EOC will operate via two subgroups: one dealing with formal education activities such as K-12, teacher training and class room materials; the other dealing with outreach activities such as Sea Grant undertakes targeted to specific audience groups.

Alfredo Prelat nominated Carol Lutkin to the EOC and the Board agreed to include her. Spranger and Walker hope to identify one additional person from Louisiana and one from Florida to serve; the Board agreed.

[ACTION: Spranger or Walker to contact Carol Lutkin and to identify and invite an additional person from Louisiana and Florida to serve.]

The priorities for the EOC were discussed (Appendix 4). Appendix 12 of the minutes from the Board Meeting of August 2005 provide additional detail on each of the five priorities listed and also on two additional priorities (creation of a Listserve and use of NOAA-supported studies as a starting point for study of economic impacts). The top priorities are to identify how to hire an Education and Outreach Coordinator and to hold the EOC meeting.

[ACTIONS:

- GCOOS Office to identify what funds are available for the Education and Outreach effort and provide the information to the Board.
- Before 3 February 2006, Spranger and Walker are to develop a 3-year Education and Outreach budget based on specific tasks.
- Nowlin and Spranger will seek to identify possible sources of funding.]

2.3 Observing Systems Committee (Board liaisons: Mark Luther and Buzz Martin)

Mark Luther provided an overview of the membership of the Observing Systems Committee with an identification of areas of expertise of each member. The Board discussed adding an additional member to add to the biological expertise of the committee. To begin activities, the Board decided to name an interim chair of the committee to serve until the committee itself elects a chair.

[ACTIONS:

- Chris Oynes to invite Bob Rogers to join the Observing Systems Committee and will send the GCOOS Office the Rogers' contact information after his acceptance.
- Don Roman will contact Stephen Howden to invite him to serve as interim chair of the Observing Systems Committee.]

The Board discussed sending each committee member a letter with a package of pertinent GCOOS information. The discussion led to the decision to hold the EOC meeting simultaneously with the meetings of the three operational committees. Tentatively, the meetings will last 1 1/2 days. These meetings will begin with a joint session giving GOOS/IOOS/GCOOS overviews. Then, the Council and three committees will hold separate meetings although chairs of the groups will hold a joint breakfast meeting on the second day to consolidate similar ideas and then report to their respective groups.

[ACTIONS:

- GCOOS Office to develop materials for the information package for each committee. These will include bios of members, terms of reference, GCOOS plans for 2006, a one page summary of GCOOS—what it is and how the committee fits in, plans for meeting in April 2006, and a list of potential pilot projects currently under consideration. The Board will send the letter to members through the GCOOS Office.
- Mike Spranger and Sharon Walker will check on possible facilities for these meetings.]

2.4 Products and Services Committee (Board liaisons: Nancy Rabalais and Raymond Toll)

After reviewing the expertise of the members of the Products and Services Committee, the Board discussed adding several more members to this committee to better cover the private sector. Ideas included personnel in the marine transportation and commercial fisheries sectors. Mark Luther nominated Mike Farley, retired US Coast Guard; the nomination was tabled pending identification of additional possible members.

[ACTIONS:

- A package specific to the Products and Services Committee will be provided to the members of the committee (see discussion in 2.3 above).
- Don Roman will invite Richard Crout or, if he declines, Pat Hogan to serve as interim chair of the Products and Services Committee until the committee itself elects a chair.
- Worth Nowlin to ask Wayne Swingle for a recommended commercial fisheries representative and Jim Kruse for a recommended representative from the marine transportation sector.
- Don Roman will ask Bill Walker (MS Department of Marine Resources) for the name of a fisheries person.
- Chris Oynes will obtain a name from the Offshore Marine Services Association, representing the offshore service and supply boat sector.]

2.5 DMAC Committee (Board liaisons: Alfredo Prelat and Jan van Smirren)

The Board was generally satisfied with the membership of the Data Management and Communications Committee. This Committee also will be sent a specialized package (see 2.3 above).

[ACTION: Ray Toll will invite Steve Beaudet or, if he declines, Bill Burnett, to serve as Interim Chair of the Data Management and Communications Committee until the committee itself elects a chair.]

3.0 *NFRA Issues and Activities for 2006 (Buzz Martin and Ray Toll)*

The Board reviewed NFRA pending issues and activities for 2006.

[ACTION: Worth Nowlin to send Chris Oynes the NFRA terms of reference.]

4.0 *Governance Structure*

Buzz Martin provided comments on the Memorandum of Agreement from his agency's attorney. These were mainly minor edits. After discussion, the Board adopted the changes with modifications. The Board agreed that the changes should be made, the revised document should be posted to the web, and the Parties should be notified that non-substantive changes had been made for clarity and grammar. Appendix 5 shows the revisions.

[ACTION: GCOOS Office to make corrections to MOA and post to web with email to Parties notifying them of the non-substantive changes by the Board. Any voting Party who is opposed to the changes will be asked to contact the GCOOS Office with their comments.]

5.0 *Business Plan*

In light of the Board decision to proceed with obtaining certification from Ocean.US, the Board members agreed to review the draft Business Plan and provide comments to Ann Jochens for compilation. Spranger and Walker will provide details on education and outreach. Nowlin will provide an updated inventory of extant observing system elements.

[ACTION: Board members to provide comments to Ann Jochens by 1 February 2006.]

6.0 *GCOOS Workshops and Pilot Projects*

Suggestions for GCOOS Focused Stakeholder Workshops that were made in the Stakeholder Council and Parties meetings on 10 and 11 January 2006 were reviewed. An additional workshop is being planned by the MMS for early 2007 to produce a master plan for research in the Gulf of Mexico between Mexico and the U.S.A.

[ACTION: The GCOOS Office will keep the MMS informed of results of meetings with Mexican counterparts.]

It was decided to form for each of the suggested pilot projects a small group to further consider how to take the project forward. These eight pilot projects are listed and numbered in Appendix 6. A lead person has been identified for each group, together with Stakeholder Council members and/or Board members who will participate. The lead will invite others identified to join and will finalize the group members. The tentative oversight groups for each of these pilot projects are:

Pilot 1: Mark Luther (lead). To be invited: Geoff Morrison (Seakeepers), Alan Thompson (Tampa Bay pilot), and an offshore tanker representative to be identified.

Pilot 2: Bart Bibler (lead), Don Roman, and Dave Buzan.

Pilot 3.1: Cort Cooper (lead), Jan van Smirren, and Buzz Martin.

Pilot 3.2: Worth Nowlin to scope the cost and discuss with the MMS.

Pilot 3.3: Deferred.

Pilot 3.4: Alfredo Prelat (lead), Tom Chance. To be invited: Tom McGee, James Robinson, and someone from SAIC or FugroGEOS.

Pilot 3.5: Cort Cooper (lead), Don Roman, Buzz Martin. To be invited: Peter Black, Naomi Sergi, Alex Soloviev (NOVA), and Jim O'Brien.

Pilot 4: Ray Toll (lead), Matthew Howard, Mark Luther, and Worth Nowlin. To be invited: Tim Crum (NOAA)

[ACTION: Each group should report plans to the Board.]

Several additional pilot projects are needed to carry out the enhancements recommended in the draft GCOOS Business Plan.

[ACTION: Nowlin to look at the Plan and report those pilots to the Board.]

It was strongly suggested that the GCOOS web site should contain upper ocean current vectors from sites producing in near real time. At the same time, it was realized that this might be considered as infringing on private sector partners who might be producing such products for sale to others.

[ACTION: Explore the possibility of carrying out a pilot to make such maps in partnership with a private partner.]

7.0 GCOOS Public Relations

GCOOS needs a communication plan. The recommendations of the Stakeholder Council provide a strong beginning to such a plan

(http://ocean.tamu.edu/GCOOS/Office/meetings/2006_Jan/stakeholder.htm). Clearly these recommendations will be refined and augmented by the Education and Outreach Council. Only after we have results of the first meeting of both of those groups, can the GCOOS Office working with the Board assemble a draft communication plan.

Nevertheless, the Board did have suggestions in addition to those made by the Stakeholder Council for improving GCOOS public relations. In considering how to increase membership to GCOOS-RA, the Board identified that there was confusion between the early GCOOS Resolution and the new MOA, both of which are on the GCOOS web page. The Board decided that the Resolution would be retired to the history part of GCOOS and that its signatories who are not Parties to the MOA be contacted to clarify the two documents.

[ACTIONS:

- GCOOS Office to prepare a brochure stating why companies might benefit by joining the GCOOS-RA. What is GCOOS and where are we going? Board to approve. This should be ready by the first week in May for distribution at the MMS booth at the Offshore Technology Conference.
- Mike Spranger to send Ann Jochens the SEACOOS flyer in pdf.
- Board members to keep the GCOOS Office informed of meetings and to identify those meetings at which a GCOOS presence might be beneficial.
- GCOOS Office send a message to all signatories to the GCOOS Resolution stating the difference between the resolution and the MOA and asking them to sign the MOA.
- GCOOS Office to send a message to all Stakeholder Council members asking them to have their institution join the GCOOS-RA.
- GCOOS Office to ensure that the GCOOS Web site has clear instructions on how to sign and fax the MOA.
- GCOOS Office to take signatories to the Resolution off the web site and refer to the resolution as a useful past stepping stone toward development of GCOOS.]

8.0 GCOOS-related activities and reports

Ray Toll informed the Board that IOOS legislation is still pending in Congress. Worth Nowlin and Mark Luther, with input from others, reported on the numerous regional meetings of interest. These are posted to the GCOOS web calendar; calendar inputs from the Board should be sent to Worth Nowlin.

Worth Nowlin reported that the GCOOS-RA is funded under a 3-year grant for management and development activities, but that the funding for years 2 and 3 depends on NOAA budgets. [ACTION: GCOOS Office to present to the Board for review and approval a spending plan for the remainder of 2006.]

9.0 Other Business

Dates and venue for the August 2006 Board meeting should be set.

[ACTION: Susan Martin to poll board first for dates and later for suggestions for the meeting site.]

There being no further business, Don Roman adjourned the Board of Directors meeting at approximately 1600 CST.

APPENDIX 1

GCOOS-RA Board of Directors Meeting Attendees With Affiliations

Name	Affiliation
<i>Board Members</i>	
Cortis Cooper	ChevronTexaco
Mark Luther	University of South Florida
Robert (Buzz) Martin	Texas General Land Office
Worth Nowlin	Texas A&M University
Chris Oynes	Minerals Management Service
Alfredo Prelat	PAR Government
Nancy Rabalais	Louisiana Universities Marine Consortium
Don Roman	University of Southern Mississippi
Mike Spranger	Florida Sea Grant Program
Raymond Toll	Science Applications International Corporation
Jan van Smirren	Fugro GEOS
Sharon Walker	J. L. Scott Marine Education Center & Aquarium, USM
<i>Others</i>	
Ann Jochens	Texas A&M University, GCOOS Regional Coordinator
Alexis Lugo-Fernández	Minerals Management Service, Guest

APPENDIX 2

GCOOS Board of Directors Meeting January 12-13, 2006 Mobile, Alabama

Discussion leaders are identified.

Thursday, January 12, 2006

- 8:00 Coffee
- 8:30 Welcome, Introduction, Logistics, Adoption of Agenda (Don Roman)
- 8:45 Committees and Councils: Status and Guidance
Stakeholder Council (Cort Cooper and Don Roman)
 Summary of first meeting
 Meetings & Tasks
Education and Outreach Council (Mike Spranger and Sharon Walker)
 Overview of membership
 Meetings & Tasks
- 10:15 Refreshment Break
- 10:45 Committees and Councils: Status and Guidance (continued)
Observing Systems Committee (Mark Luther and Buzz Martin)
 Overview of membership
 Meetings & Tasks
Products and Services Committee (Nancy Rabalais and Raymond Toll)
 Overview of membership
 Meetings & Tasks
DMAC Committee (Alfredo Prelat and Jan van Smirren)
 Overview of membership
 Meetings & Tasks
- 11:30 NFRA Issues and Activities for 2006 (Buzz Martin and Ray Toll)
- 12:00 Catered Lunch
- 13:00 Governance Structure
Memorandum of Agreement (Buzz Martin)
Alternative Governance Structures (Don Roman)
- 14:00 Business Plan (Don Roman)
Ocean.US certification process
Discussion of plan
Assignments for completion

- 14:30 GCOOS Workshops and Pilot Projects (Worth Nowlin)
- 15:00 Refreshment Break
- 15:30 GCOOS Public Relations (Don Roman)
- 16:00 GCOOS-related activities and reports
 - Legislation (Ray Toll)
 - Insurance/Liability (Ann Jochens)
 - GCOOS Finances (Worth Nowlin)
 - Regional meetings of interest (Worth Nowlin and Mark Luther)
 - Inputs to Annual IOOS Development Plan (Don Roman)
 - Others
- 16:30 Other Business
- 17:00 Adjourn for the day

Friday, January 13, 2006

- 8:00 Coffee
- 8:30 Return to any remaining items
- 10:00 Adjourn BOD Meeting
- 10:30 Executive Committee Meeting
- 12:00 Adjourn Executive Committee Meeting

APPENDIX 3

Membership of the Education and Outreach Council as of 12 January 2006

Name	Title/Professional Associations
ALABAMA	
John Dindo (Alabama)	Associate Director, Dauphin Island Sea Lab Co. P.I., Gulf of Mexico COSEE Member, Southern Assn of Marine Educators
Lloyd Scott (Alabama)	Director, Environmental Studies Center Member, Southern Assn of Marine Educators
Margaret Sedlecky (Alabama)	Educator, Weeks Bay NERR
Lee Yokel (Alabama)	Information Specialist, Mobile Bay NEP
FLORIDA	
Mike Spranger (Florida)	Asst. Director for Extension and Education, Florida Sea Grant Program Co P.I. Gulf of Mexico COSEE Member, FL Marine Science Educator Assn.
Gary Lytton (Florida)	Director, Rookery Bay NERR
Chris Verlinde (Florida)	Extension Agent, Florida Sea Grant Program Past President, Pensacola Env. Education Team Member, FL Marine Science Educator Assn.
Debbi Berger (Florida)	Vice President -Education, Florida Aquarium Member, FL Marine Science Educator Assn.
Charlene Mauro (Florida)	Teacher, Navarre High School Member, FL Marine Science Educator Assn.
LOUISIANA	
Jessica Kastler (Louisiana)	Education Specialist, LUMCON Co. P.I., Gulf of Mexico COSEE Member, Southern Assn of Marine Educators
Dianne Lindstedt (Louisiana)	Education Specialist, LSU Sea Grant Program Member, Southern Assn of Marine Educators P.I. – Gulf of Mexico COSEE Member, Southern Assn of Marine Educators
Jean May-Brett (Louisiana)	Coordinator, Math Science Partnerships, Louisiana Dept. of Education, Member, Southern Assn of Marine Educators
Pam Blanchard	Faculty, Dept. of Curriculum & Instruction, Louisiana State University

Name	Title/Professional Associations
MISSISSIPPI	
Sharon Walker (Mississippi)	Administrator, J.L. Scott Marine Ed. Center Director of Education, MS-AL Sea Grant
Joe Swaykos (Mississippi)	Director, Center of Higher Learning, Southern Mississippi Stennis Space Center
Jennifer Buchanan (Mississippi)	Education Specialist, Grand Bay NERR
Lashanda Colbert	Science Specialist, MS Dept. of Education
Carol Lutken	Associate Director for Research Programs, Mississippi Mineral Resources Institute
TEXAS	
Rick Tinnin (Texas)	Education Director, University of Texas Marine Science Center Member, Texas Education Assn. Of Marine Sciences
Ralph Rayburn (Texas)	Associate Director, Texas Sea Grant Program
Rob Smith (Texas)	Public Information Specialist, Fugro GEOS
Shelley Du Puy (Texas)	Educator, Flower Gardens Banks NMS
Lisa Spence (Texas)	Flight Lead, Neutral Buoyancy Lab, Johnson Space Center, NASA
Pamela Teraski (Texas)	Teacher, Twin Creeks Middle School
Outside Region	
Rusty Low (Outside Region)	Director, Strategic Partnerships, Digital Library for Earth Systems Education

APPENDIX 4

Priorities for the Education and Outreach Council Discussed at 12 January 2006 Board Meeting

- Hire a GCOOS Regional Education/Outreach Coordinator.
- Organize initial meeting of GCOOS Education and Outreach Council (EOC).
- Conduct intensive needs assessments among specific user groups on what education/outreach products and services are needed.
- Inventory existing IOOS materials available for use in education and outreach activities.
- Identify groups that can extend GCOOS Education and Outreach activities.

APPENDIX 5

January 12, 2006 Revisions to the GCOOS MoA

(MOA of 25 January 2005, with revisions of 26 October 2005, and corrections of 12 January 2006;
12 January 2006 corrections are shown)

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”, or singular, “Party”).

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 Exclusive Economic Zone (EEZ) 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 a Party 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 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 the 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 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, ~~and the Education and Outreach Council~~ to closely link the work of ~~these~~ committees/ ~~and~~ councils.

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~~ ~~therefrom~~, 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 **and associated rivers and estuaries.**

e. Decision-making. The Board of Directors will establish fiscal policy for GCOOS, **and** 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 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 ~~GCOSS-RA~~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~~ them 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~~ to minimize 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~~ **my signature** below.

Name, Institution	Date
Representing	
Printed Name	
Email address	
Mailing Address	

Return this signed page to the attention of Worth Nowlin via fax at (979) 847-8879.

APPENDIX 6

Pilot Projects Under Consideration

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

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

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

3.1 Surface Current Forecast Maps (H) & Forecast Maps of 3-D Deepwater Currents

3.2 Measurement & Products Archive (H)

3.3 Marine Mammal & Turtle maps (M)

3.4 Probability Maps of bottom Hazards (H-) and Maps of Hydrocarbon seeps (L)

3.5 Improving forecasting of hurricane severity (H)

(4) Initiate a pilot GCOOS Operations Center.