

Continued Development of the Gulf of Mexico Coastal Ocean Observing System

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LONG-TERM GOALS

The overarching goal of this project is to build a robust, user-driven, sustained, operational Gulf of Mexico Coastal Ocean Observing System (GCOOS) for the benefit of the people of the United States and, in particular, those whose lives, work, and play depend upon the Gulf of Mexico. The specific goals of this project, as funding allows, are to maintain the existing GCOOS capabilities, augment the existing observations to fill gaps, and provide enhanced products and services. GCOOS capabilities include components to integrate data sets from diverse providers; assure consistency, quality, and accuracy of the data; create new products needed by users; and provide in a timely and efficient manner the data, products, and services needed by decision-makers, diverse stakeholders, and the public. Physical, meteorological, biogeochemical, and bathymetry data are major components of the data system.

OBJECTIVES

The goal will be achieved through accomplishment of six scientific or technological *objectives*:

Objective 1 is to maintain and strengthen the GCOOS Regional Association (GCOOS-RA) through continuing the activities of the board, councils, committees, task teams, and office staff to manage the development of the GCOOS and by working with regional stakeholder groups to identify their various needs and to guide the GCOOS priorities.

Objective 2 is to continue to build the observing system, GCOOS, through integration of existing observations made by different entities, provision of operation and maintenance support for existing non-federal systems that (a) monitor surface currents, harmful algal blooms, hypoxia, water level changes, estuarine water quality, and ecosystem health, (b) derive products needed by users from satellite data, and (c) add new observations to fill gaps as funding allows.

Objective 3 is to improve the Data Management and Communications (DMAC) system by enhancing and expanding the capabilities of the GCOOS Data and Products Portal; adding new data providers for Gulf open ocean, coastal, and estuarine regions and making their data interoperable; building capabilities to access legacy data; and strengthening the regional involvement with the evolution of and compliance with the data management and communication plans of IOOS.

Objective 4 is to support regional modeling capacity through providing *in situ* and remotely-sensed data to meet the needs of the modeling community in machine-to-machine formats, establishing a regional modeling task team for the Gulf of Mexico, and pursuing ecosystem modeling pilot projects to support marine resource decision-makers.

Objective 5 is to enhance the integrated outreach and education activities of the GCOOS-RA, through the activities of the GCOOS Education and Outreach Coordinator and the Education and Outreach Council, that improve information exchange between user groups and data providers, promote ocean literacy, and provide materials for the public, such as interactive ocean-themed kiosk exhibits.

Objective 6 is to obtain certification to become a member of U.S. Integrated Ocean Observing System (IOOS) when the process is established.

APPROACH AND WORK PLAN

1. ***Scientific/technical approach***: Our approach consists of three activities under this project: maintain the base GCOOS-RA capabilities, contribute support to keep existing non-federal observing systems functional, and add new observing systems to fill gaps in the GCOOS.

Maintain Base Capabilities: The first activity for this work plan is to maintain the base capabilities of the GCOOS-RA that have evolved over the past 10 years. The base capabilities are to (1) maintain the GCOOS-RA so it can continue to build toward a comprehensive GCOOS; (2) continue DMAC-compliant activities to achieve interoperability with non-federal data providers—our local data nodes (Figure 1); (3) maintain the functioning of the Data and Products Portal (Figure 2); and (4) continue activities with the outreach and education community to enhance public knowledge of the oceanic environment, their impacts on it, and its impacts on them.

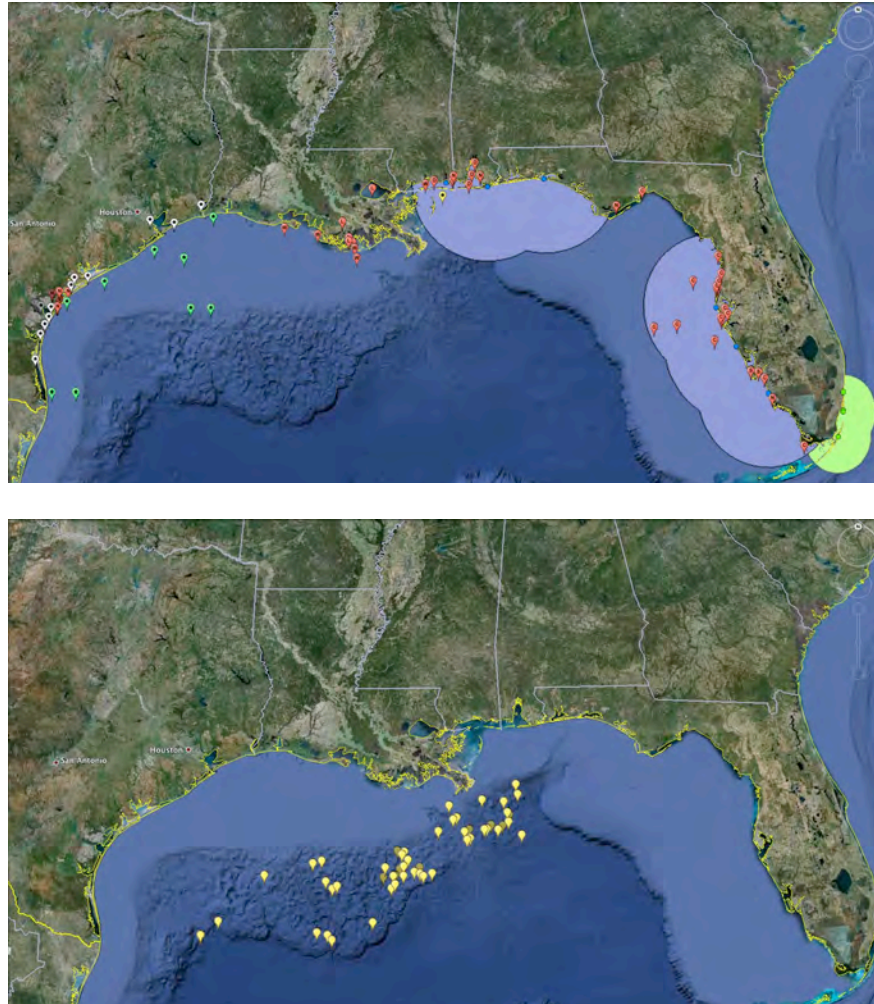


Figure 1. Existing non-federal observing assets. (upper panel) Moorings and High Frequency Radar (HFR) stations. Upper Legend: White or gray with star = TAMU-CC TCOON; Green with star = TAMU TABS; Red with "W" = LSU WAVCIS; Red with "L" = LUMCON; Yellow with star = USM CenGOOS; Red with "D" = DISL; Red with "C" = USF COMPS; Red with "S" = Mote Marine Lab; Red with "N" = buoys supported by NOAA's water elevation projects operated by academic (many are operated by TCOON); HFR = blue sites with the blue or green offshore sampling domain shown. (lower panel) The oil and gas industry-supported ADCP stations, some are temporary.

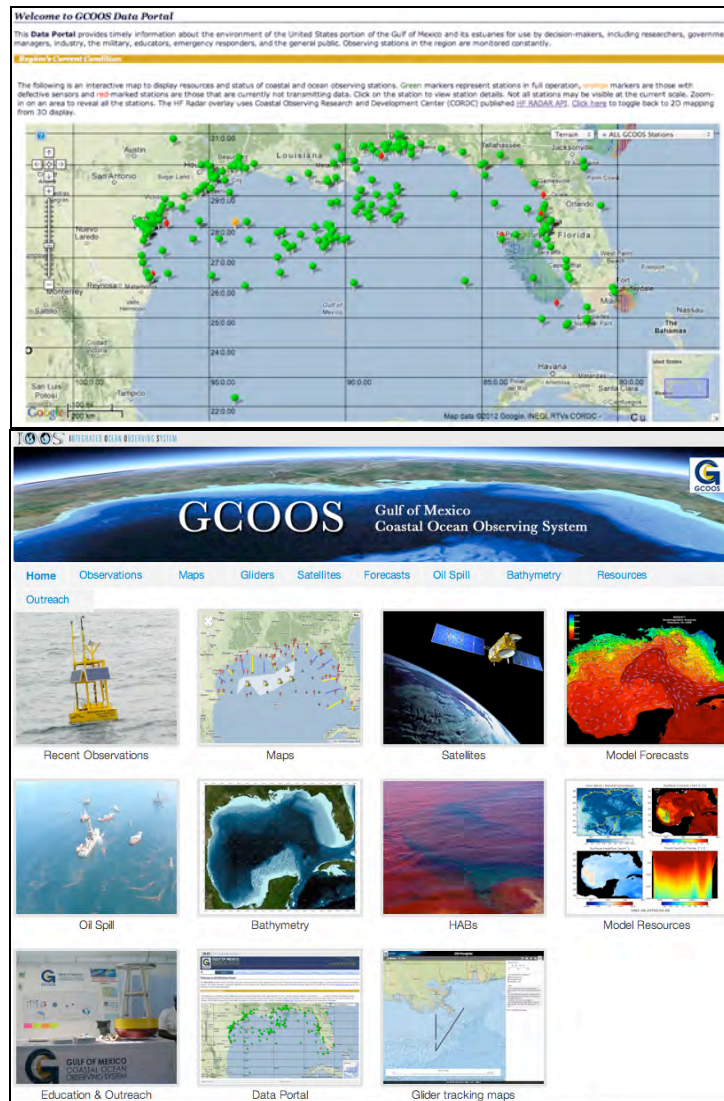


Figure 2. (upper) Initial page of the GCOOS Data Portal showing locations of existing stations with oceanic data sets available through the GCOOS Data Portal on 21 December 2012 (<http://data.gcoos.org>). (lower) Introductory page for the GCOOS Data Products Portal (<http://gcoos.org/products/>).

Keep Existing Systems Functional: The second activity under the work plan is to (1) assist with keeping key existing non-federal observational systems functional by contributing support for operations and maintenance (O&M), (2) add enhancements to the Data Portal, and (3) initiate an ecosystem modeling pilot activity to benefit state decision-makers. Limitations in funding available have meant that several of the existing systems could not be supported.

Add New Systems: Achieving a comprehensive observing system for the Gulf of Mexico—the GCOOS—requires the addition of new observing assets to fill gaps in needed observations. For years one and two of the project, no new observing systems were added because the funding level was not sufficient to install, operate, or maintain new observing assets.

2. **Key Personnel:** The key individuals on this project are identified in Table 1, together with their affiliations and roles in the project. These are the project principal investigators and co-principal investigators, including several whose tasks do not begin until actual funding is at levels sufficient to include them. Additionally, the volunteers who make up the GCOOS-RA Board of Directors (http://gcoos.tamu.edu/?page_id=261) or serve on the GCOOS committees, councils, and task teams (http://gcoos.tamu.edu/?page_id=2150) are key people that provide guidance and direction to the office staff, but the personnel vary and so are not included here.

3. **Work Plan for Upcoming Year:** The work plan for the upcoming year includes six tasks. The office staff will organize and hold meetings of the GCOOS-RA governing bodies and stakeholder workshops. The project team will operate their local data nodes and provide data and products to the GCOOS data system. The project team and other members of the GCOOS-RA will engage with stakeholder sectors to ascertain needs. The office staff will entrain additional non-federal local data nodes into the GCOOS data system as well as enhance the capabilities and products of the Data and Product Portal. The office staff and other GCOOS-RA members will continue working with the outreach and education community to put information into the hands of those who need it. The GCOOS-RA will apply for certification as an IOOS Regional Association. Additionally, plans for year 3 include the addition of new assets to the systems of the principal investigators, again, only if funding is sufficient.

Table 1. Key Personnel and Project Roles by GCOOS Subsystem

Key Investigator	Institution	Project Role	Base Activity Years 1, 2	Upcoming Year = Base + Enhancements
<i>Coordinated Regional Management and Governance Subsystem</i>				
Ann E. Jochens	TAMU	PI, Program Manager, and Executive Director of the GCOOS-RA	Staff & Fiscal Oversight, Meetings & Travel to Maintain Regional Association	Improved Interactions with Key Stakeholder Sectors; Hold Stakeholder Workshops; Enhanced Committee Work; More Travel Interactions
<i>Data Management and Communications (DMAC) Subsystem</i>				
Matthew K. Howard	TAMU	Co-PI, GCOOS Data Manager	Maintain Basic DMAC Capability & Data Portal Maintain TABS local data node	Maintain THREDDS and raster programming capability beyond December 2011
Felimon Gayanilo	TAMU-CC	Co-PI, GCOOS Data Portal System Architect	Programming	DMAC programming assistance for new local data nodes
Sara Graves	UAH	Co-PI	<i>No activity in Year 1 or 2</i>	Enhancements to GCOOS Data Module
Clint Padgett	Bowhead/ACOE	Co-PI	<i>No activity in Year 1 or 2</i>	Enhancements to GCOOS Data Module
<i>Observing Subsystem</i>				
Mark Luther	USF	Co-PIs; COMPS Local Data Node	Maintain COMPS local data node on west Florida shelf	Contributions to DMAC evolution and improved data streaming
Stephan Howden	USM	Co-PI; CenGOOS Local Data Node and Stations	Maintain USM local data node; provide O&M for HFR/buoy in Central Gulf	O&M support for glider operations
Eric Milbrant	SCCF	Co-PIs; SCCF Local Data Node	Maintain the SCCF local data node in Southwest Florida	Double the data provided

Key Investigator	Institution	Project Role	Base Activity Years 1, 2	Upcoming Year = Base + Enhancements
Mike Dardeau	DISL	Co-PI; Mobile Bay Stations	<i>No activity in Year 1 or 2</i>	Support for O&M for 3 stations in Mobile Bay
Lei Hu	DISL	Co-PI; Mobile Bay Local Data Node	Maintain local data node at Mobile Bay	Maintain local data node at Mobile Bay
Kyeong Park	DISL	Co-PI; New Provider	<i>No activity in Year 1 or 2</i>	Telemetry for existing buoy; O&M for new data provider
Chunyan Li	LSU	Co-PI; WAVCIS Stations & Local Data Node	Maintain WAVCIS local data node in eastern Louisiana; O&M to keep at least one WAVCIS station operational	O&M to keep additional WAVCIS stations operational
Lisa Campbell	TAMU	Co-PI; HAB Local Data Node	<i>No activity in Year 1 or 2</i>	Maintain data node – phytoplankton/HABs at Port Aransas, Texas
Kevin Speer	FSU	Co-PI; New Provider	New data provider; Big Bend area off Florida	O&M to keep Big Bend FL - Tower N7
Gary Kirkpatrick	MOTE	Co-PI; HAB Stations & Local Data Node	Maintain Mote local data node & O&M to keep 2 HAB buoys operational	O&M for additional Mote HAB obs
Robert Currier	MOTE	Co-PI; New Provider	<i>No activity in Year 1 or 2</i>	new data provider—beach quality: lifeguard HAB obs
Barb Kirkpatrick	MOTE	Co-PI; New Provider	<i>No activity in Year 1 or 2</i>	O&M for new provider—beach quality; lifeguard HAB obs
Gary Jeffress	TAMU-CC	Co-PI; TCOON Water level Local Data Node	Maintain TCOON local data node with server enhancement (Texas water level network)	O&M for TCOON stations enabling expansion of water level network outside of Texas
Nancy Rabalais	LUMCON	Co-PI; LUMCOM Stations and Local Data Node	Maintain LUMCON Local Data Node's environmental monitoring stations off Louisiana	O&M for existing DO observations in out years; Add DO sensor east of Mississippi River Delta
James E. Ivey	FL FWRI	Co-PI; New Provider	<i>No activity in Year 1 or 2</i>	New data provider; O&M to retain biochemical, HAB stations on West FL Shelf
Jan van Smirren	Fugro-Geos	Co-PI; New Provider	<i>No activity in Year 1 or 2</i>	HFR station: Phase 1 - pilot in TX
Modeling and Analysis Subsystem				
Paul A. Montagna	TAMU-CC	Co-PI; Ecosystem modeling task	Ecosystem model: tools for decision-makers	Workshop on ecosystem model tools for decision-makers; support funds for senior personnel
Frank Muller-Karger; Chuanmin Hu	USF	Co-PI; Ocean Color RS provider	Maintain IMaRS local data node: one satellite product	Enhanced satellite products provided
Robert Leben	CCAR at CU	Co-PI; SSH RS provider	New satellite provider: sea surface height product	Improved product availability
Nan Walker	LSU	Co-PI; SST RS provider	Maintain ESL local data node: one satellite product	Additional satellite products provided
Outreach and Education Subsystem				
Chris Simoniello	IMMS	Co-PI, GCOOS Outreach and Education Coordinator	O/E Coordinator work; O/E workshop for satellite product providers	O/E for additional interactive kiosks (2-3); O/E additional workshops for data providers (2-3); O/E workshops for Educators (3)
Sharon Walker	IMMS	Co-PI; Education and Outreach	O/E workshop for satellite product providers	O/E for additional interactive kiosks (2-3); O/E additional workshops for data providers (2-3); O/E workshops for Educators (3)

ACOE=U.S. Army Corps of Engineers; Bowhead=Bowhead Science and Technology LLC; CBI=Conrad Blutcher Institute; CCAR=Colorado Center for Astrodynamic Research, University of Colorado; DISL=Dauphin Island Sea Laboratory; FSU=Florida State University; Fugro=Fugro-GEOS, Inc.; FWRI=Florida Fish & Wildlife Research Inst.; HRI=Harte Research Institute; IMMS=Institute for Marine Mammal Studies; LSU=Louisiana State University; LUMCON=Louisiana Universities Marine Consortium; MOTE=Mote Marine Laboratory; SCCF=Sanibel-Captiva Conservation Foundation; TAMU=Texas A&M University; TAMU-CC=Texas A&M Univ.-Corpus Christi; UAH=University of Alabama-Huntsville; USF=University of South Florida; USM=University of Southern Mississippi

WORK COMPLETED

In Year 2 of the project, the planned work was largely completed, except that funding was not adequate to cover all enhancement or new tasks. In particular, additional observing assets and data management enhancements were not funded and related tasks were not undertaken. The work completed under the six task areas are:

- *Task 1: The office staff will organize and hold meetings of the GCOOS-RA governing bodies and stakeholder workshops.* Shown in Table 2 are the 3 meetings and 1 workshop that were held during the reporting period (http://gcoos.tamu.edu/?page_id=391).

Table 2. GCOOS-RA Meetings and Workshops from 1 November 2011 through 31 October 2012.

Description	Location	Date
3 rd GCOOS HABIOS Workshop	Pensacola, FL	26-28 Mar 2012
14 th GCOOS-RA Board of Directors Meeting	Gulfport, MS	14-15 Mar 2012
7 th Annual GCOOS Parties Meeting	Gulfport, MS	14-15 Mar 2012
15 th GCOOS-RA Board of Directors Meeting	Corpus Christi, TX	15-16 Sep 2012

- *Task 2: The project team will operate their local data nodes and provide data and products to the GCOOS data system.* Figure 3 shows the locations of the observing assets that were partially supported by this project.
- *Task 3: The project team and other members of the GCOOS-RA will engage with stakeholder sectors to ascertain needs.* Two main work tasks were undertaken. First, the GCOOS-RA Education and Outreach Council worked with recreational boaters and the information obtained in earlier years at two Recreational Boaters Workshops to design and test a recreational boaters web site (<http://gcoos.tamu.edu/products/maps/boaters/>). Second, as a result of previous work to identify stakeholder needs, the Board of Directors and Office Staff developed an initial 10-year Build-Out Plan for the GCOOS. This plan is subject to change. See (http://gcoos.tamu.edu/BuildOut/GCOOS_BuildoutPlan_V1.pdf).
- *Task 4: The office staff will entrain additional non-federal local data nodes into the GCOOS data system as well as enhance the Data-Product Portal's capabilities and products.* Under an earlier project, the GCOOS-RA conducted a pilot project to test the feasibility of bringing "rivers to ocean" water quality data sets together. Water quality monitoring is a high priority for Gulf State public health, environmental, and marine resource managers. The GCOOS-RA has determined that there are sufficient nearshore stations to warrant the development of an Integrated Water Quality Network. The initial target area is Florida from the Keys to Tampa

Bay. Texas south and central coast will be next, followed by LA-MS-AL and then the Florida panhandle. Work consists of identification of water quality stations with high quality data, engagement of the associated data providers with the GCOOS-RA, entrainment of their data sets into the Data Portal, and eventual development of products that tie together the data from the rivers (head of tide) to the estuaries to the coast to the shelf to the deepwater ocean in forms useful to managers and other users. Figure 4 shows the locations of the SCCF stations; a subset of these was incorporated into the GCOOS and, with the success of the pilot, additional stations from SCCF are being incorporated into the Data Portal with partial support from this project.

- *Task 5: The office staff and other GCOOS-RA members will continue working with the outreach and education community to put information into the hands of those who need it. The Education and Outreach Council completed testing of the Recreational Boaters' web pages, which were then posted to the GCOOS web site. Improvements continue to be made using suggestions of users.*

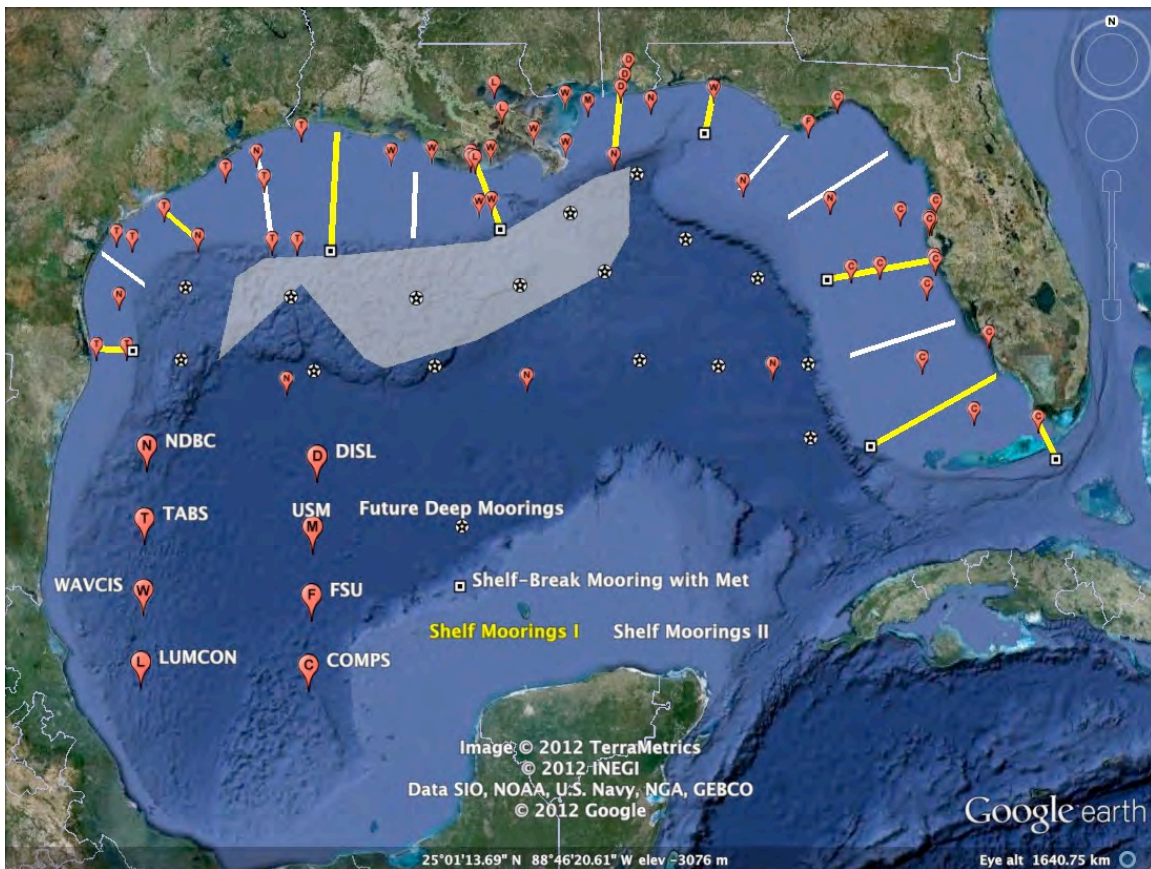


Figure 3. Existing mooring locations (red symbol with letter) with planned locations of additional moorings in the 10-year GCOOS Build-Out Plan when funding allows. Partial support was provided to the existing assets except for NDBC buoys, which are supported through NOAA. In addition the GCOOS-RA supported water elevation stations along the Texas coast through TCOON, a harmful algal bloom station off Sarasota, FL (Mote Marine Lab), and FL water quality stations of the SCCF.

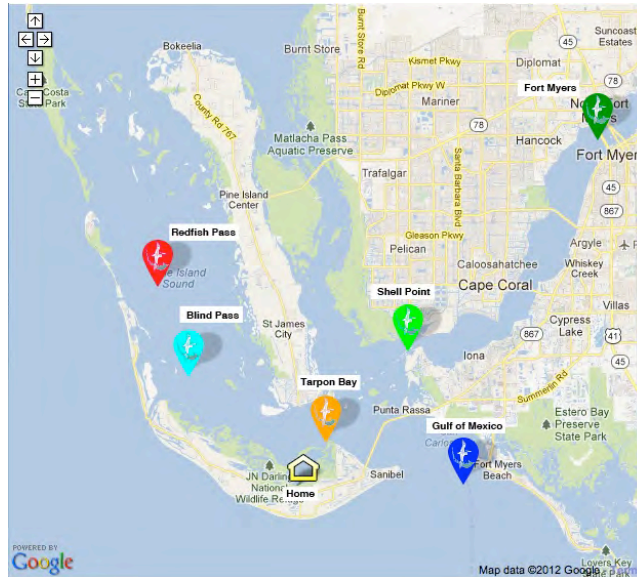


Figure 4. Water quality stations of the Sanibel-Captiva Conservation Foundation, which is a new local data node partner for the building of GCOOS "rivers to ocean" observational capability. From <<http://recon.sccf.org>>.

- *Task 6: If funding allows, add new assets to the systems of the principal investigators.* Funding was not sufficient to add new assets in Year 2.

RESULTS

Results of the project through 31 October 2012 are:

Maintain Base Capabilities: DONE within funding limitations

- Maintain the GCOOS-RA so it can continue to build toward a comprehensive GCOOS
 - 1 workshop
 - 3 meetings
 - See Table 2
- Continue DMAC-compliant activities to achieve interoperability with non-federal data providers—our local data nodes
 - See Figure 3 for local data nodes partially funded by this project, enabling them to continue with interoperability activities as they provide their DMAC-compliant data.
- Maintain the functioning of the Data and Products Portal
 - See Figure 1 (products and data web sites) and Appendix A (listing of GCOOS Data Portal stations).
- Continue activities with the outreach and education community to enhance public knowledge of the oceanic environment, their impacts on it, and its impacts on them.
 - continued enhancements to the recreational boaters web site.

Keep Existing Systems Functional: DONE within funding limitations

- Assist with keeping key existing non-federal observational systems functional by contributing support for operations and maintenance (O&M)
 - 8 local data nodes on the Gulf shelves were partially supported (USF-COMPS, Mote Marine Lab, DISL, USM-CenGOOS & HFR; LSU-WAVCIS; LUMCON; TABS; and TCOON)
 - 1 new local data node in the rivers to estuaries was partially supported (SCCF)
 - 1 new local data node over the shelf was partially supported (FSU-Tower N7)
 - Limitations in funding available meant that several of existing systems could not be supported (Campbell – TX HAB station; Dardeau – Mobile Bay Estuary Monitoring)
- Add enhancements to the Data Portal
 - Limitations in funding available have meant that the enhancements from Graves of UAH and Padgett for Bowhead/USACE could not be supported. These projects are in jeopardy of not moving forward because they will take several years to complete and have not yet started.
- Initiate an ecosystem modeling pilot activity to benefit state decision-makers
 - Presentation on the system was given. See Turner, Evan L., Denise A. Bruesewitz, Paul A. Montagna, Jim W. McClelland, Alexey Sadovski, Ed Buskey, and Rae Mooney. 2012. *Simulating nutrient cycles of coastal waters using NPZ model ensembles*. Theme 3: New Tools and Views in a Changing Ocean (ID 282 Oral), Oceans of Change, 2nd ICES/PICES Conference for Early Career Scientists, Majorca Island, Spain, 24-27 April 2012. Research is supported partially by GCOOS subaward to Dr. Paul Montagna, TAMU-Corpus Christi.

Add New Systems: Insufficient funding to add new systems

Achieving a comprehensive observing system for the Gulf of Mexico—the GCOOS—requires the addition of new observing assets to fill gaps in needed observations. For years one and two of the project, no new observing systems were added because the funding level was not sufficient to install, operate, or maintain new observing assets.

Limitations in funding available meant that several of the planned new systems could not be supported (see Table 1; Chunyan & Rabalais – upgrades to WAVCIS and LUMCON moorings for hypoxia monitoring; Park – adding telemetry to achieve real-time data deliver for an existing shelf station off AL; van Smirren – addition of an HFR pilot off Galveston; Kirpatrick-Currier – Beach Quality Monitoring network). These projects are in jeopardy of not moving forward because they will take several years to complete and have not yet started.

IMPACT AND APPLICATIONS

National Security

The project has resulted in the rapid availability of non-federal data sets for use by the U.S. Coast Guard in its Search and Rescue operations. Two High Frequency Radar systems, which can reduce the search area, are installed and operational—MS-AL-FL panhandle area (Stephan Howden of USM under this project) and Tampa Bay to Naples, FL (Robert Weisberg of USF through the HFR project of the Southeast Coastal Ocean Observing Regional Association)—and data from both are available through the GCOOS Data and Products Portal. The footprints of the

two systems are shown in Figure 5 in blue. The building of the High Frequency Radar network, which will consist of 48 (52 to Miami) HFR systems, will result in better outcomes for many SAR events (Figure 5). Additionally, when the High Frequency Radar network is built, it may provide data that can be used to track ships. Currently, funding levels are insufficient to add HFR stations.

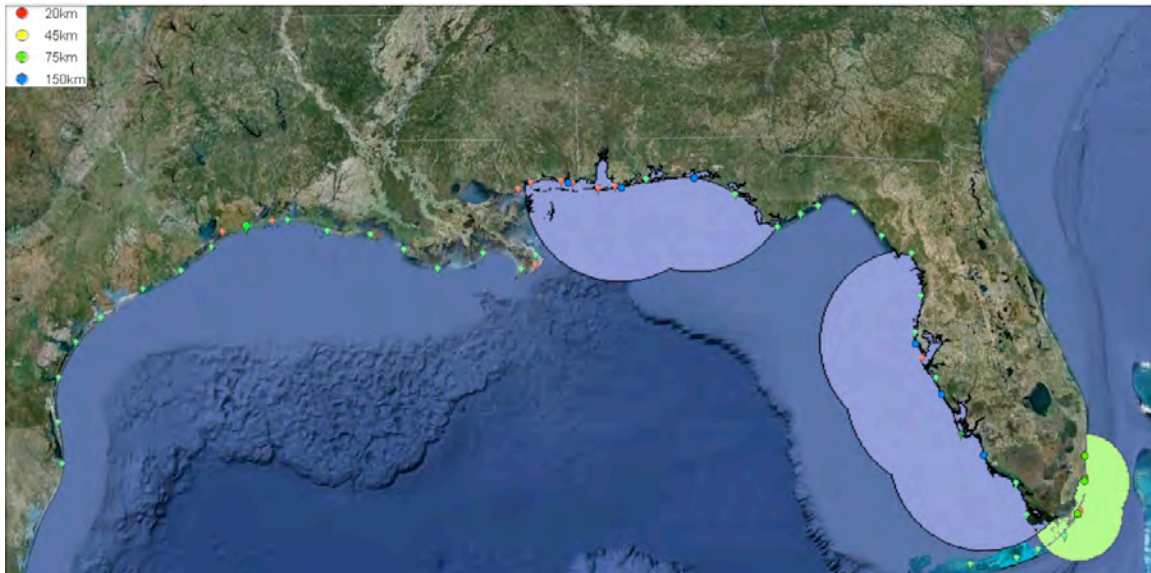


Figure 5. Planned HFR Network. The footprints of the 3 existing systems are shown in blue and green over the shelf.

Economic Development

Integration of existing and new observing elements into a unified ocean observing system will provide easy access to data, products, and services needed by users in their desired formats. Impacts of this system will enable the private sector to more easily generate new product lines. It will employ workers at technically skilled levels, such as for equipment manufacture, deployment, operation and maintenance, and data processing and analysis. For example, the project is providing O&M support to keep operational the observing system that measures surface currents over the shelf in the Mississippi-Alabama-Florida panhandle region. This system was used to track movement of oil at the surface from the BP *Deepwater Horizon* oil spill in 2010. The GCOOS will provide information that can be used to promote tourism by providing up-to-date information on beach, boating, and similar conditions; and, through the integration and linkage of people and resources, provide society the capability to better predict and mitigate against coastal hazards (e.g., track pollutants from industrial spills or enhance planning response for storm surge and coastal inundation), manage commercially important marine resources (e.g., wind energy, fisheries), and facilitate safe and efficient marine transportation.

Quality of Life

The potential future impact of the project is that the GCOOS itself will be built, and this will provide data and information that can be used to assess quality of life issues related to the marine

environment. Through integration of the multi-disciplinary data and information obtained from diverse sources, monitoring to preserve and restore healthy marine ecosystems will advance (e.g., monitor and suggest how to mitigate low oxygen conditions on the shelf and in the coastal estuaries – Figure 6) and protecting human health will be benefited (e.g., improve prediction of water quality including harmful algal blooms – Figure 7). Improved capabilities to detect and predict climate variability will result from long time series of data that will allow better decisions on actions to adapt to, mitigate, or prevent the consequences. The sharing of the data, models, and products via the internet is for the common benefit of the public and all participants, including industry, NGOs, academia, and federal, state, regional, and local government agencies.



Figure 6. Hypoxia monitoring plan for the Gulf shelf; additional plans are under development for the estuaries and nearshore environment with the Gulf of Mexico Alliance Water Quality and Nutrient Reduction Priority Issue Teams.



Figure 7. Harmful Algal Bloom Integrated Observing System (HABIOS), a HABS monitoring plan under development with the Gulf of Mexico Alliance Water Quality Priority Issue Team.

Science Education and Communication

Through the outreach and education activities of this project, more information will be available to the public, in forms suitable for diverse intellectual abilities, to help them make informed decisions regarding a broad range of interactions with the coastal ocean environment—from recreational activities to emergency responses.

TRANSITIONS

National Security

High frequency radar data are used by the U.S. Coast Guard to narrow the search radius during Search and Rescue operations (Figure 5). Non-federal data sets have been made available for immediate ingestion into weather forecast models and use in planning emergency response actions.

Economic Development

Web-based access to a wide range of data and information has been made available to recreational boaters, including sports fishermen and tourists, to improve planning for leisure time.

Quality of Life

Efforts are underway to improve water quality monitoring and to integrate data sets for more effective decision-making by local, state, and federal agencies. The focus currently is on issues of hypoxia, excessive nutrient loading and eutrophication, harmful algal blooms, and beach conditions (Figures 6 and 7).

Science Education and Communication

Materials and lesson plans are being developed to provide educators with new tools and information to educate their classes in the marine ecosystem. Plans also include the expansion of the locations with the GCOOS interactive learning kiosks installed; the targeted locations are for informal educational settings such as aquariums and museums. <See "Educators at <http://gcoos.org>>

RELATED PROJECTS

The Gulf of Mexico Coastal Ocean Observing System (GCOOS) was formed in 2000 as one of the regional coastal ocean observing systems under the U.S. Integrated Ocean Observing System (IOOS). GCOOS is developing as a sustained ocean observing system that provides data, information, and products on marine and estuarine systems to a wide range of users. A Regional Association, the GCOOS-RA, was established by Memorandum of Agreement (MoA) in January 2005. The organizational structure was in place by April 2006. Much progress has been made toward the development of the GCOOS. However, as revealed by the BP *Deepwater Horizon* oil spill, which is a vivid example of the need for a robust ocean observing system in the Gulf of Mexico, much remains to be done to bring this observing system to maturity.

Projects that have supported GCOOS development to date are in four main areas: Regional Association Governance and Management, Data Management, Observations, and Modeling. All

areas include components of Outreach and Education in them, and all are represented on the GCOOS web site at <http://gcoos.org>. The foundational projects for each of these areas were:

Regional Association Governance and Management: Projects that developed the GCOOS Regional Association, its structure, and priorities, as well as provided staff and travel support for the GCOOS-RA efforts.

1. Maintenance and Enhancement of the Gulf of Mexico Coastal Ocean Observing System-Regional Association. Awarded \$1,199,943 by NOAA, Cooperative Agreement NA08NOS4730289, 1 May 2008 through 30 April 2012. Principal Investigators: A.E. Jochens and W.D Nowlin, Jr.
2. Development of the Gulf of Mexico Coastal Ocean Observing System (GCOOS) and its Regional Association (GCOOS-RA): Phase II. Awarded \$1,100,688 by NOAA, Cooperative Agreement NA05NOS4731167, 1 June 2005 through 31 May 2008. Principal Investigator: W.D. Nowlin, Jr. A.E. Jochens was a named key person on this project and was the Regional Coordinator for GCOOS-RA.

Data Management: Projects that support common data management and regional interoperability.

3. Maintenance and Enhancement of the GCOOS Data Portal; Building toward a Regional Operations Center. Awarded \$1,700,000 by NOAA, Cooperative Agreement NA08NOS4730411, 1 January 2009 through 31 December 2011. Principal Investigators: A.E. Jochens, M.K. Howard, F. Gayanilo, S.H. Walker, and C. Simoniello.
4. Integration of and Regional Enhancement to the GCOOS: Development of a Data Portal. Awarded \$500,000 by NOAA, Cooperative Agreement NA07NOS4730217, 1 January 2008 through 30 April 2010. Principal Investigators: A.E. Jochens and M.K. Howard.
5. GCOOS Services to the Gulf of Mexico Research Initiative (GoMRI): Awarded \$315,250 for the first three years of the contract period 1 June 2011 through 31 May 2016. Years 4 and 5 will be priced when the scope of work to be carried out in those years is decided. Principal Investigators: M.K. Howard and A.E. Jochens.

Note: #6 below also has elements of Data Management.

Observations: Projects that support entrainment of non-federal local data nodes into the GCOOS and that promote data interoperability using IOOS standards and protocols.

6. Standardization of Local Data Network Nodes in the Gulf of Mexico. Awarded \$744,038 by NOAA, Cooperative Agreement NA07NOS4730199, 1 January 2008 through 31 December 2011. Principal Investigators: A.E. Jochens and M.K. Howard.

Note: #3 and 4 above also have elements of entraining non-federal data nodes into GCOOS.

Modeling: Projects that support regional modeling and analysis capacity building and the development of the Model Resource Center of the Data and Products Portal.

7. GOMEX 3-D Operational Ocean Forecast System Pilot Project. Subcontract with Portland State University for \$200,000 for the period 11 March 2010 through 10 September 2011. Principal Investigators: M.K. Howard, A.E. Jochens, and S.F. DiMarco.
8. SURF contract for \$28,921 for the period 1 June 2010 through 31 December 2011. Principal Investigator: M.K. Howard.

APPENDIX A
Observing Assets Listing

GCOOS Data Streams Available for Integration

Data Source: Gulf of Mexico Coastal Ocean Observing System Data Portal (<http://gcoos.org/portal>); downloaded 11/12/12

OWNER	PLATFORM	LAT (°N)	LON (°W)	OBSERVATIONS	FUNDING SOURCE
OIL & GAS COMPANY	42361	27.55	-92.49	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42362	27.8	-90.67	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42363	28.16	-89.22	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42364	29.06	-88.09	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature. currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42365	28.2	-89.12	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42366	27.122	-91.959	currents (ADCP), airTemperature	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42368	27.204	-92.203	currents (ADCP), airTemperature	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42370	27.321	-90.536	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42372	27.779	-90.519	currents (ADCP), airTemperature	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42374	28.866	-88.056	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42375	28.521	-88.289	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42377	27.293	-90.968	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42379	27.362	-90.181	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42380	28.209	-88.738	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42381	28.221	-89.616	currents (ADCP), airTemperature	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42382	27.304	-93.538	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42383	27.37	-89.924	currents (ADCP), airTemperature	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42385	28.34	-88.266	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42386	27.326	-90.714	currents (ADCP)	OIL & GAS INDUSTRY

OWNER	PLATFORM	LAT (°N)	LON (°W)	OBSERVATIONS	FUNDING SOURCE
OIL & GAS COMPANY	42387	28.267	-88.399	currents (ADCP), airTemperature	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42390	26.129	-94.898	currents (ADCP), airTemperature	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42391	28.034	-89.101	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42861	28.281	-88.646	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42862	28.004	-89.166	currents (ADCP), airTemperature	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42863	27.486	-90.191	currents (ADCP), airTemperature	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42867	26.191	-92.151	currents (ADCP), airTemperature	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42868	28.745	-88.356	currents	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42871	27.317	-90.111	currents (ADCP), airTemperature	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42875	28.171	-89.786	currents (ADCP), airTemperature	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42887	28.191	-88.496	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42889	28.394	-89.465	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42890	27.625	-90.441	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42892	27.599	-92.298	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42894	28.77	-88.834	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42897	27.161	-90.715	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42899	27.066	-92.06	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42902	26.13	-94.9	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42904	28.085	-87.986	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42905	27.396	-90.305	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42908	26.1	-92.055	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42909	27.084	-90.794	currents (ADCP)	OIL & GAS INDUSTRY

OWNER	PLATFORM	LAT (°N)	LON (°W)	OBSERVATIONS	FUNDING SOURCE
OIL & GAS COMPANY	42910	27.73	-90.57	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42911	27.454	-90.619	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42912	27.316	-90.754	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42913	28.469	-88.251	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42914	28.43	-89.389	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42915	26.442	-91.189	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42916	28.731	-88.363	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42917	26.237	-92.377	currents (ADCP), airTemperature	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42918	26.41	-94.52	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42919	27.504	-90.532	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42921	28.2	-88.793	currents (ADCP), airTemperature	OIL & GAS INDUSTRY
OIL & GAS COMPANY	42923	27.48	-90.928	currents (ADCP)	OIL & GAS INDUSTRY
OIL & GAS COMPANY	WDEL1	28.662	-89.551	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	OIL & GAS INDUSTRY
FSU-COAPS	Tower N7	29.662	-84.373	airPressure, airTemperature, dewTemperature, humidity, salinity, waterTemperature, winds	ACADEMIC
USF-COMPS	42013	27.169	-82.926	waterTemperature, winds, currents, salinity, airPressure, airTemperature, relativeHumidity, solarRadiation	ACADEMIC
USF-COMPS	42021	28.311	-83.306	waterTemperature, winds, currents, salinity, airPressure, airTemperature, relativeHumidity, solarRadiation	ACADEMIC
USF-COMPS	42022	27.498	-83.722	waterTemperature, winds, currents, salinity, airPressure, airTemperature, relativeHumidity	ACADEMIC
USF-COMPS	42024	27.464	-84.219	waterTemperature, currents, salinity	ACADEMIC
USF-COMPS	ANCF1	28.193	-82.789	waterLevel, waterTemperature, winds, salinity, airPressure, airTemperature, relativeHumidity, solarRadiation	ACADEMIC
USF-COMPS	ANMF1	27.54	-82.74	waterLevel, winds, airPressure, airTemperature, relativeHumidity	ACADEMIC
USF-COMPS	ARPF1	28.433	-82.667	waterLevel, waterTemperature, winds, salinity, airPressure, airTemperature, relativeHumidity	ACADEMIC
USF-COMPS	BGCF1	26.404	-81.881	waterLevel, waterTemperature, winds, salinity, airPressure, airTemperature, relativeHumidity	ACADEMIC
USF-COMPS	CAMF1	27.765	-82.649	waterTemperature, winds, currents, salinity, airPressure, airTemperature, dissolvedOxygen, relativeHumidity	ACADEMIC

OWNER	PLATFORM	LAT (°N)	LON (°W)	OBSERVATIONS	FUNDING SOURCE
USF-COMPS	EGKF1	27.601	-82.751	waterLevel, waterTemperature, winds, salinity, airPressure, airTemperature, relativeHumidity	ACADEMIC
USF-COMPS	FHPF1	28.153	-82.801	waterLevel, waterTemperature, winds, salinity, airPressure, airTemperature, relativeHumidity	ACADEMIC
USF-COMPS	HSSF1	28.772	-82.707	waterLevel, waterTemperature, winds, salinity, airPressure, airTemperature, relativeHumidity	ACADEMIC
USF-COMPS	MTBF1	27.661	-82.594	waterLevel, waterTemperature, waves, winds, salinity, airPressure, dissolvedNutrients, dissolvedOxygen	ACADEMIC
USF-COMPS	NFBF1	25.084	-81.096	waterLevel, waterTemperature, winds, salinity, airPressure, airTemperature, relativeHumidity	ACADEMIC
USF-COMPS	PTRF1	28.285	-82.733	waterLevel, waterTemperature, winds, salinity, airPressure, airTemperature, relativeHumidity	ACADEMIC
USF-COMPS	SHPF1	30.06	-84.291	waterLevel, waterTemperature, winds, salinity, airPressure, airTemperature, relativeHumidity	ACADEMIC
USF-COMPS	TARF1	28.156	-82.758	waterLevel, winds, airPressure, airTemperature, relativeHumidity	ACADEMIC
USM-CenGOOS	42067	30.043	-88.649	waterTemperature, winds, winds, currents, currents, salinity, airPressure, airTemperature, relativeHumidity	ACADEMIC
DISL	BSCA1 (Bon Secour)	30.33	-87.83	waterLevel, waterTemperature, salinity, dissolvedOxygen	ACADEMIC
DISL	DPHA1 (Dauphin Island Sea Lab)	30.251	-88.078	waterLevel, waterTemperature, winds, salinity, airPressure, airTemperature, dissolvedOxygen, relativeHumidity, solarRadiation	ACADEMIC
DISL	MBLA1 (Middle Bay Lighthouse)	30.437	-88.012	waterLevel, waterTemperature, winds, salinity, airPressure, airTemperature, dissolvedOxygen	ACADEMIC
DISL	Cedar Point*	30.308	-88.14	waterLevel, waterTemperature, salinity, dissolvedOxygen	ACADEMIC
DISL	Katrina Cut *	30.258	-88.213	waterLevel, waterTemperature, salinity, dissolvedOxygen	ACADEMIC
DISL	Meaher Park*	30.667	-87.936	waterLevel, waterTemperature, salinity, dissolvedOxygen	ACADEMIC
DISL	Perdido Pass*	30.279	-87.556	waterLevel, waterTemperature, salinity, dissolvedOxygen	ACADEMIC
LUMCON	LKPL1	30.18894	-90.16831	waterLevel, waterTemperature, winds, salinity, airPressure, airTemperature, dissolvedOxygen, relativeHumidity, solarRadiation	ACADEMIC
LUMCON	LUML1	29.25333	-90.66333	waterLevel, waterTemperature, winds, salinity, airPressure, airTemperature, dissolvedOxygen, relativeHumidity, solarRadiation	ACADEMIC
LUMCON	MRAL1	29.5526	-90.807	waterLevel, waterTemperature, winds, salinity, airPressure, airTemperature, dissolvedOxygen, relativeHumidity, solarRadiation	ACADEMIC
LUMCON	TAML1	29.18737	-90.66542	waterLevel, waterTemperature, winds, salinity, airPressure, airTemperature, dissolvedOxygen, relativeHumidity, solarRadiation	ACADEMIC
LUMCON	TRBL1	29.167	-90.583	waterLevel, waterTemperature, winds, salinity, airPressure, airTemperature, relativeHumidity, solarRadiation, turbidity	ACADEMIC
NDBC	42001	25.9	-89.667	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	FEDERAL
NDBC	42002	25.79	-93.666	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	FEDERAL
NDBC	42003	25.966	-85.594	waterTemperature, winds, airPressure, airTemperature, relativeHumidity,	FEDERAL

OWNER	PLATFORM	LAT (°N)	LON (°W)	OBSERVATIONS	FUNDING SOURCE
				dewTemperature	
NDBC	42007	30.09	-88.769	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	FEDERAL
NDBC	42012	30.065	-87.555	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	FEDERAL
NDBC	42019	27.913	-95.36	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	FEDERAL
NDBC	42020	26.966	-96.695	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	FEDERAL
NDBC	42035	29.232	-94.413	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	FEDERAL
NDBC	42036	28.5	-84.517	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	FEDERAL
NDBC	42039	28.791	-86.008	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	FEDERAL
NDBC	42055	22.017	-94.046	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	FEDERAL
NDBC	42056	19.874	-85.059	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	FEDERAL
NDBC	42057	16.834	-81.501	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	FEDERAL
NDBC	42099	27.34	-84.245	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	FEDERAL
NDBC	BURL1	28.905	-89.428	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	FEDERAL
NDBC	CDRF1	29.136	-83.029	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	FEDERAL
NDBC	FWYF1	25.59	-80.097	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	FEDERAL
NDBC	KTNF1	29.817	-83.592	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	FEDERAL
NDBC	PLSF1	24.693	-82.773	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	FEDERAL
NDBC	PTAT2	27.828	-97.05	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	FEDERAL
NDBC	SANF1	24.46	-81.88	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	FEDERAL
NDBC	SAUF1	29.857	-81.265	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	FEDERAL
NDBC	SGOF1	29.407	-84.863	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	FEDERAL
NDBC	SMKF1	24.627	-81.11	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	FEDERAL
NDBC	SRST2	29.683	-94.033	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	FEDERAL

OWNER	PLATFORM	LAT (°N)	LON (°W)	OBSERVATIONS	FUNDING SOURCE
				dewTemperature	
NDBC	VENF1	27.07	-82.45	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	FEDERAL
NERRS	APOF1	29.786	-84.875	waterTemperature, salinity	ACADEMIA/GOVERNMENT
NERRS	APXF1	29.791	-84.883	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	ACADEMIA/GOVERNMENT
NERRS	GDXM6	30.359	-88.42	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	ACADEMIA/GOVERNMENT
NERRS	GTXF1	29.658	-81.22	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	ACADEMIA/GOVERNMENT
NERRS	MAXT2	28.132	-97.034	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	ACADEMIA/GOVERNMENT
NERRS	SAXG1	31.418	-81.295	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	ACADEMIA/GOVERNMENT
NERRS	WKXA1	30.415	-87.826	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, dewTemperature	ACADEMIA/GOVERNMENT
NERRS	apaebwq	29.7858	-84.8752	salinity	ACADEMIA/GOVERNMENT
NERRS	gndbcwq	30.3836	-88.4364	salinity	ACADEMIA/GOVERNMENT
NERRS	gndbhwq	30.4178	-88.4054	salinity	ACADEMIA/GOVERNMENT
NERRS	gndpcwq	30.3486	-88.4185	salinity	ACADEMIA/GOVERNMENT
NERRS	marabwq	27.9798	-97.0287	salinity	ACADEMIA/GOVERNMENT
NERRS	marcewq	28.1323	-97.0344	salinity	ACADEMIA/GOVERNMENT
NERRS	marcwwq	28.0841	-97.2009	salinity	ACADEMIA/GOVERNMENT
NERRS	marmbwq	28.1384	-96.8285	salinity	ACADEMIA/GOVERNMENT
NERRS	marsewq	27.8383	-97.0503	salinity	ACADEMIA/GOVERNMENT
NERRS	rkbhwq	26.0257	-81.7332	salinity	ACADEMIA/GOVERNMENT
NERRS	wkbfrwq	30.4162	-87.8228	salinity	ACADEMIA/GOVERNMENT
SCCF RECON*	RedfishPass	26.55448	-82.17147	waterTemperature, salinity	NGO
SCCF RECON	ShellPoint	26.52548	-82.00315	waterTemperature, waterTemperature, winds, salinity, salinity, airPressure, airTemperature, relativeHumidity, dewTemperature, winds, airTemperature, relativeHumidity, dewTemperature	NGO
TAMU-TABS	42043	28.9818	-94.9186	waterTemperature, winds, currents, airPressure, airTemperature, relativeHumidity	ACADEMIA/STATE—TX
TAMU-TABS	42044	26.1914	-97.0507	waterTemperature, currents	ACADEMIA/STATE—TX
TAMU-TABS	42045	26.2168	-96.4998	waterTemperature, winds, currents, airPressure, airTemperature, relativeHumidity	ACADEMIA/STATE—TX
TAMU-TABS	42046	27.8903	-94.0367	waterTemperature, winds, currents, airPressure, airTemperature, relativeHumidity	ACADEMIA/STATE—TX
TAMU-TABS	42047	27.8966	-93.5973	waterTemperature, winds, currents, airPressure, airTemperature, relativeHumidity	ACADEMIA/STATE—TX
TAMU-TABS	42048	27.9396	-96.8429	waterTemperature, currents	ACADEMIA/STATE—TX
TAMU-TABS	42049	28.3507	-96.0058	waterTemperature, currents	ACADEMIA/STATE—TX
TAMU-TABS	42050	28.8425	-94.2433	waterTemperature, currents	ACADEMIA/STATE—TX
TAMU-TABS	42051	29.635	-93.6417	waterTemperature, currents	ACADEMIA/STATE—TX
TAMUCC-TCOON	041	27.88969	-97.59163	waterTemperature, salinity	GOVERNMENT/ACADEMIA
TAMUCC-TCOON	042	27.8888	-97.5696	waterTemperature, salinity, chlorophyll	GOVERNMENT/ACADEMIA

OWNER	PLATFORM	LAT (°N)	LON (°W)	OBSERVATIONS	FUNDING SOURCE
TAMUCC-TCOON	043	27.883783	-97.5332	waterTemperature, salinity	GOVERNMENT/ACADEMIA
TAMUCC-TCOON	072	27.839194	-97.443972	waterTemperature, salinity, dissolvedOxygen	GOVERNMENT/ACADEMIA
TAMUCC-TCOON	074	27.85155	-97.48203	waterTemperature, salinity, dissolvedOxygen	GOVERNMENT/ACADEMIA
TAMUCC-TCOON	076	27.89183	-97.61045	waterTemperature, salinity, chlorophyll	GOVERNMENT/ACADEMIA
TAMUCC-TCOON	076	27.89183	-97.61045		GOVERNMENT/ACADEMIA
TAMUCC-TCOON	079	27.87078	-97.5177	waterTemperature, salinity	GOVERNMENT/ACADEMIA
TAMUCC-TCOON	127	28.25976	-96.77369	waterTemperature, salinity, significantWaveHeight	GOVERNMENT/ACADEMIA
TAMUCC-TCOON	146	28.13235	-97.03445	waterTemperature, winds, salinity, airPressure, airTemperature, chlorophyll, dissolvedOxygen, relativeHumidity, turbidity	GOVERNMENT/ACADEMIA
TAMUCC-TCOON	147	28.08405	-97.20094	waterTemperature, salinity, chlorophyll, dissolvedOxygen, turbidity	GOVERNMENT/ACADEMIA
TAMUCC-TCOON	148	27.97985	-97.02879	waterTemperature, salinity, chlorophyll, dissolvedOxygen, turbidity	GOVERNMENT/ACADEMIA
TAMUCC-TCOON	149	27.83826	-97.05029	waterTemperature, salinity, chlorophyll, dissolvedOxygen, turbidity	GOVERNMENT/ACADEMIA
TAMUCC-TCOON	170	27.29702	-97.40491	waterTemperature, salinity, dissolvedOxygen, turbidity	GOVERNMENT/ACADEMIA
TAMUCC-TCOON	171	27.4847	-97.3181	waterTemperature, salinity, dissolvedOxygen, turbidity	GOVERNMENT/ACADEMIA
TAMUCC-TCOON	BABT2	27.301	-97.416	waterLevel, waterTemperature, winds, currents, salinity, airPressure, airTemperature, dissolvedOxygen	GOVERNMENT/ACADEMIA
TAMUCC-TCOON	CLLT2	29.563	-95.067	waterLevel, waterTemperature, winds, airPressure, airTemperature	GOVERNMENT/ACADEMIA
TAMUCC-TCOON	IRDT2	27.485	-97.318	waterLevel, waterTemperature, winds, salinity, airPressure, airTemperature, dissolvedOxygen	GOVERNMENT/ACADEMIA
TAMUCC-TCOON	NGLT2	27.822	-97.203	waterLevel, waterTemperature, winds, airPressure, airTemperature	GOVERNMENT/ACADEMIA
TAMUCC-TCOON	PACT2	27.633	-97.237	waterLevel, waterTemperature, winds, salinity, airPressure, airTemperature, dissolvedOxygen	GOVERNMENT/ACADEMIA
TAMUCC-TCOON	PCNT2	28.45	-96.401	waterLevel, waterTemperature, winds, airPressure, airTemperature	GOVERNMENT/ACADEMIA
TAMUCC-TCOON	PORT2	29.867	-93.93	waterLevel, waterTemperature, winds, airPressure, airTemperature	GOVERNMENT/ACADEMIA
TAMUCC-TCOON	RLOT2	29.515	-94.513	waterLevel, waterTemperature, winds, airPressure, airTemperature	GOVERNMENT/ACADEMIA
TAMUCC-TCOON	RSJT2	26.801	-97.483	waterLevel, waterTemperature, winds, airPressure, airTemperature	GOVERNMENT/ACADEMIA

OWNER	PLATFORM	LAT (°N)	LON (°W)	OBSERVATIONS	FUNDING SOURCE
TAMUCC-TCOON	RTAT2	27.84	-97.073	waterLevel, waterTemperature, winds, airPressure, airTemperature	GOVERNMENT/ACADEMIA
TAMUCC-TCOON	SDRT2	28.407	-96.712	waterLevel, waterTemperature, winds, salinity, airPressure, airTemperature	GOVERNMENT/ACADEMIA
LSU-WAVCIS	ILDL1	29.053	-90.533	waterLevel, waterTemperature, winds, winds, winds, airPressure, airTemperature, currentDirection, currentSpeed, relativeHumidity, visibility, meanWaveDirection, significantWaveHeight, dominantWavePeriod	ACADEMIA/GOVERNMENT
LSU-WAVCIS	MRSL1	29.44	-92.061	waterLevel, waterTemperature, winds, airPressure, airTemperature, currentDirection, currentSpeed, relativeHumidity, visibility, meanWaveDirection, significantWaveHeight, dominantWavePeriod, winds, meanWaveDirection, significantWaveHeight, dominantWavePeriod, winds	ACADEMIA/GOVERNMENT
LSU-WAVCIS	SIPM6	30.267	-89.017	waterTemperature, winds, winds, winds, airPressure, airTemperature, relativeHumidity, visibility, meanWaveDirection, significantWaveHeight, dominantWavePeriod	ACADEMIA/GOVERNMENT
LSU-WAVCIS	SLPL1	29.3096	-91.3341	waterTemperature, winds, airPressure, airTemperature, relativeHumidity, visibility, meanWaveDirection, significantWaveHeight, dominantWavePeriod, waterLevel, waterTemperature, salinity, chlorophyll, currentDirection, currentSpeed, dissolvedOxygen, turbidity	ACADEMIA/GOVERNMENT

* station reporting and data are tentative for the DISL new stations indicated by the *

Bold = Partner partially funded on this Project

FSU-COAPS: Florida State University, Center for Ocean-Atmospheric Prediction Studies

USF-COMPS: University of South Florida, C O M P System, FL

USM-CenGOOS: University of Southern Mississippi, Central Gulf Ocean Observing System, MS

DISL: Dauphin Island Sea Lab, AL

LUMCON: Louisiana Universities Marine Consortium, LA

NDBC: NOAA National Data Buoy Center, MS

NERRS: National Estuarine Research Reserve System

Rookery Bay, FL NERRS

Apalacicola Bay, FL NERRS

Weeks Bay, AL NERRS

Grand Bay, MS NERRS

Mission-Aransas, TX NERRS

SCCF RECON: Sanibel-Captiva Conservation Foundation, River, Estuary and Coastal Observing Network, FL

TAMU-TABS: Texas A&M University, Texas Automated Buoy System, TX

TAMUCC-TCOON: Texas A&M University-Corpus Christi, Texas Coastal Ocean Observing Network, TX

LSU-WAVCIS: Louisiana State University, Wave-Current-Surge Information System for Coastal Louisiana, LA