



GULF OF MEXICO COASTAL OCEAN OBSERVING SYSTEM

Continued Development of the Gulf of Mexico Coastal Ocean Observing System

NA11NOS0120024

(TAMRF Account #503581)

**Program Performance Report
June 1, 2015 - November 30, 2015**

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1.0 Project Summary

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). The GCOOS Regional Association (GCOOS-RA) 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. The GCOOS-RA was established under the terms of a Memorandum of Agreement (MOA) in January 2005. The organizational structure was in place by April 2006. On 24 February 2012, the GCOOS-RA Corporation was formed in Texas with the terms of the MOA incorporated (note: the fiscal structure and scope of work for the project reported on here have not been changed from the Texas A&M Research Foundation branch of the Texas A&M University Office of Sponsored Research Services).

The overarching *goal* of our project is to build a robust, user-driven, sustained, operational GCOOS that integrates data from diverse providers; assures consistency, quality, and accuracy of the data; creates new data products needed by users; and provides data, products, and services to IOOS, decision-makers, a wide range of stakeholders, and the public in a timely and efficient manner. The specific goals of this project are to maintain existing GCOOS capabilities and, as funding allows, augment the existing observations to fill gaps and provide enhanced products and services. Physical oceanographic, marine meteorological, biogeochemical, and bathymetric data are major components of the system. The goals will be achieved through accomplishment of six *objectives*:

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

Objective 2 is to continue to build the observing system through integration of existing observations made by different entities, provision of operation and maintenance support for existing non-federal systems, and the addition of new observations to fill gaps. No funding was available from the project in FY11 through FY14 to add new observational stations.

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 DMAC 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 Outreach and Education Manager and Outreach and Education Council (OEC), that improve information exchange between user groups and data

providers, promote ocean and climate literacy, and develop materials for the public, such as interactive ocean-themed activities and exhibits.

Objective 6 is to obtain the U.S. IOOS certification.

2.0 Progress and Accomplishments

The work foci during this reporting period were to maintain and enhance the GCOOS-RA structure and the GCOOS Data and Products Portal, and to maintain the data streams of the 14 established local data nodes funded under this project. The planned work was largely completed, except that funding was not adequate to cover new observing assets, some data management enhancements, and some related tasks. The work accomplished is described below.

Comparison of actual accomplishments with the goals and objectives for the period: The specific goals were five-fold.

- ✚ First was to maintain the functionalities of the GCOOS-RA governance and stakeholder engagement structure. This was accomplished through continued support of GCOOS Office Staff and travel support to GCOOS-RA partners to work with the many stakeholder sectors that are engaged with the GCOOS. Examples are:
 - ❖ Staff continued work to upgrade the GCOOS business website (gcoos.org). We posted ~1 new banner story per week to keep the site fresh. These include information on the GCOOS Board of Directors, staff, partners, and stakeholders.
 - ❖ The GCOOS-RA Facebook page was maintained with 4-5 posts/week.
 - ❖ We continue to publish 1-2 press releases per month on key issues pertaining to the 5 Gulf of Mexico States. The GCOOS press room provides archived media releases. Members of the press can also sign up for media releases and/or our newsletter (http://gcoos.org/?page_id=8298).
 - ❖ GCOOS News was published monthly (6 issues) to inform interested stakeholders of GCOOS and IOOS activities. More than 1,000 people receive our newsletter.
 - ❖ Simoniello continues to serve on the City of St. Petersburg Program for Public Information committee, the outreach arm of their flood plain management program. She attended meetings and took notes for the July 15 and Oct 7, 2015 meetings.
 - ❖ Many GCOOS Gulf Glider Task Team members and GCOOS staff participated in the AUV Jubilee in June/July 2015.
 - ❖ Kirkpatrick was an invited speaker at the Consortium of Institutions of Marine Research (CIIMAR) held in Veracruz, MX, June 8-10, 2015.
 - ❖ Kirkpatrick, Howard, Bernard, Simoniello and Watson attended the Gulf of Mexico Alliance All Hands meeting in Biloxi, MS. Watson and Simoniello created a presentation on the GCOOS Build Out plan, given by Watson to the Data and Monitoring Priority Issue Team. Simoniello was on the planning committee, Action Plan III writing team, and facilitated a session for the Education and Engagement team.
 - ❖ Howard participated in the panel review of proposals submitted to the Florida Center of Excellence in Tampa, FL 21-23 June 2015.
 - ❖ Kirkpatrick, Simoniello, and Gayanilo attended the July 30, 2015, EPA Gulf Guardian awards ceremony in Corpus Christi, TX. Ms. Cory Diaz, Bay Point Elementary School, was awarded 1st place in the Youth Environmental Education category for her Utag for iTAG project in partnership with GCOOS, Florida Fish and Wildlife Conservation Commission, and Canada's Ocean Tracking Network.

- ❖ The 5 year renewal project proposal was submitted through Grants.gov on August 24, 2015.
- ❖ Howard is a member of the National Research Council study of “Effective Approaches for Monitoring and Assessing Gulf of Mexico Restoration Activities” organized by the National Academy of Sciences Engineering and Medicine’s Gulf Research Program. He is writing the Data Management section of their report. He attended working sessions in New Orleans in August 2015, and in Washington, D.C. in October 2015.
- ❖ Howard is part of the Environmental Disaster Data Management (EDDM) Gold Standard group working to define interoperable elements of an end to end system for various disaster scenarios. They have held monthly conference calls since June 2015.
- ❖ Kirkpatrick attended the FIO Council meeting in St Petersburg, FL on September 1, 2015.
- ❖ Kirkpatrick attended an Ocean Acidification workshop hosted by Mote Marine Laboratory in Sarasota, FL on Sept 2, 2015.
- ❖ Howard met with a representative of NOAA’s Center for Sponsored Coastal Research at his office in College Station to discuss how near real-time data management is being conducted.
- ❖ Kirkpatrick attended the IOOS Association RA Directors’ Retreat on Sept 14, followed by the RA Directors meeting in St. Petersburg, FL, 15-16 Sep. Simoniello also attended the Directors meeting, taking notes and contributing to the workshop report. GCOOS and SECOORA supported an evening social for the event.
- ❖ The 17-19 September 2015 Board of Directors meeting in St Petersburg, FL, celebrated the 10th anniversary of the GCOOS RA. The report of the meeting was posted to the GCOOS website (http://gcoos.tamu.edu/?page_id=9241).
- ❖ Howard attended the second meeting of the Texas OneGulf Center of Excellence at Texas A&M University at Galveston 21 September 2015. GCOOS will receive some funding from this activity in 2016.
- ❖ The annual spring Board of Directors and Members meetings will be held 30 March – 1 April 2016 in New Orleans, LA.
- ❖ Kirkpatrick attended the Science Communication and Marine Public Information workshop held at Mote Marine Laboratory in Sarasota, FL on September 24, 2015.
- ❖ An inventory of Gulf observing assets was provided to the FL Center of Excellence for their review on Oct 1, 2015.
- ❖ Howard attended an Oil and Gas Industry Joint Industry Project (JIP) meeting hosted by Chevron on environmental situational awareness during “significant environmental events” in Houston on 28 October 2015.
- ❖ Kirkpatrick attended the Fish and Climate Change workshop cosponsored by SECOORA and GCOOS. It was held in St Petersburg 26-28 October. She was a member of the workshop steering committee.
- ❖ Simoniello attended the Vemco iTAG workshop 27-28 Oct 2015. The workshop was held in advance of the iTAG annual meeting to share emerging technologies in telemetry.
- ❖ Kirkpatrick, Simoniello and Currier attended the iTAG workshop held 29-30 October 2015 in St. Petersburg, FL. Kirkpatrick was on the steering committee for the workshop and Currier presented the GCOOS acoustic tagging data portal.
- ❖ Kirkpatrick attended the 8th Symposium on Harmful Algae in the US held 15-19 November 2015 in Long Beach, CA. She was on the National steering committee for the

symposium and was a co-author on five presentations at the meeting. She also co-chaired the National HAB steering committee meeting held on the 15th.

- ❖ Kirkpatrick is co-Chair of the IOOC Glider Task Team and participated on several conference calls during the Fall.
- ❖ Currier presented: iTAG: Developing a Cloud Based, Collaborative Animal Tracking Network in the Gulf of Mexico (authors Currier, Simoniello, Kirkpatrick and Howard), at OCEANS15MTS/IEEE, Washington D.C.
- ❖ Updates were made to the second edition publication: Near Real-Time Oceanic Glider Mission Viewers in Dawn J. Wright, ed., 2015 Ocean Solutions, Earth Solutions by Kobara, Simoniello, Perry, Jochens, Howard, Watson, Currier, Kirkpatrick and Howden (see Chapter 16, <http://dx.doi.org/10.17128/9781589483651>).

✚ Second was to maintain the capabilities of the DMAC sub-system and the GCOOS Data and Products Portal. This was accomplished largely through the support provided to the GCOOS data management team that allowed them to maintain and enhance the GCOOS Data and Products Portal and to participate in DMAC work of the U.S. IOOS Office.

- ❖ The Data Portal staff worked diligently this period to keep our sub-regional data providers online as some providers struggled to keep their old systems operational and their new systems compatible and interoperable with the GCOOS Data Portal. This involved a fair amount of person-to-person interactions to resolve issues.
- ❖ Data and Products portal staff are developing documentation on data flows and transformations to support recovery operations in the case of localized system failures and as documentation to be submitted to meet certification requirements. Current versions of these documents are available online at <https://github.com/GCOOS/dataPortal/wiki>.
- ❖ We have updated our 52°N SOS implementation following each minor revision. Our SOS system is fully operational (20-by-20) as reported in the IOOS catalog of system services located at <http://catalog.ioos.us/services/filter/GCOOS/SOS>. New this reporting period is implementation of the SOS *GetFeatureofInterest* call.
- ❖ We added Google Analytics web access monitoring software to our business, data, products and glider websites in accordance with the request of the IOOS Association for similar comparable metrics from all RAs. This is in addition to the monitoring software we installed in January 2015 – piWik and AWStat.
- ❖ CONCORDE AUV Jubilee: One of the Gulf of Mexico Research Initiative's (GoMRI) Research Consortia (RC) named CONCORDE, organized a cooperative flight of gliders in the Gulf of Mexico in June-August time frame. See <http://www.con-corde.org/events/auv-jubilee/>. This was similar to the GliderPalooza activities organized off the northeast coast in previous years but Gulf-centric. The activity included an intensive observing period, 13-17 July, during which time supporting data from *in situ* and remote observing systems and ocean model forecasts were provided to glider operators. CONCORDE conducted public outreach activities and daily webinars. GCOOS provided data services to Slocum glider operators by converting the raw data into profiles in approved NetCDF formats followed by submission to the IOOS NGDAC and in most cases into the GTS for global distribution. We received confirmation from Navy ocean modeler Pat Hogan that these data were assimilated into operational ocean circulation models to good effect.

- ❖ We completed construction of the Hypoxia-Nutrient (H-N) Data Portal and announced its availability in June 2015 at the GOMA all-hands meeting. The H-N portal contains biogeochemical measurements from all known Gulf of Mexico sources through mid-2015. Its development was supported by a two-year (\$75K) grant from the Gulf of Mexico Alliance (GOMA) with in-kind support from GCOOS staff. The H-N portal is located at <http://data.gcoos.org/nutrients> and a companion Decision Support System (DSS) is being constructed at <http://gcoos2.tamu.edu/hndss> . The DSS will provide an online environment for browsing the H-N dataset.
- ❖ MBON: NOAA/NASA/BOEM funded Dr. Frank-Muller Karger (USF) to conduct a 5-year demonstration project involving Gulf and West coast Marine Sanctuaries to build a Marine Biological Diversity Observing Network (MBON). Gabrielle Canonico of the IOOS Program Office is the Program Manager. GCOOS has a subcontract with USF to develop IOOS-compliant data management for the Gulf coast data sets in collaboration with CENCOOS and AXIOM. GCOOS provides in-kind support for Outreach and Education activities. The project had a 1 August 2014 start date but funding delays pushed the effective start to March 2015. A number of conference calls have been held to date. We attended the second all-hands meeting in October 2015 at MBARI. We are working closely with OBIS-USA (Philip Goldstein) to enroll data with them in ways that support the IOOS Biological Data Program.
- ❖ QARTOD: This project will document standard practices for Quality Assurance and Quality Control of IOOS data. Adherence to these practices will be part of the requirements for Regional certification. Howard is a member of the Board of Advisors for the U.S. IOOS QARTOD Project and has participated in conference calls and provided written reviews of interim documents. Howard joined the newly formed team working on Glider QA/QC in November.
- ❖ IOOS RDI Team: The RDI team is composed of Regional DMAC managers and related members of the IOOS Program Office. The RDI team holds conference calls and webinars approximately monthly. We participate in these calls. The most recent was on NetCDF compliance tools. We have installed these tools on our systems to check glider data.
- ❖ GCOOS developed and presented a web portal <http://gcoos2.tamu.edu/itag> for the iTAG program in November 2015.
- ❖ GCOOS has developed webpages to share data collected by citizen scientists. The url <http://products.gcoos.org/citizenscience/> takes users to the GCOOS website.
- ❖ GCOOS has installed an ERDDAP server in the cloud as a test development for a collection of historical data and Gulf of Mexico field program data. <http://104.131.75.101:8080/erddap/info/index.html>
- ❖ The products portal has been migrated to its own server gcoos3.tamu.edu. This has greatly improved the response of the ESRI ARC GIS-based system.
- ❖ The glider products pages are continually improved and new deployments added as they occur (See http://gcoos.org/products/maps/gulf_glidern/).
- ❖ Bob Currier developed a new website “Gandalf” (<http://gcoos2.tamu.edu/gandalf>) which was published in July 2015 just prior to the AUV Jubilee and has become one of our most visited websites. The website displays glider trajectories and mission summaries for

current and historical glider missions. Raw data, data plots and self-updating KMZ trajectory files for Google Earth are available for glider missions conducted from 2014 and later. During active missions, the latest Sea Surface Height (SSH) maps can be overlain on glider trajectories. SSH is a proxy for ocean currents and is of great use to glider pilots during operations to plan trajectories that avoid counter currents or take advantage of favorable currents. The SSH maps are provided by GCOOS data provider partner Dr. Bob Leben of the Colorado Center for Astrodynamics Research.

- ✚ The third specific goal was to maintain the capabilities of the Outreach and Education (O/E) sub-system. This was accomplished through the support provided to the GCOOS O/E Manager, Dr. Chris Simoniello. Her work efforts this reporting period include:
 - ❖ GCOOS led the 2015 Gulf Coast Innovation Challenge application with Natures Academy. The project team advanced to the second round of the competition.
 - ❖ GCOOS worked with Kristy Tavano, GOMURC, to develop a Prezi presentation highlighting the GCOOS Build-out Plan and the need for coordinated monitoring in the Gulf of Mexico (<https://prezi.com/y4qb8qogflsj/ecosystem-monitoring-for-gulf-of-mexico-recovery/>).
 - ❖ Simoniello worked with National Wildlife Federation's Ranger Rick magazine editor to create a publication on Citizen Science in the Gulf that will be published in Spring 2016. She and Charlene Bohanon each hosted Ranger Rick photographer Joanna Pinneo in June 2015.
 - ❖ Simoniello worked with Kirkpatrick and Nadine Slimak to develop the GCOOS 10 yr Report (http://gcoos.tamu.edu/?page_id=4588).
 - ❖ Simoniello provided OE materials to Cassie Stymiest, NERACOOS, for a joint IOOS exhibit at the July 2015 National Marine Educators Association meeting, Newport, RI.
 - ❖ Continued development of Citizen Science in the Gulf of Mexico: 1) Launch and evaluation of the GCOOS citizen science website; 2) Simoniello was a presenter on the 7 July 2015 NOAA Citizen Science Crowd Sourcing Marine Portal webinar hosted by Adam Bode and the October GOMA EE team webinar hosted by Lee Yokel; 3) Simoniello and Kirkpatrick were invited participants at the 30 Sept 2015 White House Open Science and Innovation Forum; 4) Simoniello and daughter Cory Diaz were invited to visit Congressman David Jolly at the Capitol to celebrate citizen science efforts related to Utag for iTAG work; and 5) Simoniello led a proposal with MACOORA and SECOORA colleagues to expand IOOS citizen science in a coordinated way. Status is pending.
 - ❖ Simoniello taught 15 lessons to elementary and middle school students and coordinated week-long activities for the November 2015 Great American Teach-In.
 - ❖ Simoniello continues to participate on the NOAA Gulf of Mexico Regional Team, steering committee of the GOMA Education and Engagement PIT and Public Relations Team, member of the GOMA Data and Monitoring Team, steering committee of the City of St. Petersburg Program for Public Information, IOOS Association Education and Outreach Committee, Bay Point Elementary Student Advisory Council, Canterbury School Marine Science Advisory Committee, Gulf Climate Community of Practice and NOAA Climate Stewards.

- ❖ Simoniello planned and hosted the 10-11 August 2015 annual meeting of the GCOOS Outreach and Education Council, New Orleans, LA. The meeting report is available (see http://gcoos.tamu.edu/?page_id=391).
- ❖ Simoniello participated on the 23 Sept EBM Tools webinar: Mapping Ocean Wealth presented by Rob Brumbaugh.
- ❖ Simoniello developed and conducted MBON outreach activities for ~125 students from 10 schools for student day at the 2015 St. Pete Science Festival. Abbey Wakely and Vembu Subramanian, SECOORA, partnered with GCOOS on IOOS activities. Open house activities in conjunction with Marine Quest attracted more than 25,000 visitors.
- ❖ Simoniello developed and coordinated activities for the Oct 23rd Spooky Science event at Bay Point Elementary. Partners included Duke Energy, NOAA Fisheries, USGS, Mad Science and USF College of Marine Science.
- ❖ Simoniello and Subramanian (SECOORA) met with New College faculty 19 Nov 2015 to discuss an IOOS exhibit in their library and to develop ideas for collaboration.

✚ The fourth specific goal was to continue delivery of observations from the fifteen existing local data node partners funded under this project, into the GCOOS in interoperable and IOOS DMAC-compliant ways. This was accomplished by contributing partial support for operations and maintenance (O&M) and data management activities. Limitations in funding meant that several of the existing systems could not be supported (Dardeau – Mobile Bay Estuary Monitoring stations O&M). A small level of funding was provided to Campbell to assist with data management associated with the TX HAB station O&M; this has enabled an improved data presentation to include times series for four major HAB species <<http://gcoos.org/products/index.php/hab/time-series/>>. Ten of the stations are providers of *in situ* data, for which the data and/or sensor status are available on the Data Portal¹ pages of the GCOOS Data and Products Portal, and three are satellite product providers, for which the data and/or products are available through the Satellites page² and the sea surface height anomaly page³ in the model resources section. The *in situ* data also were delivered to NOAA's National Data Buoy Center.

- ❖ Supported *In situ* data partners are as reported in the last semi-annual report. The Oil & Gas Industry continues to provide ADCP currents at their deep water platforms and rigs through the NDBC.
- ❖ *HF Radar* data partner funded through the GCOOS-RA is the Central Gulf of Mexico Ocean Observing System (University of Southern Mississippi). The Texas A&M University partner has received partial funding in support of a demonstration project with gliders in hypoxic waters. There are two other systems, not supported by the GCOOS-RA, that are included in the GCOOS Build-Out Plan. They cover parts of the West Shelf of Florida and Florida Straits. These are the Ocean Circulation Group HF Radar (University of South Florida) and Eastern Florida Shelf High Frequency Radar Operations (University of Miami/Rosenstiel School of Marine and Atmospheric Sciences). Some funding for this is given by SECOORA.
- ❖ *Satellite Remote Sensing Fields*: Remote sensing partners are the Earth Scan Laboratory (Louisiana State University—sea surface temperature product), Institute for Marine

¹ <http://data.gcoos.org/>

² <http://gcoos.org/products/index.php/satellites/>

³ <http://gcoos.org/products/index.php/model-resources/ssha/>

Remote Sensing and Optics Observing Laboratory (University of South Florida—ocean color product), and the Colorado Center for Astrodynamics Research Gulf of Mexico satellite oceanography forecasts (University of Colorado—sea surface height).

- ✚ The fifth priority was to add new non-federal, real-time data providers willing to provide their data and to provide support to help them with meeting IOOS standards. The descoping of the FY13 project eliminated the funding for this activity.

Accomplishments associated with specific milestones and deliverables: Table 1 provides the status of the specific milestones and deliverables for this reporting period.

Established goals that were not met: Goals for the period have been met except as described above.

Table 1. Milestones and Deliverables for FY15 Project Year

C = Task Completed on Time; O = Ongoing Task

Task	Dec-May	Status or Comment
a) Milestones for Coordinated Regional Management Covering the Gulf of Mexico		
Establish Subcontracts	C	Completed for FY11-FY15 years
Election of the Board	C	Completed for 2015
Hold Annual Members (Parties) Meeting	C	Held 11-12 March 2015
Hold Board Meetings	C	Held September 17,18, 2015
Hold EOC Meeting	C	Held August 10, 11, 2015
Hold Council, Committee, Task Team Meetings	O	Meetings held by telecon, email or face-to-face
Refine Business Plan	C	Version 2.1 was approved by the Board and is posted
Refine Comprehensive Observing System Plan	O	Version 2.0 of the Build-Out Plan was approved by the Board and posted
Prepare and Refine Comprehensive Products and Services Plan	O	Board created a Products and Services Advisory Council to advise on the plan
Attend IOOS FAC Meetings	C	Jochens was unable to attend Fall meeting due to illness.
Attend IOOS Fall Meeting and Review	C	Kirkpatrick attended the September 2015 meeting
Engage with GOMA, NOAA GoMRCT, Mexico-US GOM Large Marine Ecosystem Project, stakeholders	O	Staff participated in relevant telecons and meetings; Watson and Simoniello continue to engage with NOAA GoMRCT; Staff and Board members participate on GOMA priority teams
Coordinate with SECOORA & Others RAs	O	Board member Mike Spranger and Kirkpatrick, Simoniello, and other GCOOS staff engage
Establish GCOOS-RA as a Non-Profit Corp.	O	Application to IRS for non-profit status was approved 26 November 2013

Task	Dec-May	Status or Comment
Obtain & Maintain Certification	O	Initial application started
Semi-Annual Report	C	Report #9 is this document
b) Milestones for Observing Subsystem		
Submit semi-annual inventory of new and existing regional assets	O	Data Portal monitoring capabilities and updates to the IOOS Data Catalogue; as necessary
Document operational status via diagnostics and data availability statistics	O	Using Google Analytics; exploring other options
Participate in annual IOOS planning for asset maintenance & collaboration opportunities	O	No activity; GCOOS owns no observing assets
Participate in annual gap identification process	O	Build-out Plan updated, Version 2.1 posted
Establish and implement Task Teams	O	Glider Task Team lead assumed by Chad Lembke at University of South Florida
Set up New Data Providers	O	None
Set up & implement quality indicators	O	In planning
Track status of subcontractors' milestones	O	Kirkpatrick monitors progress; reporting template provided; subcontractors report to Board at meetings in their region
Participate in NOAA planning for Hypoxia Monitoring System	O	Howard, Kirkpatrick and Board members Howden and Rabalais are involved in 2016 planning
Develop Plan for Centralized Replacement Parts		No funding for this
Develop plan for hurricane response		No funding for this
Work to Implement HABIOS Plan	O	Efforts proceeding through GOMA/GCOOS joint planning

3.0 Scope of Work

There are no current or anticipated changes to the scope of work of the descoped plan for FY15. There are no current or anticipated changes to our ability to achieve milestones and deliverables.

The work plan for the upcoming year includes six tasks. 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 the coming year include the addition of new assets to the systems of the principal investigators, again, only if funding is sufficient.

4.0 Personnel and Organizational Structure

Changes in key scientific or management personnel: Except as described here, the key scientific and management personnel remain the same as given in Table 2 of the last semi-annual progress report. Other key people include the volunteers who make up the GCOOS Board of Directors, Councils, Committees, and Task Teams (see http://gcoos.tamu.edu/?page_id=2150).

GCOOS-RA Organizational Structure Status: The Board of Directors is taking the necessary steps to change the GCOOS-RA structure to that of a non-profit corporation. Board unanimously elected the corporate officers at its September 2014 meeting: Dave Driver as President, Jan van Smirren as First Vice president, Terry McPherson as Second Vice President, Joe Swaykos as Secretary, and Worth Nowlin as Treasurer. These people form the GCOOS-RA Executive Committee of the Board.

RA membership (http://gcoos.tamu.edu/?page_id=2031): The membership of the GCOOS-RA consists of 35 individual members, 4 associate members from Mexico, and 86 voting members that are organizations. Two individuals are also voting members through contribution of \$2000 to the GCOOS-RA Corporation.

GCOOS-RA board of directors (http://gcoos.tamu.edu/?page_id=261): Newly elected Board members—Robert Sullivan resigned as director due to concerns of over commitment. Charlene Bonahan from the Galveston Bay Foundation assumed his position. New members began their terms September, 2015: Gary Jeffress, Texas A & M University, and Alyssa Dausman, RESTORE Science Council/USGS. The GCOOS RA thanks Dr. Worth Nowlin and Jennifer Wozencraft for their service.

GCOOS-RA councils, committees, and task teams (http://gcoos.org/?page_id=2150): No new task teams have been identified. The newest, the Gulf Glider Task Team, is established.

Organization Meetings (http://gcoos.tamu.edu/?page_id=391): The 20th Board of Directors meeting was held in 17-18 Sept in St Petersburg, FL.

5.0 Budget Analysis

Expenditures for the reporting period are reasonably commensurate with the actual accomplishment of the goals, objectives, and tasks. There are no cost overruns or high unit costs. No property having a useful life of more than one year and an acquisition cost of \$5,000 or more per unit has been charged directly to the award.

Financial reports (SF-425) are up to date. The SF-425 report due on 30 April 2015 was submitted on 03 April 2015 and accepted by NOAA on 03 April 2015 by Susan Cook. It covered the period through 31 March 2015.