



## NEWSLETTER OF THE GULF OF MEXICO COASTAL OCEAN OBSERVING SYSTEM

GCOOS NEWS AND UPDATES FOR 19 OCTOBER 2012

### GULF OF MEXICO REGIONAL NEWS

#### University of Southern Mississippi and Liquid Robotics Launch Ocean Acidification Study in the Gulf of Mexico

In an effort to investigate the feasibility of new technologies in the Gulf of Mexico to monitor changes in ocean acidity related to CO<sub>2</sub> fluxes between the atmosphere and ocean, physical oceanographer Dr. Stephan Howden, University of Southern Mississippi (USM), is partnering with ocean engineers at Liquid Robotics, an ocean data services provider credited with developing the world's first wave-powered, autonomous marine robot called the Wave Glider. The Liquid Robotics Wave Glider used for the pilot project is equipped with sensors to measure carbon dioxide (CO<sub>2</sub>) and dissolved oxygen levels, pH, water temperature, conductivity, air temperature, barometric pressure, and wind speed and direction. The carbon dioxide sensor, which measures the mole fraction of CO<sub>2</sub> on either side of the air-sea interface, was developed by the Monterey Bay Aquarium Research Institute. The team successfully deployed the glider on 15 October 2012 from the USM R/V *Tom McIlwain* near the USM Central Gulf of Mexico Ocean Observing System (CenGOOS) at 30.0424°N, 88.6473°W. The location was selected so that the glider traverse begins and ends at the CenGOOS buoy, which has a similar CO<sub>2</sub> measuring system developed and built by the Pacific Marine and Environmental Laboratory. That buoy is in the process of being turned around and should be available for validation at the end of the glider mission. The glider is programmed to run a route around the Mississippi River Delta and traverse over stations where the NOAA R/V *Ronald H. Brown* sampled in July 2012 during the second Gulf of Mexico and East Coast Carbon program. The GCOOS-RA is supplementing the 36 day mission in support of NOAA's Ocean Acidification project. The Wave Glider is reporting data in near-real time and is available on the GCOOS Data Portal (see <http://gcoos.tamu.edu/products/maps/waveglider/usm/>). In addition to exploring the use of mobile platforms to monitor conditions in the Gulf of Mexico, the joint mission is an opportunity to train the GCOOS Data Portal team to work with wave glider data. The GCOOS team is working with Liquid Robotics to deploy an IOOS-compatible SOS server using the new glider data schema, and to visualize the data on the GCOOS website using an ESRI-GIS-based trajectory and data display viewer. For more information, please contact Stephan Howden at [Stephan.howden@usm.edu](mailto:Stephan.howden@usm.edu) or Jamie Griffith at [jamie.griffith@liquidr.com](mailto:jamie.griffith@liquidr.com).

#### Coordinated Glider Mission Launched in the Gulf of Mexico to Track Harmful Algal Blooms

GCOOS-RA partners at the University of South Florida (USF) College of Marine Science (CMS) and Mote Marine Laboratory (MML) are coordinating glider missions to gain a better understanding of the dominant Gulf of Mexico red tide organism *Karenia brevis*. The goals of the current mission are twofold. First, the science mission is to use tandem gliders to map the West Florida Shelf region with an emphasis on catching a red-tide bloom in progress to gain a better understanding of how to forecast and track harmful algal blooms. One focus is concentrations of *K. brevis* at the pycnocline. The second goal is to work with the GCOOS-RA to establish protocols for glider data acquisition by numerical models and integration with satellite data. Previous work resulted in showing that forecasted information from numerical models disagreed with information provided as sensors moved through the bloom. Compared to the previous coordinated mission that only had surface circulation available to guide the area operations, the current mission is using a vertically integrated model circulation. Despite initial issues that caused both gliders to be recalled, *Waldo* and *Bass* have been redeployed and are acquiring data to assist mapping efforts of the current red tide off of Sanibel, Florida. The USF glider *Bass* was redeployed 10 October 2012 and can be monitored at <http://ooma.marine.usf.edu/CROW/>. The MML glider *Waldo* was deployed 5 October 2012. Dr. Gary

Kirkpatrick, Senior Research Scientist at MML, stated that initial data from inshore areas showed elevated cell counts, which were subsequently confirmed as *K. brevis* cells. The timely glider mission may provide an unprecedented opportunity to study the entire shelf structure relative to the onset of a bloom, particularly shallow shelf dynamics, with a focus on bottom upwelling. This collaborative pilot project is envisioned to contribute part of the continuum of water quality monitoring from the rivers to the Gulf, and is designed to also develop the data sharing and visualization capabilities for the GCOOS Data Portal.

### **GCOOS-RA Members Presented Talks at the MTS/IEEE Oceans Conference**

Members of the GCOOS-RA made presentations at the [MTS/IEEE Oceans Conference](#) in Hampton Roads, VA, this past week. M.K. Howard, R.L. Crout and R.F. Toll, Jr. presented “U.S. IOOS Program Office Quality Assurance of Real-Time Ocean Data Project”. C. Simoniello, S. Walker, S. Kobara, M.K. Howard, R. Mullins-Perry, A. Jochens and L. Adams presented “Making Sense of Ocean Sensing: Translating Ocean Science Data for Diverse Stakeholders.” R.L. Mullins-Perry, A. Jochens, C. Simoniello and S. Wolfe presented “From Rivers to the Coastal Ocean: A Model for Integrating Observing Systems of the West Florida Shelf”. Ann Jochens, M.K. Howard, C. Hu, G. Kirkpatrick, C. Lembke, R. Weisberg, B. Kirkpatrick, A. Corcoran, J. Ivey, L. Campbell, C. Simoniello, R. Mullins-Perry and S. Wolfe presented “Integrating Observing Systems to Benefit Stakeholders: A Case Study in the Gulf of Mexico”.

### **Workers Clear Site for Habitat Restoration Technology Training Center *(from GulfStream)***

Demolition began in earnest at the site of the new [Habitat Restoration Technology Training Center](#) in Galveston, Texas. Locally known as the Comcast building, nearly all materials from the demolished metal building, parking lot and surrounding structures will be recycled as part of the GMF’s quest for the coveted Leadership in Energy and Environmental Design (LEED) certification for green buildings. Removal of the old structures, damaged during Hurricane Ike, paves the way for the new center, which will serve the entire Gulf of Mexico community. As the construction proceeds, partnership and program development continue. Program Manager [Mike Smith](#) will speak on that topic on 22 October at the [Restore America’s Estuaries Annual Conference](#) in Tampa as part of a panel on capacity building for restoration practitioners. Smith and the GMF are taking a collaborative approach to program development, tying in to national efforts to assess and address training needs. Key partners in that effort are NOAA and the Society for Ecological Restoration International, which are also represented on the panel.

### **Article in Scientific American looks at Longlines, Lionfish and Liberty Ships**

An article recently published in Scientific American (**[Counting Fish: Longlines, Lionfish and Liberty Ships](#)**) highlighted a recent research cruise aboard the *R/V Falkor* in the Gulf of Mexico. The scientists aboard the *Falkor* were from the Harte Research Institute at Texas A&M University at Corpus Christi, Texas A&M University’s College of Science and Engineering and the University of Georgia. The cruise focused on creating a 3-D map of an artificial reef made from sunken Liberty Ships, sampling red and gray snapper and repeating earlier documentation of MU A-16 for the presence of invasive lionfish near the Texas coast. To read the entire article, please see: <http://blogs.scientificamerican.com/expeditions/2012/10/16/counting-fish-longlines-lionfish-and-liberty-ships/>

## **IOOS/NATIONAL/LEGISLATIVE NEWS**

### **NOAA centralizes disaster planning, response expertise in Gulf region at new facility**

NOAA leaders joined members of Congress, as well as federal, state, and local emergency responders at the grand opening of the [Gulf of Mexico Disaster Response Center](#) in Mobile, Ala. The new 15,200-square foot facility will serve as a central coordination point for federal, state and local emergency managers, and partners who rely on NOAA’s scientific support to make decisions to protect and restore the Gulf Coast’s communities, economies, and valuable natural resources. The center allows NOAA to consolidate several programs in the Gulf region, streamlining response to emergencies. It will house navigation response crafts and their teams, as well as experts in oil and chemical spill response, incident meteorology, damage assessment, habitat conservation and restoration planning, marine debris, nautical charting, and navigation safety.

### **Secretary of the Interior Announces Climate Science Funding**

Secretary of the Interior Ken Salazar has announced funding of more than \$10 million awarded by Interior’s regional Climate Science Centers to universities or other partners for research to guide managers of parks, refuges and other resources in planning how to help species and ecosystems adapt to climate change.

The [69 studies](#) at eight climate science centers focus on how climate change will affect natural resources. For example, various projects identify how sea-level rise will affect coastal resources, how climate will affect vegetation, how these changes will affect valued species such as sage grouse, and how changes in water availability will affect both people and ecosystems—and ecosystem services such as fisheries. Several studies address the potential effects on resources of concern to Native Americans, some by using traditional ecological knowledge to advance adaptation planning. Each of the Department of the Interior's eight [Climate Science Centers](#) worked with the universities supporting the CSCs, states, tribes, federal agencies, Landscape Conservation Cooperatives, and other regional partners to identify the highest priority management challenges in need of scientific input, and to solicit and select research projects. <http://www.doi.gov/csc/index.cfm>

### **NOAA manual for coastal managers gives tips on combating invasive lionfish**

Scientists from [NOAA's National Centers for Coastal Ocean Science](#) and its partners teamed up to create the first ever guidelines for coastal managers to control the spread of invasive lionfish that are taking food and habitat from native fish that are important to the local ecology and economy. Lionfish have no natural predators and are now found in waters from North Carolina south to Florida, the Caribbean, and all Gulf of Mexico states. This new manual, [Invasive Lionfish: A Guide to Control and Management](#) includes the best available science and practices for controlling lionfish in marine protected areas, national parks, and other conservation areas. By following suggestions in the new publication, resource managers can develop effective local control plans. The guide is available free [online](#).

### **NOAA Teacher at Sea - Call for Applications**

The NOAA Teacher at Sea Program call for applications for the 2013 field season will be open until 31 October 2012. The Mission of the Program is to give teachers a clearer insight into the ocean, a greater understanding of maritime work and studies, and to increase their environmental literacy by fostering an interdisciplinary research experience. To be eligible, applicants must be currently employed, full-time, and employed in the same or similar capacity next year as: a K-12 teacher or administrator; a community college, college, or university teacher; a museum or aquarium educator; or an adult education teacher. To learn more about the NOAA Teacher at Sea Program, visit: <http://teacheratsea.noaa.gov/>

## **EMPLOYMENT**

**Two Research Professors, Physical Oceanography and Biogeochemistry, Harbor Branch Oceanographic Institute/FAU.**

<https://jobs.fau.edu>

**Marine Geoscientist opening at Tesla Offshore, Baton Rouge**

[careers@teslaoffshore.com](mailto:careers@teslaoffshore.com).

**Alaska Ocean Observing System Program Coordinator for Operations Development.**

<http://www.aos.org/new-position-available-at-aos/>

**Scientist, National Wildlife Federation Gulf Restoration.**

<http://ch.tbe.taleo.net/CH18/ats/careers/requisition.jsp?org=NWF&cws=1&rid=478>

**Research Associate, The Water Institute of the Gulf in Baton Rouge.**

Interested candidates should send a copy of their CV, a description of their relevant experience, and the names, addresses and e-mail addresses of three references to Mark Legendre at [mlegendre@thewaterinstitute.org](mailto:mlegendre@thewaterinstitute.org).

## **COMING EVENTS & MEETINGS**

### **October**

**["Restore America's Estuaries 6<sup>th</sup> National Conference on Coastal and Estuarine Habitat Restoration"](#) 20-24**

October 2012, Tampa, FL.

<http://www.estuaries.org/conference/>

### **November**

**["2012 Biennial Gulf Estuarine Research Society Meeting"](#), 8-9 November 2012, The Dauphin Island Sea Labs, Dauphin Island, Alabama**

<http://www.gers.us/GERS2012meeting.html>

"IOOS Summit 2012 - A new Decade of Integrated and Sustained Ocean Observing" 13-16 November 2012, Herndon, VA. WE NEED YOUR HELP - Please visit <http://www.iooc.us/summit/ioos-summit/> to see how you can help.

"Bays and Bayous Symposium" 14-15 November 2012, Mississippi Coast Coliseum and Convention Center, Biloxi, MS  
<http://masgc.org/page.asp?id=717>

#### December

2012 American Geophysical Union Fall Meeting, 3-7 December 2012, San Francisco, CA.  
<http://fallmeeting.agu.org/2012/>

2013

#### January

American Meteorological Society Annual Meeting, 6-10 January 2013, Austin, TX.  
<http://annual.ametsoc.org/2013/?CFID=420872&CFTOKEN=99740603>

"2013 National Conference: Environmental Disasters", 15-17 January 2013, Washington, DC. Sponsored by the National Council for Science and the Environment.  
<http://ncseonline.org/2013-national-conference-environmental-disasters>

"Gulf of Mexico Oil Spill and Ecosystem Science Conference", 21-23 January 2012, New Orleans Marriott Hotel, New Orleans, LA.  
<http://www.gulfresearchinitiative.org/news-and-events/gulf-of-mexico-oil-spill-ecosystem-science-conference/>

#### March

"Coastal GeoTools Conference", 25-28 March 2013, Myrtle Beach, SC. Abstracts due 1 October 2012  
<http://geotools.csc.noaa.gov/default.aspx>

#### April

Inaugural National Adaptation Forum, 2-4 April 2012, Denver Marriott City Center, Denver, CO.  
<http://www.nationaladaptationforum.org>



GCOOS is the Gulf of Mexico regional component of the U.S. Integrated Ocean Observing System (IOOS). Our mission is to provide timely, reliable, and accurate information on the open and coastal ocean waters of the Gulf of Mexico to ensure a healthy, clean, productive ocean and resilient coastal zone. Your input, guidance, support, and membership are important to the development of the data, products and services that you need.

Contact GCOOS Executive Director, Ann Jochens ([ajochens@tamu.edu](mailto:ajochens@tamu.edu)), to become a GCOOS member and for more information.

We welcome your feedback. If you have an item that you would like to share with others, please email that item to Laura Caldwell ([lcaldwell@geos.tamu.edu](mailto:lcaldwell@geos.tamu.edu)).