

# The Portal

Official Newsletter of the Northern Gulf Institute

[www.NorthernGulfInstitute.org](http://www.NorthernGulfInstitute.org)

December 2008



A NOAA-sponsored cooperative institute for developing research at academic institutions in the Northern Gulf of Mexico Region.



MISSISSIPPI STATE UNIVERSITY



## NORTHERN GULF INSTITUTE MARSHALS RESEARCH AND OUTREACH ACTIVITIES

*Annual Meeting Provides Forum for Researchers to Collaborate on Ecosystem Management Issues Facing the Northern Gulf of Mexico*

Ecosystem management is the new approach natural resource managers in the Northern Gulf of Mexico region are using to ensure healthy marine populations of increased social and economic value. This new management direction expands human impact focus, crosses political boundaries, and involves multiple partners. The goal of large-scale ecosystem management requires significant concerted efforts to marshal the disparate efforts by government, academia and non-governmental organizations to get them all pulling in the same direction. To help integrate these distinct activities, the Northern Gulf Institute hosted its 2nd Annual Conference on May 13-14, 2008, in Biloxi, Mississippi at the Beau Rivage Resort.

The five research institutions are working with the National Oceanic and Atmospheric Administration on the NGI, a NOAA Cooperative Institute. Under the auspices of the Institute, Mississippi State University coordinates the research, education and outreach of MSU, University of Southern Mississippi, Louisiana State University, Florida State University, and the Dauphin Island Sea Lab, resource agencies, and NGOs in the Northern Gulf of Mexico region and its environs. According to Dr. David R. Shaw of MSU and Director of the NGI, "This is the primary event of the year that brings together the foremost scientists working in this region to share results, and to work toward integrating research that addresses important problems facing the Northern Gulf."

*(Continued on page 2)*

To submit info or ideas for upcoming newsletters, please contact:  
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(Continued from page 1)

A diverse group of over 150 researchers, students, and resource program coordinators attended the conference. Organizations represented included the five NGI academic member institutions, NOAA, the National Aeronautics and Space Administration, various state and federal agencies and NGOs. Dr. Richard Spinrad, Assistant Administrator of NOAA's Office of Oceanic and Atmospheric Research, delivered the conference keynote address, highlighting the cooperative institute's role in NOAA's success, and the importance of quality, relevance, and performance.

NGI project principal investigators participated in an in-depth poster session which showcased the accomplishments of the 39 NGI projects. Graduate students competed in poster and photography contests for prizes donated by the Hancock Bank and Mississippi Power Company. The conference included sessions to provide an opportunity to share results of the ongoing research and to discuss opportunities to collaborate on new projects. Breakout sessions focused on how to coordinate research data collection and sharing, and on how to expand the research efforts to the scale of the entire Northern Gulf of Mexico ecosystem. Graduate students enjoyed a special career development session while cruising on the historic Biloxi schooner sailing vessel. A special presentation was made to honor Dr. George F. Crozier, who recently retired after directing the Dauphin Island Sea Lab for 30 years, for his years of dedication to the research and stewardship of the Northern Gulf region, and for his contributions in the establishment of the Institute.

NGI External Affairs Officer Sharon Hodge who helped organize the conference was pleased with the success of the event. "Bringing together the researchers and coastal program managers at the NGI Annual Conference is an important step toward helping NGI supply research and outreach for this entire region in order to support NOAA's ecosystem management goals. We received great feedback and are planning an even larger conference next year."

Save the date for the next NGI Conference, May 20-21, 2009 in Mobile, Alabama. Details will be posted on the web.



Conference attendees discuss NGI research at this year's gathering in Biloxi.

## Intern Project Has Successful First Year

What is metadata? Not many people know metadata is informational data about data, but the six students who recently completed a summer internship created by the NOAA National Coastal Data Development Center (NCDDC) can tell all about it.

They learned about metadata and a whole lot more during the inaugural year of this unique project. Partnering with the Northern Gulf Institute, Jackson State University, and the NOAA National Environmental Satellite, Data, and Information Service (NESDIS) Diversity Council, NCDDC create the NESDIS NGI Minority Program to provide career opportunities in geospatial metadata management and coastal ecosystem metadata creation for undergraduate and graduate students from diverse communities. NCDDC developed the concept for the project to target students, colleges, and degree majors underrepresented in NOAA. The six students who were selected for the 2008 internships were both undergraduate and graduate students, and had a variety of major degree areas. Five of the interns attended Jackson State University in Jackson, MS and one attended Hinds County Community College in Raymond, MS.



NOAA NGI interns travelled to Stennis Space Center to share their new expertise with program trainers and organizers. Pictured above are: Whitney Venson, Quanesha Trimble, Sharon Hodge, Kathy Martinolich (NOAA), Cassandra Patrick, Jessica Vaughan, Gregory Jones, Tisha Brown, Russ Beard (NOAA), and Julius Baham (JSU).

"Our ultimate goal," explained NCDDC Director Russ Beard "is to train and educate the students, and at the same time provide an avenue to the tremendous career opportunities at NOAA."

The interns were assigned unique data sets to work on at The Trent Lott Geospatial and Visualization Research Center at Jackson State University with the help of their individual NCDDC mentors both in person and remotely. They culminated their experience by visiting NCDDC at Stennis Space Center, MS, to give a presentation about each project during the NESDIS Weekly Meeting to an audience which included the NESDIS Assistant and Deputy Assistant Administrators, and the Directors of the NGI, the NOAA National Oceanographic Data Center, and NCDDC.

The NESDIS NGI Minority Interns for 2008 were: Tisha Brown, Gregory Jones, Cassandra Patrick, Quanesha Trimble, Whitney Venson, all of Jackson State University, and Jes-



sica Vaughan of Hinds County Community College. NGI continues to work with NOAA NCDDC and its partners plan to continue and expand the project.

## George Crozier Resumes the Helm at Dauphin Island Sea Lab

George Crozier has resumed the position of Director at the Dauphin Island Sea Lab after the sudden death of the lab's director Dr. Scott Quackenbush. We are greatly saddened by Scott's loss and appreciative of the important contributions he made to NGI this summer. We are also grateful to have George rejoin the NGI Council of Fellows — a role he helped define as a founding member.

*Excerpt from the Press-Register:* Marine scientist L. Scott Quackenbush, executive director of the Dauphin Island Sea Lab and NGI Fellow, died on Sunday, October 12, 2008, after a brief illness, according to Sea Lab officials. Quackenbush assumed the Sea Lab's top job in July, guiding operations at Alabama's institution for marine science research and education. He had moved to Alabama after working at the 7,400-student campus of Humboldt State University in Arcata, CA. He was associate dean for marine science programs and director of the marine lab.

"Scott was very, very good at listening to people," said John Dindo, the Sea Lab's senior marine scientist and assistant director. "And I think one of the things that stands out, he wanted to get to know everybody at the lab and what their role was. He took the time to talk with people from the custodial staff to the vessel staff to the research faculty to the education faculty." "It's a hard time for everybody here at the laboratory," Dindo said. "It's taken everybody by surprise and shock. He's going to be very missed by all of us." His family asked, in lieu of flowers, for donations be made to the Dauphin Island Sea Lab Foundation, P.O. Box 438, Dauphin Island, AL 36528.

## OCEANS Conference Returns to Gulf Coast in 2009

The Gulf Coast Chapter of the Marine Technology Society, in conjunction with IEEE's Oceanic Engineering Society, is pleased to announce the return of the OCEANS Conference to the Mississippi Coast Coliseum in Biloxi. The conference is attended by oceanographers, marine scientists, ocean engineers and technicians, and other professionals in the field from across the nation and from international laboratories, agencies, and companies. The dates for the Oceans 09 Conference are October 27-29, 2009.

The theme for the 2009 conference is "Ocean Technology for Our Future: Global and Local Challenges." The theme keeps the global focus of previous conferences, but adds topics of local interest. There are 10 technical topics that are repeated for each OCEANS conference. Local organizers have added the following topics of interest: Coastal Restoration, Ocean Observing Systems, Hurricane Katrina:

Lessons Learned, and Operational Oceanography.

Conference organizers recently began their search for exhibitors and patrons for various events and objectives. More than 90 booths have already been sold and a number of patrons have been identified, which are indications of the popularity of this conference and the Biloxi venue. The last Oceans conference held in Biloxi in 2002 featured nearly 500 technical papers, 2000 attendees, and 180 exhibitors.

This year, patron opportunities are focusing on bringing more students to the conference and its events. For example, an "Adopt-A-Student" patron opportunity for \$2500 will allow more college and graduate students to enter the poster competition. The same amount will allow a high school class to attend the outreach program that will feature a trip through the Exhibit Hall. Information on college opportunities in the marine field are being solicited for this program that is intended to help inspire the next generation of marine technologists. A Career Fair will also pair students about to graduate with prospective employers.

*The Northern Gulf Institute is participating in the planning of the conference and will have a significant presence at the conference with a quad booth in the Exhibit Hall, participation in the student and outreach programs. Please contact Jim Corbin at [corbin@ngi.msstate.edu](mailto:corbin@ngi.msstate.edu) for more details to join in the NGI exhibit and educational activity planning. For more information about the conference in general, please contact Organizing Chair Laurie Jugan at [jugan@bellsouth.net](mailto:jugan@bellsouth.net) and visit the conference website at: <http://www.oceans09mstsieebiloxi.org/>*

## America's Energy Coast Leadership Forum

Several NGI members participated in the second America's Energy Coast Leadership Forum, held on July 24, 2008, in The Woodlands, Texas. The AEC brings together industry stakeholders, academic leaders, government officials, and national environment organizations to develop and promote solutions for sustainable environments in the four energy producing states of Texas, Louisiana, Mississippi and Alabama. To learn more or get involved with AEC activities visit: <http://www.americasenergycoast.org>.



NGI Fellow Robert Twilley of LSU, pictured above, is Co-Chair of AEC Policy Committee.



## Northern Gulf Institute Co-sponsors Bays and Bayous Event

NGI was very actively involved and was one of several co-sponsors supporting the efforts led by the Mississippi Alabama Sea Grant program that brought the Bays & Bayous Symposium 2008 to the Mississippi Coast Coliseum and Convention Center in Biloxi, Mississippi this year. Thanks to the efforts of LaDon Swann, director of the MS/AL Sea Grant Program and member of the NGI Advisory Council, and his staff, the symposium provided an ideal forum for NGI researchers and more than 400 people attending the Symposium on Oct. 28-29, 2008, to share information about coastal resources, natural hazards, fish stocks, water quality, land-use, education and community action programs.



People from 10 states and 128 affiliations attended two days of presentations. More than 150 presenters shared their research and case studies with scientists, extension agents, community activists and educators. Some topics covered included hurricane intensity scales, oyster reef and marsh grass restoration efforts, engineering principles for living shorelines, population trends of sea life and issues related to hypoxia.

Keynote speakers included Steve Murawski, director of scientific programs and chief science advisor for NOAA Fisheries, and Virginia Burkett, Nobel Prize winner and chief scientist for global change research for the U.S. Geological Survey. For the first time, the symposium included sessions about educating students and the public about marine sciences and highlighting innovative community efforts that benefit coastal ecosystems.

To find out more about the topics discussed, go to <http://masgc.org/baysandbayous> and click on agenda (for oral presentations) or posters (for poster presentations).

## WISDOM in Weather

Researchers at the Northern Gulf Institute are participating in a new research balloon program that was launched to help the prediction of hurricane tracks. Hurricanes cause millions of dollars in damage when they hit, but they can also cost millions of dollars in evacuation costs even when they don't.

The Weather In-Situ Deployment Optimization Method (WISDOM) project seeks to improve hurricane forecasting by launching balloons all around the storms to help track winds around a storm. WISDOM was developed by the National Oceanic and Atmospheric Administration in Hawaii. Training for the project commenced in Miami, one of the launch sites in the country.

MSU researcher Louis Wasson was recruited for the project for his expertise in GPS units, which are being imple-

mented in the WISDOM project. The balloons carry a GPS tracking device on them that records the altitude and location, which will help determine the wind speed around a



University of Miami students learn to launch weather balloons.

storm. Students from Mississippi State University, University of Miami, and the Caribbean Institute for Meteorology and Hydrology in Barbados, came together to learn how to launch this new "Super-Pressure" Balloon. Besides several locations in the U.S., balloons are being launched from Barbados and Puerto Rico, as depicted in the photograph above.

About 60 balloons will be launched per storm, filling the gaps in data that exist over the ocean. The balloons are expected to stay aloft for 2-5 days. The project goal is to improve accuracy of forecast tracks by a full day ... which could save millions of dollars in unnecessary evacuations ... and possibly lives.

Then...

1944 image of a NOAA weather balloon



Photo Courtesy of NOAA



2008 NOAA WISDOM balloon and launch team members

...and Now

Visit the web for more information on the WISDOM Weather Balloon project:  
<http://www.NorthernGulfInstitute.org/projects/Visualization/WISDOM>.



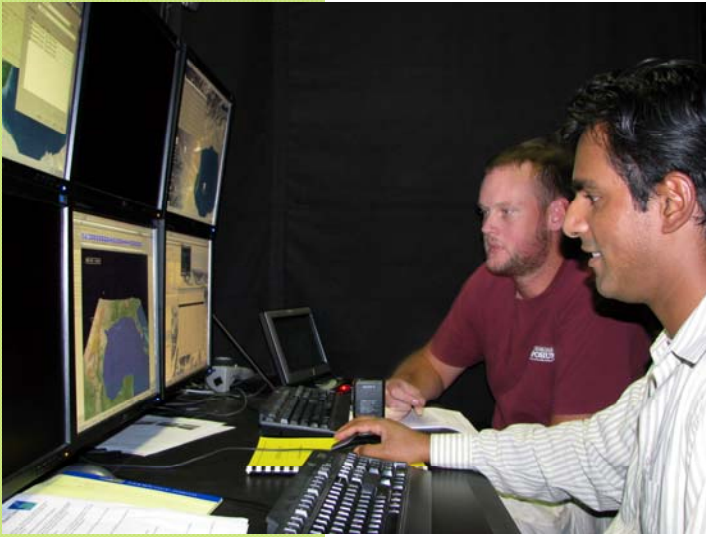
Map Indicates Paths of Launched WISDOM Project Balloons



Did you know that the Northern Gulf Institute is one of 21 cooperative institutes in 17 states supported by NOAA? NOAA Cooperative Institutes are academic and non-profit research institutions that demonstrate the highest level of performance and conduct research that supports NOAA's Mission Goals and Strategic Plan. Because many Cooperative Institutes are collocated with NOAA research laboratories, there is a strong, long-term collaboration between scientists in the laboratories and in the university. Cooperative Institutes not collocated with a NOAA laboratory often serve diverse research communities and research programs throughout NOAA. Cooperative Institutes serve an additional important function: they help educate and train the next generation of NOAA's and the nation's scientific workforce.

The NGI conducts collaborative research with NOAA researchers and other NOAA partners under four scientific themes, focusing on the northern Gulf of Mexico: (1) **Ecosystem Management** – Characterize Northern Gulf of Mexico Coastal Wetland and Fisheries Habitats, including Restoration Strategies; (2) **Geospatial Data Integration and Visualization in Environmental Science** - Develop significant results at the intersection of inland/watershed-coastal waters and resources, with a particular focus on the research, development, prototype testing and transition of scientifically-based geospatial observations, integration and improved access to data, and increased use of effective visualization technology; (3) **Climate Change and Climate Variability Effects on Regional Ecosystems** - Contribute to Northern Gulf of Mexico Climate Assessment and Impact Models; and (4) **Coastal Hazards** - Strengthen the Integration of Watershed, Estuarine and Coastal Models in the Northern Gulf of Mexico.



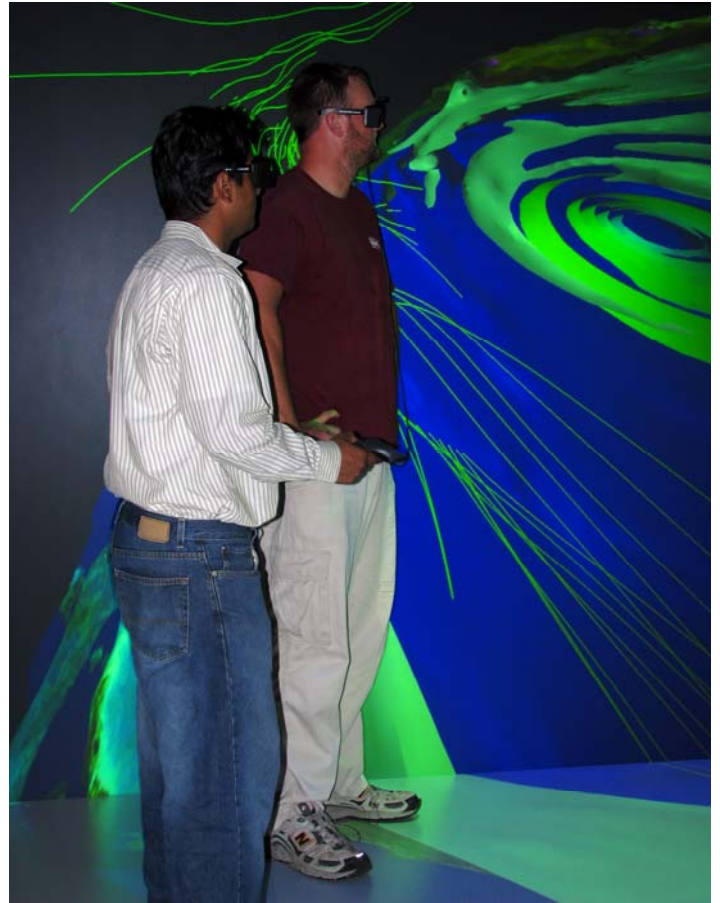


## Project Spotlight: Visualization Techniques for Improving Public Understanding of Severe Storms

One of many projects sponsored by the Northern Gulf Institute is Visualization Techniques for Improving Public Understanding of Severe Storms project, headed by MSU's Robert Moorhead. For states along the Gulf of Mexico this naturally brings hurricanes to mind.

The objective of this project is to develop a hardware/software system which allows analysts with access to many large data sources to see those datasets in the viewing "environment". This capability enables them to extract the maximum amount of information from the datasets and study the optimal method to display various sets of multiple collocated datasets (topography, bathymetry, coastline, oceanography, and atmosphere) in the same view volume. This project focuses on developing new 2D and 3D visualization tools for people ranging from hurricane experts to the general public.

In the above photos, Jamie Dyer, PhD, from MSU's Geosciences Department meets with NGI researchers and graduate students in the VERTEX facility to see visualizations of Hurricanes Lili and Isabel. He shared his expertise as a climatologist/meteorologist who concentrates his interests in climate dynamics and hydrometeorology. Interaction and collaboration among campus-wide departments is enhancing NGI severe storm research at Mississippi State University.



*For more information on this project, please contact Dr. Robert Moorhead at [rjm@gri.msstate.edu](mailto:rjm@gri.msstate.edu).*



[www.NorthernGulfInstitute.org](http://www.NorthernGulfInstitute.org)



## NGI Helping to Expand the Phytoplankton Monitoring Network

The Northern Gulf Institute is recruiting groups to participate in a NOAA outreach program called Phytoplankton Monitoring Network (PMN). The program's ultimate goal is to link laboratory scientists to the general public - or "citizen scientists". The PMN provides a valuable public service while securing qualitative data for scientists. NGI has hosted two training programs and has supported 7 PMN groups in Alabama and 3 in Mississippi. The NGI Outreach Program plans to assist NOAA in extending this program into Louisiana and Florida in the coming months.

The PMN program has seven specific objectives:

1. To create a comprehensive list of harmful algal species inhabiting coastal marine waters
2. To monitor and maintain an extended survey area along coastal waters throughout the year
3. To isolate areas prone to harmful algal blooms (HABs) for further study by Marine Biotoxins researchers
4. To identify general trends, such as time and area, where HABs are more likely to occur
5. To promote increased awareness and education to the public, particularly students, on HABs
6. To increase the public's awareness of research conducted by federal and state workers on HABs
7. To create a working relationship with open communication between volunteers and researchers through PMN

For more information on PMN, visit: [www.chbr.noaa.gov/PMN](http://www.chbr.noaa.gov/PMN) or contact Sharon Hodge at [shodge@ngi.msstate.edu](mailto:shodge@ngi.msstate.edu).



Above photo: Susan Carron and Kay Lange tackle the art of phytoplankton identification. Below: PMN trainees gather at the recent PMN training session at the MS Gulf Coast Community College, Jackson County Campus, Gautier.



Above photo: Allison Sill of NOAA, trainer for the Phytoplankton Monitoring Network collects samples. Below Photo: Vince Lovko, a post doc student at USM, examines samples in the lab.





## NGI Speakers Series Growing Interest

Glade Woods and the NGI Program Office hosted the June NGI Speaker Series guests from the National Weather Service, Jeff Grascel and Dave Reed. Dave is the Hydrologist in Charge at the Lower Mississippi River Forecast Center (LMRFC) and serves on the NGI Advisory Council. Jeff and Dave provided an overview of the Operations at the LMRFC at the June 2008 Speaker Series.



Left to Right: Glade Woods, Jeff Grascel and Dave Reed

LMRFC is one of two forecast centers that receive information from other centers, and it receives the most handoffs – from three upstream stations at 5 locations.



Another NGI Speaker Series featured Bill Lewis, Director of CIRES, University of Colorado at Boulder. His presentation, “Ecological Determinism on the Orinoco Floodplain” was a fascinating discussion of the amazing variability in geology, land use (and pristine undeveloped landscape) and water quality in the Orinoco River system.

The NGI Speaker Series will resume in early 2009, and is available for video broadcast or webinar. Please visit the NGI web site for upcoming events.

## NGI Working with Gulf of Mexico Alliance Toward Second Governors’ Action Plan

The NGI team was present in force at the Gulf of Mexico Alliance (GOMA) All-hands meeting in Corpus Christi, TX. The August meetings were held to allow the priority action teams to finalize their research priorities for the second Governor’s Action Plan for the alliance, slated to be released in March 2009.

The Gulf of Mexico Alliance is widely regarded as a model for regional governance and is the most successful response to the call for regional ecosystem management from the Oceans and Pew Commissions. Led by the five Gulf States of Florida, Alabama, Mississippi, Louisiana and Texas, the alliance is strongly supported by a working group of 13 federal agencies. The agency working group is led by NOAA, the Environmental Protection Agency, and the Department of Interior. Important growth in regional research opportunities associated with GOMA is expected in the near term. The current priority areas for the five-state Alliance are 1) Water Quality for Healthy Beaches and Shellfish Beds; 2) Wetland and Coastal Conservation and Restoration; 3) Environmental Education; 4) Identification and Characterization of Gulf Habitats; 5) Reducing Nutrient Inputs to Coastal Ecosystems; and 6) Coastal Community Resiliency.

NGI actively aligns research and outreach efforts with the ongoing and upcoming efforts of GOMA. For more information about the Alliance, please visit: [gulfofmexicoalliance.org](http://gulfofmexicoalliance.org).

While in Corpus Christi, the NGI program staff was also treated to a tour of the Harte Research Institute for Gulf of Mexico Studies ([harterresearchinstitute.org](http://harterresearchinstitute.org)) by HRI Director, Larry McKinney. HRI also provides important research and outreach activities in the Gulf of Mexico region. One of HRI’s particularly helpful resources is “Resource Database for Gulf of Mexico Research” at [gulfbase.org](http://gulfbase.org).

## NGI Joins PIANC Mission - Co-hosts Gulf Coast Hurricane Response, Recovery and Rebuilding Conference

NGI co-sponsored an important outreach activity this fall: the Gulf Coast Hurricane Response, Recovery and Rebuilding Conference held November 11-14, 2008, in Mobile, Alabama. The NGI Outreach Program exhibited in conjunction with other NOAA organizations including: the National Coastal Data Development Center, National Data Buoy



Center, National Geodetic Survey and the Gulf Coast Services Center.



Pictured above: A real tour de force of NOAA pulled together an exhibit blitz at the PIANC conference this year – Angela Sallis (NCDDC), Jim Corbin (NGI), Tina Sanchez and Todd Davison (GCSC), Kristen Laursen, Margaret Davidson (CSC), Sandra Knight (OAR), Kevin Kirsch (NOS) and Margaret Fowke (NWS).

The conference was organized by the Permanent International Association of Navigation Congresses or PIANC USA. The conference brought together top national and international professionals in the fields of hurricane response, ecosystem restoration, and infrastructure protection. The event included more than 200 private sector and governmental participants. The four-day conference offered technical sessions, field tour opportunities, industry exhibits, technical short courses, and networking events. Margaret Davidson, Director of NOAA's Coastal Services Center and member of the NGI Executive Council, delivered the keynote address. Sixty-five presentations addressed state-of-the-art technical aspects of subjects ranging from Ecosystem Resiliency–Coastal Recovery; Navigation–Ports and Industry; Community Resiliency–Watershed Wide Flood Hazard Master Planning; and Emergency Preparedness and Response.

NGI researcher presentations included:

#### *Gulf Port Sedimentation Solutions*

William H. McAnally, Hunter Johnson, and Jeremy Sharp, Mississippi State University

#### *Sensitivity Studies of Factors Affecting Storm Surge, and a Proposed New Saffir Simpson Scale*

Pat Fitzpatrick, Chris Hill, Yongzuo Li, Nam Tran, Yee Lau, and Haldun Karan, Mississippi State University

#### *Economic Assessment of Rapid Land-Building Technologies for Coastal Restoration*

Daniel Petrolia, Mississippi State University; Rex Caffey, Louisiana State University; and Tae-goun “Teddy” Kim, Mississippi State University

PIANC USA was organized in 1902 to advance the sustainable development of shallow and deep-draft navigation issues including dredging and dredged material disposal, navigation and port infrastructure, recreational navigation and related environmental matters. Membership information can be found at [www.pianc.us](http://www.pianc.us).

## **NOAA Releases *Gulf of Mexico at a Glance* Publication**

The next time you have to explain to your Aunt Martha about what might appear to be some obscure research on the post larval stage of the *Mycteroperca microlepis*, or to your brother-in-law in Minneapolis why you spend so much of his tax dollars – be sure to have a copy of the recently released “Gulf of Mexico at a Glance” handy.

This document has many contributors including the members of the Gulf of Mexico Alliance and the NOAA Coastal Services Center. It is full of important and current facts that we can all relate to – important things that affect our quality of life today and tomorrow. Please share this information every chance you get. It will amaze your friends, family, and guests. Before you know it, we will all be better stewards of the Gulf of Mexico ecosystem!

You may download a copy of the document at: [http://www.gulfofmexicoalliance.org/pdfs/gulf\\_glance\\_1008.pdf](http://www.gulfofmexicoalliance.org/pdfs/gulf_glance_1008.pdf).



### **Subscribe to the NGI Listserve:**

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## Student Photo Contest



Photo Contest Sponsored by Mississippi Power Company

**\$100 Winner  
Best Overall**



Ana Garcia, LSU  
Louisiana Bald Cypress covered in Spanish Moss growing within Lac des Allemands, LA

**\$50 Winner  
Landscapes & Seascapes**



Dan Holiday, USM  
Sundown on the Open Gulf – Oil platform in the twilight taken during data collection cruise

**\$50 Winner  
Flora & Fauna**



Dan Holiday, USM  
Basking in the Morning Sun – White Heron warming in the morning sun on Ocean Springs, MS, pier

**\$50 Winner  
Coastal Activities**



Mooloon Shim, USM  
5-year old Kristina concentrating on Fishing in St. Louis Bay

## Student Poster Contest

Sponsored by Hancock Bank

### Winners:

- 1st Place: James Nelson, Florida State University
- 2nd Place: Padmanava Dash, Louisiana State University
- 3rd Place: Ana Garcia, Louisiana State University

Look for more information about the  
**2009 NGI Photo and Poster Contests** coming  
soon to the **NGI web site.**

**Save the date!**

**NGI Annual Conference**

**May 20-21, 2009 in Mobile, Alabama**



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## Fellows and Advisory Council Meet in Baton Rouge

LSU hosted the Fall NGI Meeting for the Fellows and Advisory Council in Baton Rouge, Louisiana, in October this year. The Fellows held two planning sessions and the Advisory Council provided input to the program staff and Fellows on research and outreach needs in this region.

David Palmer, NOAA, visits with Bill Dewar of FSU.



Philip Hoffman, acting Cooperative Institute Program Manager joined the NGI Fall meeting and provided important perspective from NOAA Headquarters.

NGI Fellows and Advisory Council toured the Mississippi Delta modeling facility while meeting at LSU.



## NGI Council of Fellows

David Shaw, Chair, MSU  
Steven Lohrenz, Vice-chair, USM  
Eric Chassignet, FSU  
Robert Twilley, LSU  
George Crozier, DISL

## NGI Advisory Council

Glade Woods, Chair, NGI  
Russ Beard, NOAA NCDDC  
Bob Bendick, The Nature Conservancy  
Miles Croom, NOAA NMFS  
Todd Davison, NOAA Gulf Coast Services Center  
Kristen Fletcher, Coastal State Organization  
Mark Glorioso, SSC Applied Research & Technology Office  
Bryon Griffith, EPA Gulf of Mexico Program  
Karl E. Havens, Florida Sea Grant College Program  
Dawn Lavoie, USGS Gulf Coast & Lower Mississippi Valley

Paul Moersdorf, NOAA NDBC  
David Palmer, NOAA AOML  
David Reed, NOAA NWS  
Mathias (Matt) Romkens, USDA NSL  
David Ruple, NOAA Grand Bay NERR  
Martha Segura, NPS Gulf Coast Network  
LaDon Swann, MS-AL Sea Grant Consortium  
Bill Walker, MS Dept Marine Resources  
Jeff Waters, US Army Corps of Engineers  
Chuck Wilson, Louisiana Sea Grant Program

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## Unmanned Aircraft Systems

### Applications for the Gulf of Mexico Region

Hurricanes and tropical storms cause many deaths and average billions of dollars in damages each year. Increased forecast accuracy and lead-time in predication enable for planning evacuations, securing property and infrastructure before the storm hits. Forecast errors in either direction are expensive. Money spent to improve the accuracy of hurricane prediction is a good investment.

Improved forecasts and warnings have demonstrably saved lives and property. They also reduce the costs inherent in responding to the hurricane threat. The devastating impacts of hurricanes like Katrina require that we make the best possible and most authoritative information available to decision-makers to help them determine whether to implement mandatory evacuations and other costly preparatory actions for approaching hurricanes. Unmanned Aircraft Systems (UAS) offer the ability to add critical time and knowledge needed for disaster preparedness, evacuation planning and securing of critical infrastructure.

The Gulf of Mexico region faces some of the most pressing environmental issues of our day, including hurricanes, hypoxia, wetland loss, ecosystem degradation, and water quality. To protect and enhance ecosystem and community resiliency, science must go beyond the current state-of-the-art in collecting critical data from the ocean and atmosphere. One of the emerging sensor platforms that has the potential to make significant advancements in this regard is Unmanned Aircraft Systems.



While the potential benefits of UAS technologies are great, efficient use of this emerging resource is needed if we are to effectively meet the diverse needs of the Gulf of Mexico community. The NGI at MSU is working with NOAA to bring together regional constituents to establish requirements that are best met through the use of UAS applications. This effort will rely upon a broad group of local, state, regional and federal stakeholders to help define UAS-based operational and research requirements that are specifically designed to help better understand, monitor, forecast and mitigate the potentially devastating impacts hurricanes can have on the Gulf of Mexico community.

A workshop was held in April 2008, that brought together a broad group of local, state, regional and federal stakeholders to help define UAS-based operational and research requirements that are specifically designed to help better understand, monitor, forecast and mitigate the potentially devastating impacts hurricanes can have on the Gulf of Mexico community. For more info, visit the conference web site at: [www.northerngulfinstitute.org/uas](http://www.northerngulfinstitute.org/uas).

## Submit to Future Issues of the Newsletter

We invite you to send any newsworthy items to be included in upcoming issues. Please send your submissions to Joby Prince at [joby@ngi.msstate.edu](mailto:joby@ngi.msstate.edu). We encourage you to include any photographs or images with your articles to make them more interesting. If you need help with writing your articles, please contact Joby and she will be glad to assist you!



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The Northern Gulf Institute is a member of the High Performance Computing Collaboratory at Mississippi State University.

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