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Winter 2009

# COAST

a coastal issues newsletter from your Texas General Land Office

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## Land Office Continues to Help Ike Victims

September 13, 2009 marked the one-year anniversary of Hurricane Ike striking the Texas coast. At approximately 2:10 a.m., Hurricane Ike roared across Galveston Island and Bolivar Peninsula and into eastern Texas, destroying or damaging several thousand homes and businesses, causing more than \$29 billion in damages.

Now, a little more than a year later, most of the businesses on Galveston Island that closed due to damages have reopened and a majority of the population has returned. Although a sense of normalcy is returning to Galveston Island, the landscape on Bolivar Peninsula still bears scars from the storm, and much work remains to be done as residents continue rebuilding their homes and lives. The Texas General Land Office continues to assist local officials and is committed to restoring the beach and dune system.

In August 2009, the GLO released the new 200-foot line measured from mean low tide that gave property owners a line of determination for the public beach and aided local governments in the rebuilding process. Property owners in the city of Galveston and Galveston County whose property was destroyed or substantially damaged, can participate in the Federal Emergency Management Agency's (FEMA) buyout program. This program will allow over 800 property owners, whose homes were destroyed or substantially

damaged during Hurricane Ike, to be financially compensated for their losses. Property owners in the program will receive pre-storm fair market value for their home and property.

For many property owners who lost everything, participation in the FEMA buyout has helped put their lives back together. Through this program, FEMA provides local governments 75 percent of the cost to purchase properties from homeowners. Due to beachfront properties being the most at risk to storms, and the threat they pose to adjacent properties, the GLO was able to get \$10 million from the state Legislature to help local governments provide the remaining 25 percent of the purchase cost to beachfront property homeowners. The City of Galveston's application to buy 64 homes has been approved by FEMA, and Galveston County's application to buy almost 800 homes should be approved soon.

As the GLO continues its response to Hurricane Ike and restores beaches and dunes it destroyed, now is the time to get ready for the next storm. The GLO will continue working with local officials and property owners to make our coastal communities more resilient and better prepared for future storms. For more information on the buyout program and preparing for storms, please visit the General Land Office Web site at [www.glo.state.tx.us/coastal/hazmit/index.html](http://www.glo.state.tx.us/coastal/hazmit/index.html). 🌀



The Galveston Seawall after Hurricane Ike and before restoration.



The Galveston Seawall after restoration.

# Texas Is Officially “StormSmart”

Texas recently joined the StormSmart Coast Network of Gulf Coast States. During Hurricane Rita, officials from threatened states saw an overwhelming need to communicate with each other before and after Rita struck. As a result, a central Web site for Gulf Coast states to share resources and information was born. Funded by the National Oceanic and Atmospheric Administration, the StormSmart Coast Network—located at <http://tx.stormsmartcoasts.org>—is more than a Web site. It’s a network of state and local governments that gives coastal decision makers a central location to find and share the latest information on

## Coastal Coordination Council

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Commissioner of the Texas General Land Office

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Coastal Resident Representative

**Buddy Garcia**

Texas Commission on Environmental Quality

**Robert R. Stickney**

Texas Sea Grant College Program

**Karen J. Hixon**

Parks and Wildlife Commission of Texas

protecting communities from storms, floods, sea level rise and climate change. Before the Web site existed, no central forum for communication was available for Gulf Coast states.

With Texas StormSmart Coast, you can find updated information and important facts and tools on how you can protect your community before, during and after coastal storms. Information on available funding and resources to prepare for or recover from coastal storms is located on this Web site. Your community can now share what it has done to make itself safer from storms, flooding, sea level rise and climate change. Local officials can change their community’s page, add photos, and create a community calendar for StormSmart events. There is even a network blog to communicate with and

get to know local officials in other states.

With [Stormpulse.com](http://Stormpulse.com), it’s easy to track tropical cyclones, know where they are going and how far they are from any given location. Want to know the cost of damages of any historical storm if it were to hit today? Now you can with the iCat Damage Estimator. The iCat Damage Estimator provides information on any storm, the damage cost at the time and what those costs would be today.

The Texas StormSmart Coast Network is an important resource for you and your community. You can help the site grow by providing your feedback. As a new Web site and resource, we would like to hear your recommendations, such as information you would like to see added, or ways to make the site easier to navigate. Click on the “feedback” icon at the top or contact Jim Weatherford by phone at 512-463-2572 or via e-mail at [jim.weatherford@glo.state.tx.us](mailto:jim.weatherford@glo.state.tx.us).

Visit the Texas StormSmart Coasts Network Web site today at <http://tx.stormsmartcoasts.org> and make your community Storm Smart. 🌀



Screen shot of the StormSmart Coast Network Web site.

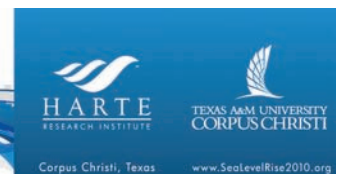


Screen shot of the iCat Damage Estimator.

# International Sea Level Rise 2010 Conference

Harte Research Institute is set to host a three-day conference on international sea level rise from March 1-3, 2010, in Corpus Christi. Registration for the International Conference on Sea Level Rise in the Gulf of Mexico began August 15. The conference will examine the phenomenon of sea level rise in the gulf and consider how people and the natural environment can or will respond. The overall goal of the conference is to share knowledge among researchers studying the natural processes and human dimensions of sea-level rise in the Gulf of Mexico and to engage decision makers and the public in planning for the future. The conference will provide a forum for technical presentations on the latest research on sea level rise including physical, biological, socioeconomic and

legal/management aspects of the phenomenon. In addition to daily technical sessions, the public will be invited to hear two internationally recognized evening speakers, attend poster sessions and participate in an educators workshop to help public school teachers develop teaching materials and lecture plans dealing with sea level rise in the Gulf of Mexico. All conference presentations and proceedings will be made available for free download off the Web. For more information on the technical sessions and other aspects of the conference, please visit the conference Web site at <http://sealevelrise2010.org/> 🌀



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# High School Beach Monitoring Program

Hurricane Ike pounded Galveston Island and several Caribbean islands last September, causing over 100 deaths and billions of dollars in damage. It also destroyed Galveston Island State Park, where Tiffany Caudle used to take students as part of the High School Coastal Monitoring Program. The program is funded by the Coastal Management Program—administered by the Texas General Land Office—and run by the University of Texas Bureau of Economic Geology.

“We’re just taking a hiatus this year,” said Caudle, a research scientist for the Bureau of Economic Geology. “We would like to remain in the same locations because of our history of monitoring from those sites. Also, we need to keep the safety of students as our first priority, and right now our monitoring sites do not have safe accessibility.”



Students survey a shore-normal beach profile from the foredunes to the waterline using a sighting level.

So instead, at least this spring, she’ll meet with students from Galveston Ball High School on their campus. She’ll take students from five other participating schools to sites on Mustang Island, South Padre Island and Matagorda Peninsula.



Measuring the beach profile to compare to past results on South Padre Island.

Caudle takes students to the same coastal sites three times a year, every year. At each site, they measure the vertical profile of the beach using basic surveying equipment: emery rods, a metric tape and a hand level. By starting at the same Global Positioning System (GPS)-surveyed datum stake and following the same path to the shore each time, profile overlaps with previous profiles at sites are ensured. They



Students conducting the topographic survey profile.

also map the vegetation line and shoreline by walking along the edges of these features with differential GPS units. The data are then loaded into Geographic Information System software for display as interactive digital maps. The data they collect allow scientists to track changes to beaches, dunes and vegetation following storm events such as Ike.

Because measurements are taken in the fall, winter and spring, scientists can also study seasonal patterns that shape a beach. Such patterns might go unnoticed if the observations were taken less frequently.

Caudle came to the Bureau of Economic Geology in 2000 and became principal investigator of the monitoring program, which had started in 1997 with the goal of offering students who live on the coast an inquiry-based learning experience.

“It’s amazing how much the kids who live in the coastal environment don’t know about the coast,” Caudle said, adding that it’s barely covered in the typical Texas high school curriculum.

Students learn good note taking in the High School Coastal Monitoring Program, Caudle said, as well as observation skills and the importance of precise measurements in science. They make a connection with the concepts in a fresh way because they’re out in the real world, getting their hands dirty, working on a real science project. “The data is important to their communities,” Caudle said. “Also, the students typically enjoy having a field trip to the beach.” 🌞



Tiffany Caudle gives instructions to students prior to taking measurements.

# GLO Announces CEPRA Cycle 6 Priority Funding

During a mid-September press conference held on the Galveston Seawall, Texas Land Commissioner Jerry Patterson announced \$135.4 million in Coastal Erosion Planning and Response Act (CEPRA) projects. Patterson described an ambitious effort to fight beach erosion in a coordinated effort from South Padre Island to McFaddin Beach.

"We're fighting on all fronts now in the battle against erosion," he said. "Critically needed projects from South Padre Island to McFaddin National Wildlife Refuge will begin immediately in an unprecedented effort to protect the Texas coast."

The \$25 million in state funds appropriated by the 81st Texas Legislature will be coupled with as much as \$110 million in match funding to conduct 26 projects with total project budgets as high as \$135.4 million. Many projects selected for Cycle 6 funding have budgets with large contributions from the federal government through programs including FEMA Public Assistance, FEMA Hazard Mitigation Grant Program, U.S. Fish & Wildlife Service grants, NOAA grants, and U.S. Army Corps of Engineers operations and maintenance funding. This provides excellent leveraging for the state's funding, with up to a 500 percent federal match for these projects.

The GLO received 60 Cycle 6 funding applications requesting over \$80 million in CEPRA funds, well over the \$25 million available this cycle for projects and studies in the two-year cycle that began September 1, 2009 and ends August 31, 2011. Because requests were so much higher than actual funds available, there were many good projects not selected for priority project funding. The GLO established an "Alternate Project" list containing the projects not selected for priority funding. The agency will review progress of priority projects on a quarterly basis and identify any potential projects that may not be able to be completed within the two-year cycle and associated funds that could be reallocated to alternate projects. Over the first five cycles of CEPRA, some priority projects could not be completed or conducted due to changes in local and federal funding, permitting issues, tropical weather events, wildlife concerns, and project schedule changes.

Cycle 6 is an ambitious effort to take the fight against beach erosion coastwide in a coordinated effort, from South Padre Island to McFaddin Beach. Restoring beaches emaciated by erosion and rebuilding dunes flattened by Hurricane Ike is an investment that will continue to pay returns well into the future.

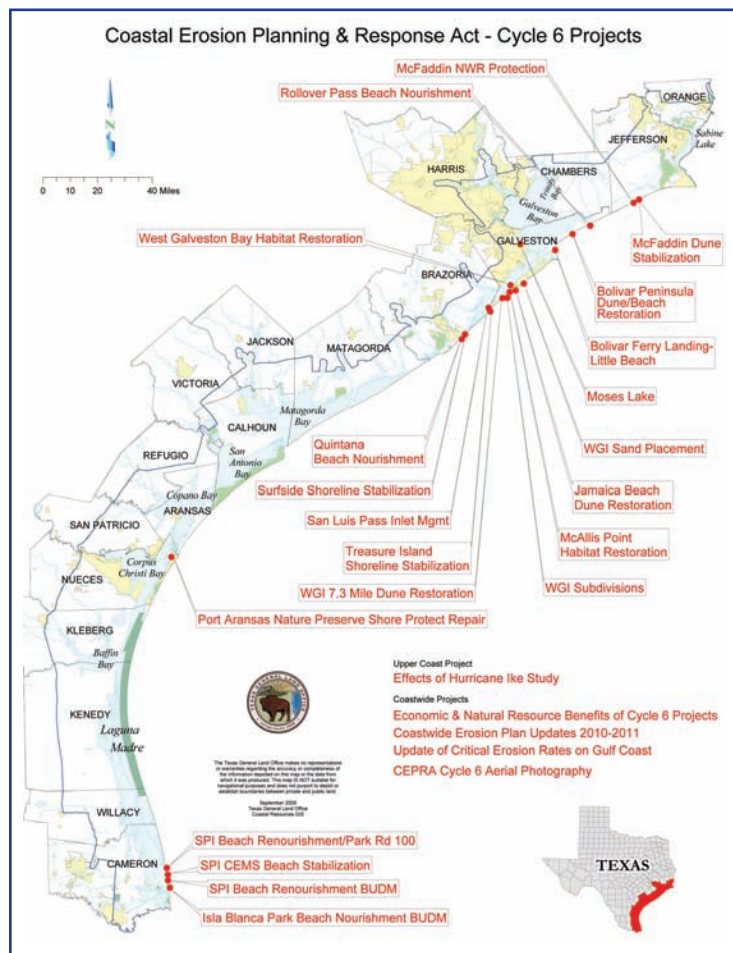
"Once a beach undergoes an engineered nourishment by the Texas General Land Office, it becomes eligible for future federal funding under FEMA Public Assistance guidelines," Patterson said. "Doing these projects now will help protect the Texas coast long into the future."

The largest single project on the list will be a massive beach renourishment stretching six miles toward San Luis Pass from the west end of the Galveston Seawall. The \$5.9 million in state money devoted to the project will leverage up to an additional \$40.5 million for a project budget of about \$46 million, pending final approval of FEMA Public Assistance funds.

"When I was in high school, you could walk off the end of the seawall on to the beach," Patterson said, pointing to rocks and severely eroded beach beyond the seawall. "When we're done rebuilding the beach here, you will be able to do that again."

Among the projects funded are:

- ◆ A \$32 million project to restore the dunes along 20 miles of beaches protecting the McFaddin National Wildlife Refuge
- ◆ An \$18.3 million project to rebuild a dune system on Bolivar



Peninsula, as well as a \$1.2 million project to renourish beaches on the far west end of the Bolivar Peninsula

- ◆ An \$11.7 million project to build more than seven miles of sand dunes, from the west end of Jamaica Beach to the Stavanger Beach subdivision
- ◆ A \$200,000 beach renourishment at Rollover Pass
- ◆ A \$1 million project to take sand from Park Road 100 and put it on critically eroding beaches on South Padre Island
- ◆ An \$885,000 project to rebuild previously nourished beaches on the west end of Galveston Island
- ◆ A \$1.6 million effort to rebuild dunes that once protected Quintana
- ◆ A \$2.3 million project to stabilize the shoreline on Treasure Island
- ◆ A \$1.5 million beach renourishment of South Padre Island beaches
- ◆ A \$1.4 million estuarine habitat restoration at McAllis Point in Galveston

The list also includes a test project on South Padre Island, in which a series of low-profile stabilizers will be built underwater and perpendicular to the shoreline in an attempt to capture sand on a critically eroding beach.

A complete list of the CEPRA Cycle 6 projects approved for funding can be accessed on the GLO Web site at [www.glo.state.tx.us/news/docs/2009-Releases/09-09-09-Announce-Assault-On-Erosion.pdf](http://www.glo.state.tx.us/news/docs/2009-Releases/09-09-09-Announce-Assault-On-Erosion.pdf). For any additional information or questions regarding CEPRA, please contact Lorrie Council at [Lorrie.Council@glo.state.tx.us](mailto:Lorrie.Council@glo.state.tx.us) or 512-936-1958.

# GLO Wetland Habitat Restoration Project Update

Work is progressing swiftly on the Texas General Land Office's large-scale wetland habitat restoration in West Galveston Bay. Otherwise known as the American Recovery and Reinvestment Act (ARRA) project, this restoration effort at Galveston Island State Park and Jumbile Cove is being funded in part by a \$5.1 million grant from the National Oceanic and Atmospheric Administration (NOAA). The project budget is being matched with an additional \$647,000 from the GLO's Coastal Erosion Planning and Response Act program, and the Texas Parks and Wildlife Department is serving as project partner and technical coordinator throughout the design and construction. The environmental goal of the project is to mitigate for the historical loss of wetlands that have occurred on Galveston Island as a result of relative sea level rise, soil erosion, development, and wind and wave impacts. In addition to improving the environment, the effort will restore fisheries and support a more resilient coast in the face of climate change.



Areas of proposed habitat restoration in West Galveston Bay.



View of project site in regard to its orientation along the Texas coast.

HDR Engineering out of Corpus Christi completed the final design, plans and specifications for the project after a fast-paced design period of 90 days. Following a quick two-day approval of the contract documents, the GLO posted a request for proposals to solicit the services of a construction contractor. Receipt of proposals from prospective construction contractors is underway, after which the GLO will evaluate the proposals and select a contractor for award. Construction is anticipated to begin in early December and will continue until September 2010. "In order for the GLO to receive this significant award, we had to commit to getting the project 'shovel ready' within 90 days of NOAA's July award date," said Dennis Rocha, the project manager. "So we're moving at an accelerated pace to ensure we get the project on the ground and meet the requirements of the Recovery Act." The public can follow the status of this project, along with all the other Recovery Act projects, by visiting [www.noaa.gov/Recovery](http://www.noaa.gov/Recovery).

## GLO to Restore 75 Acres of Marsh Habitat in West Galveston Bay

In September 2009, the Texas General Land Office was awarded \$915,000 through the National Oceanic and Atmospheric Agency (NOAA) to restore about 75 acres of intertidal marsh complex at McAllis Point in West Galveston Bay. The federal funding was furnished through the Estuary Restoration Act (ERA) and was approved as an ERA project on October 6, 2009 at the Estuary Habitat Restoration Council meeting in Washington, D.C.

In addition to the federal funding, the GLO will contribute \$392,000 in Coastal Erosion Planning and Response Act funds along with an additional \$100,000 from the Galveston Bay Estuary Program. With these matches, the total project budget will be more than \$1.4 million.

The GLO will also partner with the Texas Parks and Wildlife Department (TPWD) on the project, with TPWD serving as a technical advisor and cooperative partner. The TPWD will bring invaluable knowledge to the project and the GLO is pleased to partner with its sister state agency.

In 2006, Texas Land Commissioner Jerry Patterson approved the

purchase of the entire private upland tract of the McAllis Point area, 127 acres, of which 60 acres were acquired by the Trust for Public Land and then conveyed to Galveston County in 2007. Thanks to the GLO's initial purchase of the land, it was possible to set aside the upland tracts to prevent further development on them. This project will help to further restore an area of Galveston Island that Commissioner Patterson and the GLO helped save three years ago.

The GLO has selected Gahagan & Bryant Associates, Inc. to perform the engineering and construction oversight for this project. The GLO plans to post the bid for construction in early 2010, with construction starting in the spring of 2010.

For more information about this project you may contact Kayleigh Rust at 512-463-7371 or [kayleigh.rust@glo.state.tx.us](mailto:kayleigh.rust@glo.state.tx.us) or Dennis Rocha at 512-475-1412 or [dennis.rocha@glo.state.tx.us](mailto:dennis.rocha@glo.state.tx.us). To read more about this and other ERA projects, please visit either of the following Web sites: <http://www.usace.army.mil/CECW/ERA/pages/Default.aspx> or <https://neri.noaa.gov/neri/index.htm>.

# GLO Announces Beach Line Determination Method

By destroying much of the natural boundary, Hurricane Ike created unprecedented challenges for the Texas General Land Office (GLO) and local governments regarding permitting decisions and determining the extent of the public beach easement. To speed along reconstruction, a line 4.5 feet above sea level was established as a temporary permitting line for local governments and the GLO. This allowed emergency permitting and rebuilding and served as a guide for beach debris clean up.

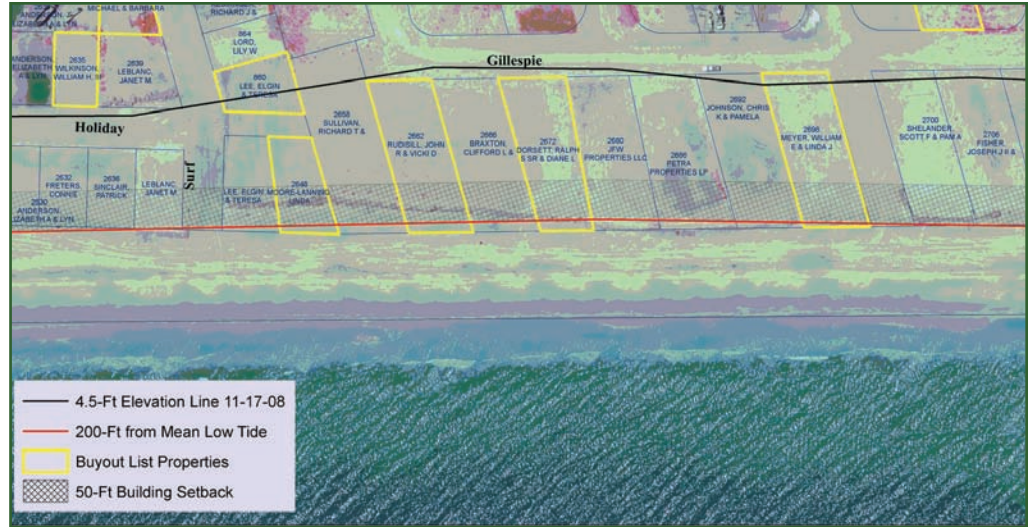
The GLO recently transitioned from the temporary 4.5-foot elevation line to the line of vegetation 200-feet from mean low tide where vegetation does not exist. This was determined through survey data and on-the-ground assessments of the natural vegetation. Man-made alterations to the vegetation also had to be considered when evaluating the extent of public beach easement.

In some areas along the upper coast the vegetation has not recovered fully since Hurricane Ike, or was manipulated to the extent that a provision of the Open Beaches Act will apply, setting the landward extent of the public beach easement at 200 feet from mean low tide. The mean low tide line is the average of all the daily low tide lines over a 19-year period, while the 200-foot mean low tide line is 200 feet landward of the average low tide line.

Hurricane Ike wiped out the dunes—including their natural vegetation—along many miles of beach in Galveston and Brazoria counties. According to the Texas

Open Beaches Act, this natural line of vegetation determines the landward boundary of the public beach.

Maps showing this new line can be found at [www.TexasBeachAccess.org](http://www.TexasBeachAccess.org). This user-friendly site allows visitors to click on a map of the Texas coast to see detailed local beach and dune protection plans. Texans can also find the closest access point to their favorite beaches, and property owners can pull up detailed maps showing the line that defines the public beach. [TexasBeachAccess.org](http://TexasBeachAccess.org) also has a section devoted to helping Texans understand their rights under the Texas Open Beaches Act, which has ensured the public's right to enjoy Texas beaches for 50 years.



An example of a typical map on the [www.TexasBeachAccess.org](http://www.TexasBeachAccess.org) Web site that displays permitting lines and properties on the buyout list.



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