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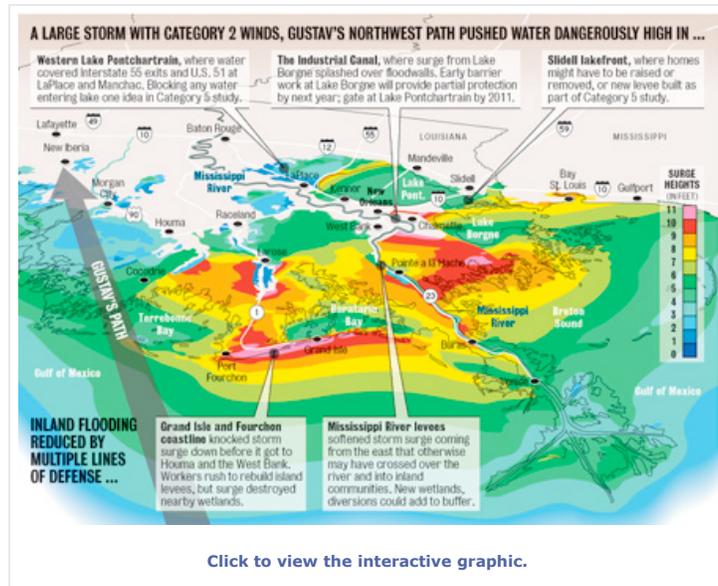
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'Close call' Gustav could delay future storm protection

by Mark Schleifstein, *The Times-Picayune*
 Saturday September 06, 2008, 8:21 PM

Hurricane Gustav's hammering of southern Louisiana with storm surges of as much as 12 feet has had federal, state and local officials scrambling to repair damage to levee systems while keeping a wary eye on Hurricane Ike, now predicted to reach the central Gulf of Mexico by Thursday.



But some state and local officials fear such short-term "flood fighting" efforts by the Army Corps of Engineers, though essential, could delay two projects that may be more important in the long run: a new 100-year levee system, to be completed by 2011, and recommendations for protecting southern Louisiana from a Category 5 hurricane, to be submitted to Congress by December.

Gustav arrived at Cocodrie on Monday as a Category 2 hurricane on the Saffir-Simpson wind-based scale, although it had been predicted only a day before to make landfall as a Category 4.

Scientists say Gustav's surge was less dangerous than Hurricane Rita's when it hit Cameron Parish in 2005 with a surge the corps says was close to the new 100-year standard.

A 100-year surge event is one produced by a hurricane with a 1 percent chance of occurring at that site in any given year, not one expected to arrive only once in 100 years.

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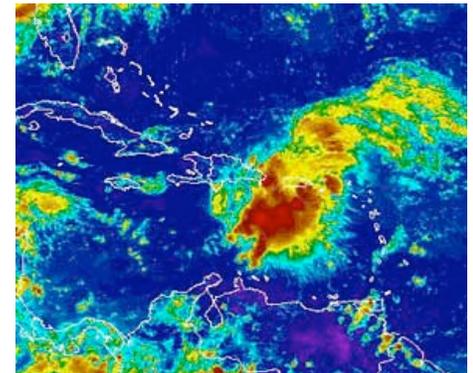
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Scientists say Gustav's surge was lessened by its diagonal course onto land.

The combination of hurricane- and flood-protection levees along the Mississippi River plus the land masses of Grand Isle and the Fourchon headland also helped tamp down Gustav's surge and waves before they reached Houma and Morgan City, scientists said. They credit the "multiple lines of defense" strategy of using barrier islands, wetlands and man-made structures to reduce surge.

Federal, state and local officials all praised the resilience to Gustav's surge displayed by even the most fragile parts of the levee system. But they warned that storms producing only a slightly higher surge, or approaching land on different tracks, could overwhelm the area's still incomplete levee systems.

"Gustav was a physically larger storm than Katrina, although significantly less intense at landfall," said Ed Link, a University of Maryland research engineer and head of the Intergovernmental Performance Evaluation Task Force that studied levee failures during Katrina for the corps.

"Nevertheless, it generated significant surge along the east side of New Orleans and drove a lot of water into the IHNC (Industrial Canal) as evidenced by the 12 feet of surge that we watched on CNN," he said.

"That was a significant test, especially the limited overtopping that occurred, which during Katrina caused a lot of erosion behind structures and led to their demise," Link said. "The repaired and replaced structures, which had applied the lessons learned from Katrina, showed increased strength and resilience."

Multiple projects

But, Link said, Gustav also showed the importance of completing the 33-foot-high concrete surge barrier and gates between levees along the Gulf Intracoastal Waterway in eastern New Orleans and the Mississippi River-Gulf Outlet in St. Bernard Parish that will block water from Lake Borgne from entering the Industrial Canal.

Under a contract awarded earlier this year, a team led by Shaw Environmental will finish the first half of the barrier, about 20 feet high, by June 2009. The rest of the barrier will be finished by June 2011.

"That barrier is an effective way to prevent large amounts of water from getting into the heart of the city via the IHNC," Link said. "The other alternative is to rip out many miles of existing structures and replace them with much higher and stronger structures, a task that would require considerably more time and money."

In the meantime, the way the surge caused numerous ships and barges to break loose from their moorings in the Industrial Canal worries state officials.

"We have very serious concerns about this whole issue," said Garret Graves, a senior adviser to Gov. Bobby Jindal and chairman of the state Coastal Protection and Restoration Authority, which oversees levee authorities in the state. "There never should have been circumstances where we have vessels of any size floating around that canal with those walls. They continue to be some of the most vulnerable parts of the hurricane-protection system."

He said the state is convening a group to come up with solutions to the problem. A Coast Guard investigation also is under way.

The corps is also working to make the existing floodwalls more resilient to surge, even if they're overtopped in future storms.

Workers are stacking additional sand-filled Hesco baskets atop those placed on the water side of Industrial Canal floodwalls before Gustav to raise that additional layer of protection to at least 12.5 feet, the same height as the walls they're protecting.

The corps also will be improving splash protection on the backside of the walls along the canal.

Those are among nearly 20 repair or strengthening projects the corps started in Gustav's aftermath. Senior corps officials in Washington are following their progress via daily briefings that also track the progress of Hurricane Ike.

"We've got to be able to 'mult attack,'" said Randy Cephus, a spokesman for the corps' New Orleans district, about the efforts to complete multiple missions at the same time.

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Gustav, Ike cause delays

Once immediate repairs are complete, local corps engineers and contractors will return to work on 100-year protection projects or on the longer-term Category 5 study.

But Cephus said he doesn't know yet whether the Gustav-related assignments -- or future reassignments of personnel to deal with other storms -- will delay either the 100-year levee work or the long-term study.

Jerry Spohrer, top administrator for the West Bank levee board, warned that delays in completing West Bank levees are possible, despite the best intentions of the corps and its contractors.

"Everybody's trying to get it done as quickly as possible," Spohrer said. "If you have a contract that takes 600 days to construct, how do you get that done quicker? You don't build in six weeks what hasn't been built ever."

Unless even more money is added to the \$14.7 billion already slated for construction of new levees and the corps redoubles its efforts, Graves said he expects the corps eventually will tell the state that its goal of completing the 100-year protection by 2011 can't be met.

"The corps' schedule for 2011 is laid out in excruciating detail, and I assure you that no time was allowed for Hurricane Gustav in that schedule," Graves said. "Everybody in the corps has been working on flood-fighting efforts related to this hurricane and preparing for Ike, and that certainly does pull resources away from the 2011 work.

"But the 2011 goal is not negotiable from the state perspective."

Jefferson Parish officials said aggressive demands for action worked in the aftermath of Katrina in 2005.

"I'm still certain that if it were not for Katrina and Rita, we wouldn't even have seen the construction that we have going on at the Harvey Canal right now," Jefferson Parish Councilman Chris Roberts said. "That put the focus on our weak points, and that let our congressional delegation have the muscle that they needed to get it done."

But that success required repeated calls for action by local officials, Roberts said.

Parish President Aaron Broussard agreed that the Harvey Canal floodgate at Lapalco Boulevard is in place as a direct result of that urgency.

In the past, he said, that project "never got the traction or the complete funding that it needed. After Katrina, it did -- and it was built. Thank goodness it was here, because ... when it was time to make a decision to be proactive and close the gate, we had a gate to close."

Channels bring surge

Meanwhile, Gustav's close call has renewed demands for speeding up the start of major wetlands and barrier-island restoration projects and for implementing stricter building codes and development restrictions to limit damage in the future.

"Gustav taught us the lesson that time is not our friend," said Mark Davis, director of the Institute on Water Resources Law and Policy at Tulane Law School. "A Katrina can happen again, and it can happen sooner rather than later.

"And one day, as much as we don't want to face it, we'll be looking at a storm that grows so fast and so big, we won't have five days to evacuate," Davis said. "And that's what we should be preparing for.

"Right now, an increased level of protection is not authorized or funded. Large-scale coastal restoration is not authorized or funded. Rehabilitation of the MR-GO region is not yet authorized and not yet funded."

Local governments also have to improve their land-use planning, strengthen building codes and require people to build above expected flood levels, he said.

"We have to get honest with which communities we can make safe in time to matter," Davis said. "Some communities that flood repeatedly are not going to get levees, or brand-new pumps, in time to matter.

"And they have to get serious about requiring elevation or restrictions on where development will be allowed next, and what kinds of construction they will allow," he said. "And those communities that we can't do anything else

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for, evacuation should be something that is ingrained into them, something they should expect."

Davis was equally blunt about the failure of federal and state planners to recognize the threat from storm surge moving into coastal communities through navigation channels.

"We have made a decision as a community to defend yesterday's navigation system, instead of planning for tomorrow's New Orleans," he said.

"We've been walking on eggshells on how to deal with our navigation system, whether it's the Inner Harbor Navigation Canal (the Industrial Canal) or the Gulf Intracoastal Waterway or the MR-GO or, ultimately, the Mississippi River," Davis said.

He said it's also time to recognize the threat the Harvey Canal poses to the West Bank, as well as the danger of what he called the "placating of special interests" by moving levees farther south so they would theoretically protect more land, thus making more development possible.

"They've got to make survival of (the West Bank) the No. 1 purpose of their levee designs. And if they do that, not only can they keep the canal, but have a better one," Davis said. "A Harvey Canal without Jefferson Parish around it is a ditch without a purpose."

Staff writers Meghan Gordon and Sheila Grissett contributed to this report.

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Posted by **lancejoseph** on **09/07/08 at 5:51AM**

I just don't understand the complexity of storm protection in Louisiana. True the levees hold a short term of protection of water entering the city, but the wetlands serve long term protection for the entire state. It's as simple as restoring the wetlands first in order to keep the state protected. One could probably leave the levees at the same level of height if the wetlands were restored properly. It's just common sense. In Louisiana, bad decisions usually come from the top and trickle down. In this case, the bad decision starts from the bottom and is working it's way to the top.

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Posted by **canalgal** on **09/07/08 at 9:14AM**

Agreed- Wetlands are the truest form of safety for LA. And yet not a word on Wetlands restoration on the Weather Channel throughout the final day coverage of Gustav...

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Posted by **tumadom** on **09/07/08 at 9:17AM**

"I just don't understand the complexity of storm protection in Louisiana."

Very wise words, most of us do not understand this topic very well.

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Posted by **Freepress11** on **09/07/08 at 9:19AM**

Maybe Scottie can the beam the wetlands back into place.

Raise our levees to +28 (+26 min)and armor them so we don't have to scramble to make repairs during hurricane season.

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Posted by **natural34** on **09/07/08 at 9:51AM**

I have doubts as to the accuracy of your interactive surge timeline. It never shows the lake level going over 4 feet, yet it got to 5 feet on Sep 1 and didn't start coming down until the next day.

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Posted by **love49120** on **09/07/08 at 10:17AM**

It's not a great graphic, because it doesn't show whether there is a current threat with another hurricane this season or whether it is talking about next season.

It would make sense though that rivers, lakes, and the wetlands wouldn't just drain back to normal quickly, and this would decrease the protection with the next storm. Doesn't sound good if Ike hits.

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Posted by **Rizmo** on **09/07/08 at 10:24AM**

After Katrina, one must ask a single, simple question: WHY IN THE HELL ARE ANY SHIPS & BARGES ALLOWED TO STAY IN THE INDUSTRIAL CANAL DURING A HURRICANE IN THE FIRST PLACE?!? Aren't we supposed to learn from experience? Or are we just THAT stupid?

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Posted by **overwrought** on **09/07/08 at 10:27AM**

wetlands cannot protect N.O.from a Cat 5 surge Period. Not only that wetlands get hammered when a storm hits and need years to recover. So what protects you until they recover? Katrina destroyed thousands of acres or wetlands and many have been lost forever because of that storm. some are recovering. you want to risk your life on those wetlands protecting you and your home with a gustov or Ike in the Gulf?

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Posted by **midcitymid** on **09/07/08 at 10:55AM**

THIS IS NOT AN EXCUSE NOT TO DO YOUR JOBS, CORPS. STAFF UP, FUND UP, AND GET IT DONE. YOUR TIMELINE IS UNACCEPTABLE.

ALSO THE COAST GUARD SHOULD GET ALL SHIPS AND BARGES OUT OF THE INDUSTRIAL CANAL NOW BEFORE IKE ENTERS GULF. THERE IS NO SECURING THEM.

WHY SHOULD AN ENTIRE CITY FLOOD SO THAT SOUTHERN SCRAP CAN EXIST? WE ALL KNOW THEY WILL NOT BE HELD LIABLE AFTER THE FACT. ACT TODAY ON THESE BARGES IF THERE ARE ANY IN THERE! THE CITY DOES NOT EXIST TO SERVICE INDIVIDUAL BUSINESS OWNERS.

WASN'T THE OIL SPILL CAUSED BY NEGLIGENCE ENOUGH?

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Posted by **freepress11** on **09/07/08 at 11:04AM**

Fact:
The 100-year storm for the US Gulf Coast is a Category 5 hurricane or a Tropical Cyclone with a minimum central pressure of less than 920 millibars.

The entire Gulf Coast has had two of these storms in the last 40 years. A recurrence analysis of major hurricanes will show this as a fact.

Fact: We hide behind the Gulf of Mexico coastal length for protection. The size of a normal hurricane which will damage an area is defined by the NHC as a direct hit area or 1.5 diameters of the eye wall size. This is normally about 45 miles so lets use 50 miles as rough number. The gulf coast is very long 1631 miles so we hide behind our 50 mile chunk hoping that we don't get hit. The odds are 50/1631 = .031 about 3 percent.

In any year the odds of being hit by a Cat 5 storm is .01 x .031 = .00031. Three ten thousandths.

Fact: Design Life - Over a long period of time the probability of hiding behind our 50 mile piece is eliminated and our area is subject to the 100 year probability of the main Gulf Coast length. Over 50 years the odds of being hit are 50*.00031 = .015 or 1.5 percent. So if you want your house to last 50 years without being flooded by the 1 percent storm we should be designing our flood protection system to withstand a CAT 5 Hurricane with a 50 year design life, not a 1 percent storm over a 1 year duration interval.

Fact:

Someone is not calculating the costs over the time of design duration correctly in our levee system analysis. Including potential damage and evacuation costs.

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Posted by **svizzini** on **09/07/08 at 11:24AM**

""The corps' schedule for 2011 is laid out in excruciating detail, and I assure you that no time was allowed for Hurricane Gustav in that schedule," Graves said."

Are you kidding me? A five-year project with no contingencies? No planning at all for a storm in the next five years?

Poor planning.

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Posted by **amdg80** on **09/07/08 at 12:55PM**

The answer is very painful but obvious. The federal govt needs to buy out most of lower Plaquemines parish, a portion of St. Bernard Parish, blow the levees and let the river run its course. Venice and Port Fourchon will have to be protected but only a massive wetlands restoration project will do the job. No local politician can or will do it as it is political suicide. We, as the taxpayers of Louisiana will have to shoulder a substantial portion of the costs, along with the Federal government but it is well worth the price. Instead of getting small tax refunds pour any surplus and tax revenue into coastal restoration. If this is not done, we are only kidding ourselves. Levees alone will not do the job.

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Posted by **Arseniceaux** on **09/07/08 at 9:47PM**

svizzini...class of '74 @HC?? If so,let me know...PT

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Posted by **tulanegrad07** on **09/08/08 at 1:13PM**

So what some of you here are saying is, we should all pack up move out of southeast louisiana and have it removed from the map.

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