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Forecasts becoming more sophisticated

The *Advocate* used the recent press release we developed about the Coastal Emergency Risks Assessment program and wrote a nice story about it.

BY AMY WOLD

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The traditional designations for the severity of tropical storms and hurricanes based on wind speed are giving way to more emphasis on the specific risks posed by each storm.

New computer models, developed with the help of LSU researchers, are being refined in the wake of Category 1 storms Isaac and Sandy which, respectively, caused massive damage in south Louisiana and on the East Coast because of storm surges.

The message that emergency managers, the National Weather Service and public officials say they are trying to get across is that the category of a storm does not equate to the kind of damage it will do.

In support of that message, a computer modeling tool developed by LSU and others will help deliver more specific risk information to emergency officials before and during a storm. Click on: Coastal Emergency Risks Assessment Webpage.

Pat Santos, deputy director of the Governor's Office of Homeland Security and Emergency Preparedness, noted that the Saffir-Simpson scale, which categorizes tropical storms and hurricanes by numbers, only measures wind speed.

He said the more sophisticated computer modeling will make more detailed information available to emergency officials during a storm, allowing them to make "smart and timely decisions."

"We no longer just want to focus on the Saffir-Simpson scale," Santos said.

Instead, it's becoming more important to look at individual impacts that rain, storm surge, winds, speed of the storm and more will have on particular areas, he said.

Information from a much more detailed storm surge model being run at LSU, combined with disaster impact information from the Stephenson Disaster Management Institute at LSU, will help provide much better risk specifics with each storm, Santos said.

And, he noted, those impacts can be adjusted as a storm changes or moves.

Some of this process was still being developed during Hurricane Isaac, but it should all be in place for the next storm, Santos said.

"We want to paint a better and more clear picture," Santos said.

Part of that picture involves the development of a more advanced computer model that can help show where storm surge is forecast to develop given a particular storms characteristics.

The Coastal Emergency Risks Assessment program combines efforts of the LSU's Center for Computation and Technology and the LSU School of the Coast and Environment to make storm surge forecasts more detailed, and in a much quicker time, than was previously possible.

Robert Twilley, Louisiana Sea Grant executive director and one of the principal investigators with the project, said it used to take six hours to run computer models for a storm's surge.

Now, researchers at LSU's Center for Computation and Technology have gotten that down to 1.5 hours using a much more detailed model, Twilley said.

In addition, he said, researchers have used interviews and discussions with emergency managers to help tailor the website to what they need during a tropical storm.

"You know these are going to be hot spots," Twilley said. "A lot of it is where to place first responders."

Ken Graham, the meteorologist in charge at the National Weather Service Slidell office, told members of the state Coastal Protection and Restoration Authority on Wednesday that he's making a big push this year to emphasize the shift in thinking from "categories" of storms, to the risks posed by particular storms.

He said he was meeting with LSU later in the week about their storm surge models and to talk about possible future models that would help forecast all the water resulting from a storm. Currently, there are computer models that look at storm surge, weather, river levels as well as weather that is observed such as rainfall, Graham wrote in an email.

"To combine all of these to get a picture of the total water on the ground is a huge leap forward," Graham wrote.

Although the storm surge website has been launched publicly from LSU, it won't be posting updates to the public during the storm, Twilley said. Instead, twilley said, the program will focus on giving information to the National Weather Service and other emergency management personnel so they can make decisions on what public advisories need to be issued.

"We don't want the public to interpret the maps contrary to what emergency managers are saying," he said.

However, the public will see the results in better, more detailed information about risks associated with a particular storms, Santos said.

"We take that and we want to give that to elected officials and emergency managers," Santos said. "So we take care of the people and get that information out there."

On The Internet:

The Coastal Emergency Risks Assessment Webpage is available at:

http://cera.cct.lsu.edu/cgi-cera-ng/cera-ng.cgi

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