

Wetlands Restoration Not A Panacea For Louisiana Coast

ScienceDaily (Sep. 30, 2008) — Counting on wetlands restoration projects to protect storm buffeted infrastructure along the Louisiana Coast is likely to be a “losing battle” that provides “false hope” and prevents endangered communities from clearly planning for their future, says a researcher from Western Carolina University (WCU).

As hurricanes have pounded the Gulf of Mexico this fall, the media has been filled with the words of politicians, policy makers, NGOs and local communities touting the importance of ongoing wetlands restoration projects as long-term storm protection for coastal communities and infrastructure. Unfortunately, there’s little science to support this growing belief.

“I think that’s a potentially dangerous message” said Robert Young, director of the Program for the Study of Developed Shorelines at WCU. “While I think that wetland restoration is a worthy goal, there’s almost no scientific evidence that suggests that we will be able to put the wetlands back on the scale and nature needed to reduce storm impacts.”

Young is scheduled to present recommendations from a recent white paper, co-authored by 26 leading coastal scientists and engineers, on Tuesday, 7 October, at the 2008 Joint Meeting of the Geological Society of America (GSA), Soil Science Society of America (SSSA), American Society of Agronomy (ASA), Crop Science Society of America (CSSA), and Gulf Coast Association of Geological Societies, this week in Houston, Texas, USA.*

As a hurricane moves toward land, onshore winds push water in front of the storm and cause water levels to rise as the storm makes landfall. This storm surge can range from several to 30-plus feet and, along with the waves that accompany the storm, inflict the greatest damage to infrastructure, Young said.

Wetlands can dampen the effect of storm surge, the problem is that scientists don’t fully understand the impact that adding wetlands might have. “In order to predict the impact of wetlands on storm surge, you need to have good storm surge data to understand what happened in the past. But we simply don’t have that data,” Young said. “It’s one of the gaping holes that we have in understanding what’s going on at the coast.”

The problem is that storm surge is hard to measure. “You can’t just go out there and stand with a stick and measure a 30-foot storm surge.” There’s also a tremendous amount of variability in storm surge height along the shore, variability that isn’t reflected in current storm impact models.

Scientists can measure storm meteorology – wind speeds and directions, rainfall and such – but until they can measure the ground effects of storm surge, including how far inland the waves are penetrating, “we’ll never be able to say much of anything about storm impact, and we certainly won’t be able to calibrate, verify and check the veracity of the models being used.”

As a result, the models are flying blind, Young said. Add to this the fact that land loss is happening at such a rate in the Gulf, due to subsidence of the Delta and exacerbated by rising sea levels, that Young fears that the billion-dollar restoration programs planned for the region will do little to maintain the status quo, let alone repair previous damage.

“I’m afraid that over the long term this is a losing battle,” Young said. “If the government of the State of Louisiana wants to do its citizens the best service, it needs to begin to understand how it will relocate some of these communities.”

*On October 7, the abstract, paper 6-6: “Restoring Coastal Louisiana Will Not Guarantee the Protection of Infrastructure from Storms: Policy Makers Should Also Plan for Strategic Relocation of Critical Infrastructure and Vulnerable Communities” will be presented at the Joint Meeting.