

Coastal barrier island researchers learn lessons from Ike destruction

When more than 20 coastal barrier island researchers arrived on Galveston Island in early January, many had never seen the level of destruction wrought by Hurricane Ike.

They came from New England, the Pacific coast and all points between where ocean meets U.S. soil. From a common interest in coastal barrier islands and their multitude of questions that emerged from the rubble that still litters Galveston and neighboring Bolivar Peninsula has emerged a goal.

The team, funded by the National Science Foundation, aims to develop a "research-management-outreach framework to sustain barrier island ecosystems," according to Dr. Rusty Feagin, ecosystems management scientist for Texas AgriLife Research and one of the conference organizers.

Feagin is part of the Coastal Barrier Island Network project, a joint effort with Wake Forest University and the New Jersey Institute of Technology.

"Barrier islands do so many things and are of tremendous value," said Dr. William Smith, Wake Forest botanist and project leader. "And scientists today realize that the issues facing barrier islands are complex problems that have to be addressed by a multi-disciplinary team. There is no answer yet, but for the first time we are addressing it in this manner."

After discussing data and touring the Hurricane Ike damage, the scientists

agreed to these findings:

- Critical differences exist between natural and human-dominated barrier island land forms and ecosystems. Feagin explained that because barrier island sediments can move great distances during large events such as a hurricane, sometimes researchers need to look at one barrier island in isolation to understand how its ecosystem works, while other times there is a need to look multiple islands to see how the sediment and ecosystems change among the islands (some lose land, while others gain).

- Controlling processes that influence vulnerability and resilience of barrier island ecosystems occur over many spatial and temporal scales. (have asked Feagin for explanation)

- Economic valuation tools such as cost/benefit analysis, as well as rapid assessment methods utilizing remote sensing, GIS, and field validation techniques, can be used to bridge the divide between those who advocate development and those who advocate ecological sustainability.

- New mechanisms are needed for communicating with stakeholders (politicians, government agencies, teachers, local public, developers, etc.) about emerging science and the implementation of management strategies.

- Managing for stability versus natural dynamism needs to be addressed, along with better restoration alter-

natives that include native vegetation.

- There is potential for development of a unified conceptual framework for soft-sediment coasts. "We are close to understanding how all sedimentary coasts work in a general way, the sediment moves and the ecosystems must move with it over time, while human occupation within these ecosystems generally interrupts this movement because of the structures that we have built," Feagin explained.

The coastal barrier island scientists hope to research and find possible solutions to these issues. The project will span five years under the National Science Foundation grant.

More information about the network can be found at <http://www.coastalbarrier-island.org/>.

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