

IHRC NEWS UPDATE

International Hurricane Research Center

IHRC



Winter/Spring 2005

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Beach Managers, Hurricane Researchers Meet to Share Results and Plan for Future



Jim Lushine, Nat'l Weather Service meteorologist, discusses rip currents and NOAA's work to reduce deaths through forecasting.

Two important IHRC sponsored conferences held at FIU the first week of March, brought together specialists whose collaborations will strengthen the work of all.

The Florida Hurricane Alliance met for an initial review and planning workshop and for participants to become acquainted with active research projects and accomplishments. The group discussed the scope of work and responsibilities of each member university team. FAMU, FAU, FIU, FSU, UCF, UF, UNF, USF and UWF representatives were in attendance, as well as a contingent of NOAA scientists from around the country.

Conference on Beach Management, Tourism and the Coastal Environment delegates shared information on successful systems and new technologies bringing advances to coastal environments. Innovative methods for retarding erosion with dune grasses and for developing reef environments with "reef balls" were explored. Lessons learned after four significant hurricanes battered beaches and coastal communities were discussed. Trips to South Florida beaches gave insights on solvable problems and the search for solutions to extraordinary coastal challenges. *Special thanks to Robert Yero and Liz Golden of Cape Florida State Park, Brian Flynn of Miami-Dade County, and Steve Higgins of Broward County for their time and effort during beach visits to their shores.*

Members of the *Heinz Center Committee for Sustainable Coasts* also attended the Beach Conference events and held separate meetings to address projects their organization will undertake in the upcoming year.

IHRC Thanks Renaissance Reinsurance Sponsors of Wall of Wind Research Program

This February, in a significant vote of confidence, the **RenaissanceRe and Glencoe Groups** of companies extended support to IHRC's **Laboratory for Wind Engineering Research** for a major scientific initiative.

The "**RenaissanceRe Wall of Wind**", in development under the direction of Dr. Forrest Masters, is a true innovation. This support from RenaissanceRe and Glencoe is helping make possible the construction of the field's most powerful wind simulation device. Wind researchers will investigate the forces of extremely high velocity winds and wind-driven water. Observations of vulnerability and probable outcomes of permeable and solid structures in hurricane force winds will be possible. With the resulting data, wind engineers will work to develop new testing protocols, improve risk consistency in structural design, develop new products and standards, test design retrofits, help improve building codes and standards and develop affordable hazard solutions.

IHRC is grateful to RenaissanceRe and Glencoe for their contribution to hurricane damage mitigation research.

Welcome Margaret Davidson, New IHRC Board of Trustees Member

Director of NOAA's Coastal Services Center Margaret Davidson has focused her professional work on environmentally sustainable aquaculture, mitigation of coastal hazards, and impacts of climate variability on coastal resources. She recently accepted appointment to the IHRC Board of Trustees, and will serve as Ex Officio Trustee.

The IHRC welcomes her and thanks her for her interest in our work and our progress.

Message from the Director: New Research, New Opportunities

As another hurricane season approaches, we look forward to utilizing soon-to-be released data from the Public Model for Hurricane Loss Prediction, developed by Dr. Shahid Hamid and his team. The model is another important advancement of the IHRC to prepare Florida for hurricane threats and impacts. S.P. Leatherman

National Act Passes, Paves the Way for Next Steps to Hurricane Mitigation Efforts

President Bush signed the **National Windstorm Impact Reduction Act of 2004** into law in October, an event long awaited by hurricane mitigation researchers. The Act establishes a plan to increase research and streamline federal efforts to minimize loss of life and property due to severe windstorms like hurricanes and tornados.

The original draft for the act was written by Dr. Stephen Leatherman following a national workshop held at the IHRC in 2000. Over 40 experts from the National Hurricane Center, NOAA, the American Society of Civil Engineers, emergency management and the nation-wide research community met to develop consensus on the issues to be addressed in the creation of a national plan.

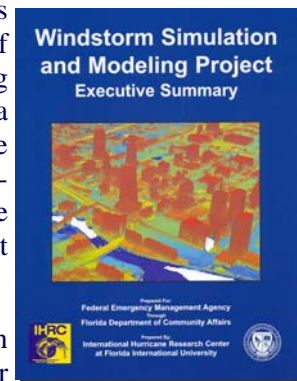
The program is intended to focus primarily on improving understanding of windstorms, assessing windstorm damages and developing resources to reduce windstorm impact. It will be coordinated by the White House Office of Science, Technology and Policy and an interagency working committee. Several agencies will receive funding to accomplish the stated goals of the legislation.

Some of the areas to be addressed through the program are construction technology and mitigation methods, impact prediction modeling including storm surge modeling and coastal erosion, retrofitting, engineering, wind testing, and public education and outreach.

FEMA Report Completed— Executive Summary Outlines Extensive Research

Four key research tasks were undertaken during the **Windstorm Simulation and Modeling Project** funded by FEMA through the Florida Department of Community Affairs. The three year project wrapped up in fall of 2004.

Remarkably, the project's airborne LIDAR mapping system collected over 3 billion accurate data points. These data have an accuracy of 6 inches, as compared to the 5 foot standard of existing maps. Drs. Keqi Zhang and Chengyou Xiao developed a new high resolution storm surge model that incorporates the LIDAR data and will provide surge information down to the street block level.



Principal Investigator Stephen Leatherman and Project Manager Carolyn Robertson produced a detailed Executive Summary describing IHRC's data acquisition through high resolution LIDAR mapping, storm surge model evaluations, computer simulation and visualization of hurricane impacts, and public education programs.

The report includes a CD of storm surge flooding computer animations created by Dr. Shu Ching Chen. Culmination of this project represents an important body of work for IHRC and the field of hurricane research.

NEWS OF NOTE...

Florida International University has been designated to receive a \$100,000 Disaster Resistant University (DRU) grant by FEMA, the Federal Emergency Management Agency. The award will be used to assess and prioritize risks and identify mitigation strategies for the university. Beyond the primary need to protect, the DRU initiative is designed to help safeguard the institution's research capacities, as well as the human capital associated with the academic environment. The proposal for this grant was written by Carolyn Robertson, co-PI for the project.

The DRU grant will support a project involving faculty and staff from various university departments, as well as community entities such as Miami-Dade Emergency Management and the Miami-Dade City Manager's Office. The IHRC and the FIU Department of Environmental Health & Safety will jointly manage the project.

The first six DRU participants were awarded funding in 2000. University of Miami, one of the original universities, was awarded \$2.7 million in April 2004 to begin strengthening facilities and infrastructure identified by the university. Participation in the DRU Program will afford opportunities for FIU to reduce and manage its vulnerability to hazards.

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