

National Sea Grant College Program



HAZARD RESILIENCE IN COASTAL COMMUNITIES



THE ISSUE

Coastal storms, flooding, inundation, coastal erosion, sea-level rise, tsunamis, the ongoing threat of oil spills and other **natural and human hazards** all carry the **threat of disaster**, placing people and property at risk along the nation's coasts. These dynamic forces and potential climate change impacts, combined with population growth along our coastlines, have tremendous implications for the economic and environmental health of our coastal areas. Coastal residents must understand these risks, and learn how to reduce their vulnerability and respond quickly and effectively.

Sea Grant uses its integrated research, training, and technical assistance capabilities to help local citizens, decision makers, and industries plan for hazardous events, as well as respond and rebuild.

SEA GRANT WORKS TO:

Promote widespread understanding: Assess short and long-term risk for residents and businesses and ensure that forecast and other information is available and useful to help save lives.

Prepare Communities: Help communities plan to reduce risk; pinpoint vulnerabilities and use technologies to prepare for and mitigate hazards.

Respond to coastal catastrophes: Make products and services available to support crisis decision-making, mobilize our network to provide rapid response strategies, and partner with emergency responders.

SEA GRANT EMPOWERS CITIZENS AND COMMUNITIES

- Conducts applied research to help solve local problems
- Helps businesses identify risks
- Conducts education/literacy programs to save lives and protect property
- Develops policies, plans, and ordinances to reduce risks, manage catastrophic events and speed recovery
- Pinpoints vulnerabilities, integrating demographic and coastal hazard information
- Helps communities prepare for hazards
- Supports crisis decision making
- Develops life-saving hazard-related products and predictive tools
- Informs response strategies by mobilizing scientific and technical expertise
- Helps facilitate emergency response



SEA GRANT IMPACTS: BALANCING HUMAN & ENVIRONMENTAL NEEDS

Wind Insurance Mitigation Credits Reduce Insurance Costs, Increase Public Safety

Property owners pay high insurance premiums for coverage in wind zones near the oceanfront. Incentives for building owners to increase wind resistance would also increase overall safety on barrier islands during coastal storms because of less flying debris. In North Carolina, Sea Grant encouraged the State's Joint Underwriting Association to consider mitigation credits for property owners who construct more wind-resistant buildings, and provided written recommendations to the Joint Select Committee on the Potential Impact of Major Hurricanes on the North Carolina Insurance Industry. This work led to a 2009 decision by the North Carolina General Assembly to require that the Department of Insurance consider mitigation credits for wind-resistant features for coastal homeowners and commercial insurance coverage. The North Carolina Rate Bureau proposed mitigation credits in 2010. As a final step, the State's Insurance Commissioner implemented increased credits as an optional rating for all wind insurance coverage in the state and will offer 5 to 24 percent credits on 2011 policies. Potential savings would apply to wind coverage on approximately 200,000 coastal policies, with premiums of approximately \$300 million annually. Many existing buildings will be eligible for the lower wind insurance rates beginning in 2011. Sea Grant is a partner in plans to promote wind-mitigation upgrades of existing buildings so that the property owners can qualify for higher credits. Many new coastal buildings are expected to be designed for the highest credits. **When state officials accepted Sea Grant's recommendations to establish wind-resistance mitigation credits on coastal insurance policies, the result was increased safety and lower premiums for property owners who took the recommended actions.** (NC)

Research Results Improve Setback Laws in Two Coastal Counties

The County of Kauai has been engaged in a process to revise its shoreline set back rules in order to mitigate coastal erosion and support sustainable coastal development. For the past four years, Hawai'i Sea Grant has provided technical assistance to the Kauai County Council and Planning Department, along with other partners, for revising shoreline setback rules and shoreline land use ordinances. The Kauai County Council passed the rule amendments for Article 27 Chapter 8 related to shoreline setbacks and coastal protection in January of 2008. **These setback rules utilize modern scientific and coastal management principles and science-based standards and practices, and are currently the most progressive shoreline setback rules in the state. Shoreline change data developed from this research project are included in revisions to setback laws in both Maui and Kauai counties.** (HI)



Kauai shoreline. (Credit: NOAA Pacific Services Center)

Beach Erosion and Research Monitoring (BERM) Program Minimizes Risk to People and Property

South Carolina's beaches and coastal areas drive the state's tourism economy and are vital to maintaining economic well-being and coastal heritage. Shorelines are ever-changing with potentially large impacts to private property owners and local/state government. To help provide sound scientific information about coastal sediment dynamics and shoreline change, Sea Grant partners with Coastal Carolina University and local, state, and federal coastal management organizations to: manage a research and monitoring program documenting coastal management and shoreline change; and, conduct Regional Sediment Management studies which aim to pool resources to solve engineering problems, improve the environment and save money. BERM Program information is utilized by the state's beachfront management agency to determine setback distances for shoreline development and about 4,000 habitable structures within and near setback zones. Data collected by the BERM Program is incorporated into the U.S. Army Corps of Engineer's eCoastal enterprise GIS to enable data-sharing across management agencies and disciplines. The successful partnerships developed by the BERM Program have resulted in a cost-effective solution to data acquisition and interpretation, and increased resource communication and sharing across agencies. **The BERM Program is providing coastal decision-makers with scientific information documenting shoreline change and the impacts of natural and anthropogenic forces. This information is critical to minimizing risks and reducing damage to people and property along the South Carolina coast.** (SC)

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