Sea Grant Puerto Rico
Contribution to the Resiliency of Coastal Infrastructure

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Climate extension and Coastal Community Development
The University of Puerto Rico Sea Grant College Program is an educational program dedicated to the conservation and sustainable use of coastal and marine resources in Puerto Rico, the US Virgin Islands, and the Caribbean region. Our mission is:

- (1) to fund scientific research in the thematic areas of conservation and the use of coastal and marine resources;
- (2) to offer marine extension services by making use of our experience and by applying the scientific knowledge that is generated through our research to the problems and issues that our community of users face everyday.
Center for the Education on Environmental Climate Change Education (CenECCA)

- Build an Island-wide program to tend the needs for scientific information aimed at the development of actions, programs, activities and adaptation policies related to Climate Change including, Natural Hazards and Sea Level Rise in order to minimize potentially adverse social and environmental impacts.
Applied research founded by Sea Grant Puerto Rico
Life cycle cost analysis of beach restoration: Rincón, PR testbed
PI: Luis D. Aponte, Ph.D., P.E.

- Detailed distribution and cost information about coastal properties in Rincón
- Current and future sand volume needs for beach nourishment along the coastline
- Approximate cost of potential local sand sources, on and offshore
- Estimate the total loss (in dollar amount) due to short and long-term effects of coastal erosion
Towards potential beach nourishment in Rincón: Developing RTK beach mapping capabilities, sediment compatibility analysis and an online tool for data sharing
PI: Miguel Canals, Ph.D.

- Characterization of the sediment compatibility of potential nourishment sources for Rincón beaches.
- Quantification of beach face morphology changes during storms.
- An adequate online platform for viewing bathymetry and sediment data – useful for both Rincón and San Juan pilot project sites.
Exposure and adaptive capacity to floods: A comprehensive vulnerability assessment of Rincon’s neighborhoods
PI: Saylisse Dávila, Ph.D.

- Advance the understanding of the vulnerability to floods of Rincón’s neighborhoods.
- Characterize Rincón’s flood-prone zones in terms of exposure, sensitivity, and adaptive capacity.
- Support emergency responders and strategic planners in the development of mitigation, response, and recovery strategies for floods.
Extension and capacity building efforts
Coastal communities resiliency
Capacity building with the National Disaster Preparedness Training Center at the University of Hawai'i

- Memorandum of Agreement between the NDPTC of the University of Hawai'i and Sea Grant of the University of Puerto Rico.
- To improve preparedness, relief and recovery of communities affected by natural disasters.
- And improve education and training to reduce the impacts of natural disasters.
Training: Coastal Community Resiliency

- This course demonstrates how to integrate risk and community-based collaborative strategies into plans and programs and introduces tools that help communities assess individual risks and vulnerabilities as well as introduces strategies to become more resilient and better prepared for the natural disasters that are likely to occur in the coastal regions.

- 54 participants.
Training: Coastal Flood Risk Reduction

- Course designed to provide an introduction to flood risk-reduction opportunities within coastal communities and island environments.

- Overview of the flooding risks to coastal built and natural environments, in addition to introducing capabilities (approaches and tools) that support coastal prevention/mitigation, preparedness, response, and recovery.

- 67 participants.
Training: HURRIPLAN

- Modules
  - Introduction to Hurricane Science
  - Design Strategies Against Wind, Water and Debris
  - Infrastructure Failure
  - Current and Suggested Zoning and Building Codes
  - FEMA Guidelines, Best Practices and Lessons Learned
  - 48 participants
This course provides participants with a basic understanding of the hurricane science, forecasting, warning, and preparedness. Topics that will be covered include: conditions of tropical cyclone formation, prediction of track/intensity, official watch/warning definitions, and recommendations to prepare for associated hazards (e.g., high winds, heavy rain, and storm surge).

48 participants.
Training: Coastal Inundation Mapping (NOAA)

- Topics include the different types of coastal inundation, elevation datasets and datums, spatial methodologies used to map flood areas in a coastal environment, the applications and limitations of various types of inundation products, and mapping sea level rise including uncertainty.
Questions?

- Visit us at: www.seagrantpr.org
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