

Title: Assessing Flood Risk and Mitigation Strategies for a Coastal Community near the Guanajibo River: A Case Study

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This poster presents the outcome of an experiential learning course that is offered as part of a project funded by the UPRM-DHS Coastal Resilience Center of Excellence (CRC). The course was designed to give students an understanding of complex project management in coastal communities. The main learning objective is for students to be able to assess and recognize the actions that can be taken to improve resiliency in coastal communities. In particular, students learn how to manage riverine and coastal floods. Through knowledge gained by participating in lectures, discussions, and a site visit, students were able to assess flood risk and current mitigation strategies for the Guanajibo Homes Community. Due to its location near the Guanajillo river, the ocean, and in a seismic area, the community is exposed to multiple hazards which must be addressed. The site visit consisted of several site stops to provide a broad appreciation of the multi-hazard complex flood project. The first stop was an oversight of the lower Guanajillo river floodplain and coastal line. These allowed students to appreciate the magnitude and scale of the flooding extent. The second stop was to a bridge that is located in the principal route for evacuation. The bridge presents multiple challenges such as aging, limited flow capacity, low bridge clearance, exposure to pier scouring, and erosion. The fourth stop was to a new bridge built with up-to-date design standards. The last stop was to visit the Guanajibo Homes housing community, which was built based on the 1950's codes and regulations. This community is located within the floodway zone and the FEMA flood regulatory map. During the visit, a community leader provided an overview of the history, needs, and challenges that the community faces regarding flood and coastal hazards. Through the site visit, we were able to appreciate and understand the risk exposure on the natural and built infrastructure, and the importance of always taking into consideration the social impact.