

A HIERARCHICAL ASSESSMENT OF THE VULNERABILITY TO TSUNAMIS OF PUERTO RICAN COASTAL CITIES

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Disaster management has gained significant popularity over the past decades. Whether it is a natural disaster or a terrorist attack, effective disaster management starts by knowing apriori how resources will be allocated in the event of a disaster. Unfortunately, that is not the case for Puerto Rican coastal cities when it comes to tsunamis. Over 55% of all cities in Puerto Rico have territories in tsunami evacuation zones (TEZ); nevertheless, less than 40% are currently tsunami ready. Furthermore, in the event of a major earthquake and, consequently, a tsunami; there is no state-level plan on how resources will be allocated. Joint work with the Puerto Rico Seismic Network will address this gap by developing the framework for a hierarchical vulnerability index that will allow identifying the cities that are most vulnerable to tsunamis, and, thus, the cities that should receive priority when allocating resources for disaster management. In the presentation, we will discuss the preliminary work on the conceptual model for the national vulnerability for all cities with territories within tsunami evacuation zones (TEZ) with a discussion on the data collection strategies. In addition, we will discuss the challenges associated with the integration of data from multiple sources such as: US Census Bureau, local agencies, and georeferenced data supplied by the PR Seismic Network in the form of flood and evacuation maps, land use maps, maps outlining critical and public facilities across the island.