UNDERSTANDING DAMAGE AND RESILIENCE ASSESSMENT OF URBAN COASTAL STRUCTURES

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Abstract
Coastal and inland flooding has been a problematic occurrence, specifically over the past century. Global warming has caused an 8 inch sea level rise since 1990, which made the coastal flood zone wider, deeper and more damaging. Additionally, riverine flooding is extremely damaging to the coastal communities' substructure and economy as well which causes river banks to overflow, inundating low-lying areas. Low-lying coastal areas at severe risk for flood hazard, sea level rise, land depletion, economic loss, property damage, destroy habitat destruction, and also threaten human health and safety which are the main study area of this work. A decision making framework is being built to help mitigate the impacts of the environmental and economical dangers of storm surges, sea level rise, flashfloods and inland flooding. With vigorous research and the use of innovative hydrologic modeling, this tool can be utilized to help with resiliency planning for coastal communities. This will allow the individuals living in a coastal community to understand the details of climatic hazards in their area and risks associated to their communities. This tool also suggest the best solution for the problem each community faces. The results and benefits from the simulation and modeling techniques, allow coastal communities to choose the most appropriate method for building a long lasting and sustainable resilience plan in the future.

ISBN: 978-91-88898-41-8