Artificial Intelligence Based Early Warning System
for Coastal Disasters

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Abstract

Coastal areas are one of the most sensitive and altered ecosystems worldwide, as they are subject to many disasters and risks including high winds resulting in cyclones and underwater earthquakes initiating strong tidal waves or Tsunami. These generally occurs for a short period of time and affects the community and society as a whole by way of widespread harm or damage to humans, wildlife, environment, infrastructure and economy in the coastal areas. It requires support that encompass multidimensional processes in order to mitigate, respond to and recover from its consequences. One way to provide such support is by designing an early warning system that can disseminate relevant information effectively and efficiently, as alarms or warnings, to communities at risk during or before such disasters so that timely and adequate steps can be taken to minimize the loss and damages associated with such disasters. In this paper, an attempt has been made to design an early warning system that uses artificial intelligence techniques to predict the horizontal in-city flooding caused by underwater seismic activity. For experimental purposes, the Tsunami dataset is considered by the proposed early warning system.

Keywords
Tsunami, Earthquakes, Machine Learning, In-city Flooding