Assessing the Vulnerability of School Buildings in Sur Town to Potential Tsunami Damage


ABSTRACT

The geographical location of the Sultanate of Oman overlooking Oman and Arabian Seas makes it vulnerable to tsunami hazard. This research focuses on assessing the vulnerability of building structures for schools located in Sur Town of Wilayat Sur using the PTVA-3 model. To estimate the tsunami hazards on the coast, two scenarios were proposed in which the wave height is equal to 6 m, and 12 m and inundates to a distance of 2 km inland. A field survey was carried out for collecting details buildings data and their surroundings needed to employ in the PTVA-3 model. It was noted that most of schools consist of multiple structures (units), thus the assessment was implemented for each unit. The results of the assessment showed that most of the school structures were classified as having a minor vulnerability level, and there was no structure classified as having a very high vulnerability level in both scenarios.

Keywords: ArcGIS Desktop, ASTER GDEM, PTVA-3 Model, Sultanate of Oman, Inundation,

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