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Tsunami Vertical Evacuation Sites: A Case Study of Shizuoka City

VOULGARIS, Gerasimos[1*]

[1]University of Tsukuba, Graduate School of Life and Environmental Sciences

The City of Shizuoka directly faces the Nankai Trough which has given two M8.1 earthquakes in modern history (1944 and 1946), which were tsunamigenic. After the great Tohoku earthquake the Japanese government updated its worst case scenario for a tsunami from the Nankai trough, which is expected to have a maximum run-up of 34m. This study aims to use GIS in order to locate vertical evacuation sites in the City of Shizuoka within the existing urban structure, and to assess their potential in supporting the population for immediate evacuation under an extreme 34m run-up tsunami event. This study is still in its initial phase, however, spatial analysis of the current designated evacuation locations in the city indicates that under extreme circumstances only a very small minority of sites would remain if such an extreme tsunami were to happen. Therefore, there is an apparent need to investigate for new evacuation sites that will be suitable even under a tsunami of great magnitude.

Keywords: Tsunami, Vertical Evacuation, Shizuoka City, GIS