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Expected population fluctuations due to earthquake occurrence in the Valandovo region, N. Macedonia

The Valandovo region has experienced multiple moderate to strong earthquakes that have had devastating effects; as a result, the region has been classified as an area exposed to high seismic risk. This paper aims to develop a simple scenario assessing potential population changes following such an earthquake. The results of the 2021 national census will be considered for analyses of population distribution and type of buildings situated in the municipality of Valandovo, as well as the existing seismological maps detailing the earthquake return period, along with the intensity degrees from the European Macroseismic Scale (EMS-98). The data will be utilized to estimate the number of damaged and destroyed structures, as well as the number of individuals rendered homeless. The potential migration of the affected population will be thereafter analyzed by a point of professional occupation of the affected citizens. This approach facilitates a comprehensive estimation of possible migration trends. While the findings should be refined using the latest advancements in civil and earthquake engineering, they remain sufficiently reliable for the purposes of a rapid seismological response.

Keywords: Earthquake, population, migration, scenario.