

LOCAL SEISMIC HAZARD AND ITS INFLUENCE ON BUILT ENVIRONNEMENT: CASE STUDY IN THE MONS BASIN (HAINAUT - BELGIUM).

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Abstract

Earthquakes and their implication in terms of risk for the population and the economy is more often neglected in the preparedness plan for natural catastrophes in Belgium. One of the tasks of the Royal Observatory of Belgium (ROB) is to make available information concerning past and present seismic activity in and around Belgium and to promote studies on the potential hazard and risk for the different regions of Belgium. The Basin of Mons is one of them where the hazard is the largest as attested by past and actual earthquakes. Studies conducted by the ROB on the local hazard also show that the recent geological deposits of the Basin could potentially amplify seismic waves and increase the ground motions. It is obvious that the conjunction of a deteriorated state of buildings and a high level of ground motions could produce a catastrophic scenario in case of a major earthquake in the region. A collaborative work with seismologist, geologists and architects is in progress in order to develop a methodology to provide a local seismic hazard mapping and an estimation of the seismic vulnerability of buildings. At the end, one should be able to provide with maps including the damage rate of buildings for the expected ground motions.