

Multidisciplinary approach of vulnerability to earthquakes of the city of Mendoza (Argentina)

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Mendoza (Argentina) is located at the foot of the Andes. The history of this 1,000,000-inhabitant urban area is strongly related to seismic hazard, as it was completely destroyed in 1861 by a Io=IX earthquake. This event had important consequences for urban planning, as the original center of the city was moved. Open spaces were created for leisure and safety reasons. Regarding recent seismicity, the last strong event occurred in 1985. Although the 2010 Chilean earthquake was felt in Mendoza, no damage was observed. This means that ne whole generation has not yet experienced a strong earthquake. This tectonic, geographical and historical context leads to several questions about the present vulnerability of Mendoza. The VUSIM project (“Vulnerabilidad sísmica de Mendoza”) gathers French and Argentinian researchers from various scientific communities around the concept of vulnerability. It is divided into six tasks: 1) synthesis of normative context concerning risk management and building codes; 2) evaluation of social vulnerability through a survey to inhabitants of Mendoza Capital; 3) evaluation of physical vulnerability of resources (hospitals, schools, emergency services, authorities...) through geophysical methodology; 4) cartographic synthesis of urban vulnerability; 5) transfer to civil society through workshops with local community and stakeholders; 6) conceptualization of a multi-agent model reproducing pedestrian mobility in a seismic crisis. The talk will present the methodology developed for each task as well as some results of this ongoing study.

Keywords: vulnerability; earthquakes; Argentina; multidisciplinary approach.

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