

A contribution to the seismic hazard of the Apulia Region (Southern Italy): environmental effects triggered by historical earthquakes in last centuries.

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The aim of this study is a critical revision of the historical and recent seismicity of the Apulia and surrounding seismogenetic areas, for re-evaluating the macroseismic effects in MCS scale and ground effects in natural environment according to the ESI 2007 scale (Michetti et al., 2007) as a contribution to the seismic hazard of the region. The most important environmental effect due to historical earthquakes in the Apulia was the tsunami occurrence, followed by landslides, liquefaction phenomena, hydrological changes and ground cracks.

The Apulia (Southern Italy) has been hit by several low energy and a few high energy earthquakes in the last centuries. In particular, the July 30, 1627 earthquake (I=X MCS, Rovida et al., 2011) and the May 5, 1646 event (I=X MCS), the strongest earthquakes of the Gargano promontory have been reviewed, together with the March 20, 1731 earthquake (I=IX MCS, Mw=6.5, Rovida et al., 2011), the most relevant of the Foggia province, and the February 20, 1743 earthquake (I=IX MCS, Mw= 7.1, Rovida et al., 2011, I ESI=X, Nappi et al, 2015), the strongest of the Salento area,.

The whole Apulia region has also been struck by strong earthquakes of neighboring seismogenetic areas located in the Southern Apennines, Adriatic and Ionian Sea, Albania and Greece, well propagated throughout the Italian peninsula, and in particular in the southern regions, where the intensity degrees are higher, sometimes exceeding the limit of damage. Some well documented examples of Greek earthquakes strongly felt in the whole Apulia region were: the August 27, 1886 earthquake (Peloponnesus, Greece); the May 28, 1897 earthquake (Creta-Cypro); the June 26, 1926 earthquake (Creta and Cipro, I_{max}=X MCS), felt all over the Southern Italy; the August 28, 1962 earthquake (epicenter in Peloponnesus area). It is noteworthy that earthquakes located in the Southern Apennines were powerfully felt in the whole Apulia region; among the strongest historical events of the Campania-Lucania Apennines we mention the 1456 (I_{max} =XI MCS), 1694 (I_{max} =XI MCS) and 1857 (I_{max}=XI MCS) earthquakes. More recently, the July 23, 1930 (I_{max}=X MCS) and the November 23, 1980 (I_{max}=X MCS) Irpinia earthquakes gave rise to several ground effects, mostly hydrological variations, in the Apulian region.

This study is a contribution for a better evaluation of the whole Apulia region seismic hazard that represents one of the most crowded touristic destination of the Southern Italy, all over the summer season.