The Future of the Italian Geosciences - The Italian Geosciences of the Future

87° Congresso della Società Geologica Italiana e 90° Congresso della Società Italiana di Mineralogia e Petrologia

Abstract Book
Milan, Italy, September 10-12, 2014
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A review of the Intensity values for the 1743 Salento earthquake

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The area of the Salento peninsula (Apulia, Southern Italy) is considered the stable foreland of the Southern Apennines chain (Cinque et al., 1993), although it has been hit by several low energy and a few high energy earthquakes over the last centuries.

The strongest historical earthquakes in the last 1000 years occurred on September 10, 1087, (Bari, Imax = VI-VII), on February 20, 1743, (Ionian sea, Imax = IX), and on October 26, 1826 (Manduria, Imax = VI-VII) (Guidoboni et al., 2007; Rovida et al., 2011). The instrumental recent seismicity is mainly concentrated in the western sector of the Salento peninsula and in the Strait of Otranto. The maximum recorded event occurred on October, 20, 1974 (Mw= 5.0, Rovida et al., 2011).

The most severe damage in the Apulian peninsula was caused by the strong historical earthquake of 1743, that was also felt on the western coast of Greece, on the Malta island, in Southern Italy and in some localities of Central and Northern Italy. Heavy damage affected the Salento area, in the towns of Nardò (Lecce), and Francavilla Fontana (Brindisi); in Greece, it was felt in the town of Levkas and in the Ionian Islands. According to Margottini, 1981, Guidoboni et al., 2007, Rovida et al., 2011, the maximum felt intensity was IX MCS in Nardò and Levkas. The casualties were about 180, of which 150 in the town of Nardò. The earthquake is described in a large amount of historical documents and seismic catalogues (Margottini, 1981; Guidoboni et al., 2007, Rovida et al., 2011).

The 1743 earthquake also generated a tsunami, the deposits of which are distributed along the southern Adriatic coastline of Salento (Mastronuzzi et al., 2007). The location and geometry of the seismogenetic source of the Mw = 6.9, 1743 Salento earthquake is still a subject of scientific debate.

The aim of this study is to review this seismic event in terms of damage evaluation, taking into consideration also the seismically induced ground effects in natural environment, according to the ESI scale 2007 (Michetti et al., 2007, Guerrieri et al., 2012). Moreover it could be better evaluated the seismic potential of the Salento area, currently classified in IV category (Seismic Classification Map of the Italian territory; MPSO4 – Order PCM 3519/2006), despite the considerable damage caused by strong earthquakes occurred not only in the Strait of Otranto, but also in Greece and Albania.

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