



Catastrophical and less-catastrophical landslides at Ischia volcanic island

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Generally the evaluation of the natural hazards originating from active volcanoes concerns chiefly the prediction of the eruption scenarios while other volcanic-related phenomena such as avalanching-landsliding are less studied. This is the case of Ischia island a still active volcanic complex whose collapsing behaviour is only recently being under scientific attention contrary to many extra-mediterranean sites for instance some large hot-spot related oceanic islands (e.g.Hawaii, Canary, Reunion). Ischia island represents only the emerged section of a larger volcanic ridge extending farther to the west. The central sector of the island, the Mt. Epomeo has raised up to 780 m. in the past 30 ky of with an average rate of 20 mm per year. It is very likely that this rate, averaged over the past thousands years, has attained higher values (> 100 mm/y) as in other cases of fast volcano-tectonic uplift both in Italy and worldwide (e.g. Campi Flegrei, Pantelleria island, Rabaul-Papua New guinea, Tanna and Iwo Jima islands west Pacific) also because it is cosesimic. The major consequence of such uplift has favoured either sudden collapse with attendant debris avalanches or overall mass movements in the form of mud-debris flows, debris slides and rock-falls all radiating from Mt. Epomeo and most of all entering the sea. The order of magnitude of the material removed for each landslide ranges from 101 - 104 m³ in the case of minor, sub-aerial rock-falls and debris flows to 108 - 109 m³ in the case of major debris avalanches. The inferred velocity ranges from 10-4 to 102 m/sec this last order of magnitude refers to catastrophic, tsunamigenic debris avalanches occurred during pre-history.