

VOLCANIC EARTHQUAKES RELATED TO THE SOMMA-VESUVIUS HISTORICAL EARTHQUAKES

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The historical volcanic activity at Somma- Vesuvius was characterized by tens of single eruptions both explosive and effusive, some times documented by historical reports and detailed descriptions of the precursors and other effects. To evaluate the seismic events directly related to the volcanic activity, it has been conducted an historical research using well-known volcanological sources, historic-archival and bibliographical documents. The analysis of all the data allow us to define correct attributions of seismic parameters, like chronology of the events, maximum intensity observed, epicentral and felt area. The 1631, 1750, 1794, 1906 and the 1944 a.D. effusive-explosive eruptions were accompanied by seismic swarms with maximum intensity always not greater than VII MCS scale, and a peak of energy released during the paroxysmal phases. The calculation of the frequency-magnitude coefficient b of Gutenberg-Richter relationship for the Somma-Vesuvius, based on the magnitude inferred from the intensity, is confined between 0.7 and 1. These values are consistent with the present seismic activity and suggest recurrent behaviour of the volcano.