



Tectonic seismicity with $M \geq 1.8$ at the island of Vulcano, Italy, from July to September 1988 (TSV_JS1988)

About this dataset

The catalogue covers the time span from July 1 to September 30, 1988. It lists earthquakes with magnitude greater than/equal to 1.8 located onshore and in the sea within circa 5 km from Gran Cratere of Vulcano, Italy. These seismic data shed light on the unrest that disrupted the quiescence state of the volcano in 1988. In particular, a seismic swarm occurred from August 9 to 15, with typical faulting-like earthquakes achieving the maximum magnitude 2.5. For each earthquake the catalogue provides the hypocentral parameters (UTC origin time, latitude, longitude, and depth in km), duration magnitude, energy (using the magnitude–energy relationship computed for Italian earthquakes by Di Filippo and Marcelli, 1950), and strain release (square root of energy; in ergs).

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Citation

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[_TSV_JS1988.xlsx](#)

Description of methods

The hypocentral parameters were calculated by means of the Equivalent Velocity Method by Caccamo and Neri (1984); the local velocity model applied for this calculation was obtained by Falsaperla et al. (1985) by using deep seismic sounding data recorded in the Aeolian Islands.

Technical description

The area of interest is centered in the island of Vulcano, Italy. The epicentral map has the following coordinates: latitude from N38.36° to 38.45°, longitude from E14.93° to 15.01°. The seismic records were continuously acquired by stations belonging to the permanent seismic network of the Aeolian Islands (e.g., Chiodini et al., 1992). The network encompassed short period (1s) seismometers, and was run by Istituto Internazionale di Vulcanologia of the Italian Consiglio Nazionale delle Ricerche.

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