



## **Volcanoes: effusions and explosions. Interactive exhibits to understand how volcanoes work.**

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The Educational & Outreach Group (EOG) of the Istituto Nazionale di Geofisica & Vulcanologia created a portable museum to provide educational opportunities in volcanology, volcanic risk and Earth science for students and visitors.

The EOG developed this project for the "Festival della Scienza", organized in Genoa, Italy, in October - November, 2007, which was a parade of over 200 events, including scientific and technological exhibitions, workshops, meetings, lectures, books and video presentations.

In this museum visitors can successively see many posters and movies and play with interactive exhibits.

A little 3D-movie shows the Big Bang, the formation of Solar System and, in particular the formation of the Earth. Many interactive exhibits illustrate why, where and when earthquakes and volcanic eruptions occur around the world and allow to introduce the visitor to the plate tectonics theory. A 3D magnetic plate tectonic puzzle can be put down and reconstructed by visitors to understand the Earth's surface configuration. Then two other 3D Earth models show what drives the plates and the inner Earth structure. An interactive program illustrates where and when earthquakes and volcanic eruptions occur in accelerated time on maps of various areas around the world. Playing with a block diagram it is possible to produce an earthquake along a 1 meter long strike slip fault in a destroying all the man-made constructions close to it.

A little movie introduces to volcanoes' world. Two small interactive exhibits allow visitors to understand the mechanism for the explosive and the effusive eruptions. Two other exciting interactive exhibits allow visitors to "create" two different eruptions: the explosive and the effusive ones. It is possible to get inside a volcano (a 2 meter high interactive exhibit) to attend an eruption from the magmatic chamber to the Earth surface.

A big hall is completed dedicated to Italian volcanoes (Vesuvio, Campi Flegrei, Etna, Stromboli, Vulcano, Colli Albani); some of them are reproduced with 3D models or described by short movies. The museum finishes with the visit of the volcanic survey hall of Stromboli, seeing - in real time - seismic data, three different webcams, geochemical and strain data. The INGV Museum had remarkably successful, reaching more than 7,500 children and adults yet in 13 days, also thanks to 30 volcanologists as very special guides.

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