



Earthquakes: Natural Science Museum and Civil Protection of Trento to inform citizens

Claudia Lauro and Marco Avanzini

Museo Tridentino di Scienze Naturali, Trento, Italy (lauro@mtsn.tn.it; avanzini@mtsn.tn.it)

During 2009 the Natural Science Museum of Trento organized the exhibition “Attraction Earth: Earthquakes and Terrestrial Magnetism” in collaboration with the INGV (Italian National Institute of Geophysics and Volcanology). In this exhibition a particular sector has been devoted to the seismic activity and its monitoring in the Province of Trento. The purpose was to inform local people on the geological features of their territory, the monitoring activity carried out by the Civil Protection and the potential earthquake hazards, also in order to adopt a correct behaviour in case of seismic event.

This sector, “The seismometric Trentino network”, was organized by the Geological Service of the Trento Civil Protection and it is open till May 2010, both for general public and school students. For the latter, a particular education pack, realized by the Educational Department of the Museum and consisting of a guided tour coupled with the laboratory activity “Waves upside-down: seismology”, is proposed.

The whole exhibition has been also coupled with a cycle of conferences targeted to adults, in which these topics have been explained by researchers and technicians of INGV and of Trento Geological Service.

“The seismometric Trentino network” sector presents the daily monitoring activity of the Geological Service, that has been monitoring the seismic activity for the last 30 years, and describes the deep earth processes of the local territory, such as presence of tectonic discontinuities and their activity.

It consists of display panels, a seismometer with rotating drums and a multimedia that reports the monitoring activity of the seismometric network, with real time connection to the various monitoring stations. This allows visitors to observe instantly the local seismic events recorded by each station.

The seismometric network was established by the institutions of Trento Province after the earthquakes occurred in Friuli Venezia-Giulia and at Riva del Garda (1976). It started its activity in 1981 and consists of 7 stations equipped with seismometers and acquisition digital technology, working 24 hours per day.

Moreover, a network of 9 accelerometers has been set up in the southern Trentino, where most of the seismic events are concentrated.

All the information revealed in each station flows to the “Data Acquisition Central Office”, where the data are checked, processed and recorded.

The Geological Service manages the seismometric network, elaborates and publishes the information regarding the seismicity of the area and surroundings. In case of earthquake the “Seismic Alert”, an automatic alarm system, is activated to Civil Protection purposes. The “Seismic Alert” is managed by “Antilope”, the consortium of the Eastern Alpine seismometric networks.

Moreover the seismotectonic is another research field carried out by this Geological Service, to investigate the formation mechanism of earthquakes and estimate the causative tectonic stress, in relation to the main tectonic structures of the region and of the whole Alpine chain.

Hence the Trento study-case reported in this exhibition illustrates the general methodology used to understand the “seismic behaviour” of a region.

At the end this exhibition sector also presents the activity of the Trento Civil Protection in the Abruzzo region, where a dramatic seismic event occurred on 6th April 2009, describing the investigation of the still occurring surface deformations. This activity is part of a general framework in which the Trento Province provided first aid

and assistance to the local communities.

The collaboration between the Natural Science Tridentino Museum and the Geological Service of Trento, already fruitful on field geological researches, has been also effective in this project of science communication. In the future the two institutions could collaborate in other main themes of the relationship between science and society, regarding the dissemination of Earth Sciences.