

# Dante's Peak: DHA Preview in Geneva

## An Interview with Film Director Roger Donaldson

A sleeping giant is awakening. The people of the village nestled at the foot of the volcano Dante's Peak don't believe it could ever happen to them, but the danger is real. This is the story of Dante's Peak, a film, based on scientific research, which describes the destruction caused by a volcanic eruption. It is an excellent opportunity to raise awareness on the issue of disaster prevention. The film will be released in April 1997. DHA will organize a preview of this film at the Palais des Nations in Geneva.

DHA News met with Roger Donaldson, the movie director.

**DHA News**: *Mr Donaldson, what are the main elements of this action movie?*
**– R.D.**: What I tried to do in this movie was to present a natural disaster and build a story around it. In this case, a group of volcanologists who are responsible for trying to predict what happens to the volcano, Dante's Peak. It is based upon the research conducted by members of the United States Geological Survey, the group responsible for monitoring the activities of volcanoes in the United States.

**DHA News**: *What really motivated you to direct this film? Is it the scientific aspect or the human aspect in dealing with natural disasters?*
**– R.D.**: I was interested in the people, the volcanologists, the persons monitoring this potential disaster. All of these reasons, I guess, motivated me. I thought the movie would appeal to the public at large. I once was a geology student myself and although I never became a geologist, I always retained my interest in the subject. When the script came along, I combined my younger age interests with my expertise as a film maker.

**DHA News**: *We do have the expertise to cope with natural disasters but it seems that not enough is done in the field of prevention. Do you think that public opinion is nowadays more conscious of the growing threat of sudden disasters?*
**– R.D.**: Well, as I'm sure you know, this is a problem many countries face throughtout the world. Funding remains a crucial issue. Many countries do not have the adequate resources to monitor such disasters. Much more money and resources should be directed towards these countries to help them cope with natural disasters.

**DHA News**: *What is, through your movie, your direct contribution to the United Nations system?*
**– R.D.**: I think a movie like this can help increase public awareness about the potential threat of volcanic eruptions, especially in densely populated areas. For instance, close to Seattle, Mexico City and Tokyo, there are volcanoes that pose a real threat. Yes, a movie like Dante's Peak can definitely help raise awareness about the crucial role of natural disasters prevention and hence contribute, through the United Nations, to encourage governments' efforts in this field.

# Reducing Volcanic Risks in Argentina

*by Dusan Zupka**

***Lonquimay* in 1988-1990, *Peteroa* in 1991, *Hudson* in 1991, *Copahue* in 1992, *Lascar* in 1993: these recent volcanic eruptions located along the border line between Argentina and Chile have covered vast areas of Argentina with ash. In *La Pampa Húmeda* and in *Buenos Aires,* the Quaternary subsurface contains between five and ten centimetres of ashfall originating from just four eruptions.**

**Situated along the Great Andean Cordillera, Argentina is particularly exposed to seismic and volcanic activity and has been so for over 10,000 years. Today there are more than 40 potentially active volcanoes.**

**Since 1993, a Volcanic Risks Mitigation Programme, initiated by DHA, has helped identify the key steps to be undertaken in order to support the country's disaster reduction policy.**

Argentina's geographical and geomorphological setting contributes to frequent volcanic eruptions and clearly shows Argentina's vulnerability to earth tremors and eruptions. Volcanic eruptions cannot be avoided but mitigation measures can reduce the disaster toll. In 1993, the Government of Argentina requested the Department of Humanitarian Affairs to design, coordinate and raise funds for a "Volcanic Risks Mitigation Project in Argentina".

Pilot project activities, focusing on the *Peteroa Volcano* which is located partly in Argentina and partly in Chile, were proposed for 1994-1996. The Peteroa Volcano area, where 18,000 people live, is situated 120 km west of the city of Malargüe. It is an active volcanic centre which has produced

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*Peteroa Volcano: fuming again?*

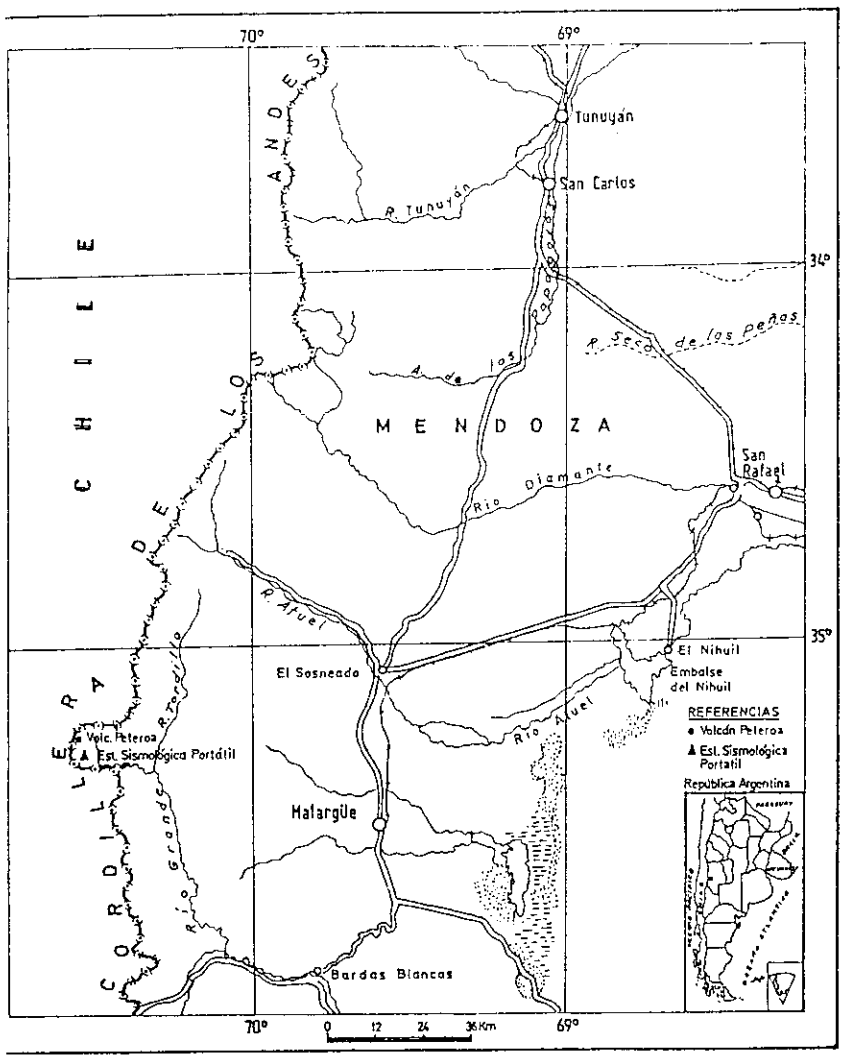
explosive magmatic eruptions throughout its lifetime, the last one having occurred in 1991.

The National Geological Service of Argentina has studied the volcano's evolution and dynamic nature. Its activities have been analysed and the volcanic explosive index (VEI) was calculated as well as the magnitude of several eruptions. This helped quantify the energy released in the past and determine the sequential evolution of this volcanic centre. Visual observation of the crater and its fumarolic activities was supported by the geomorphological forms identified in aerial and satellite photographs.

This led to the preparation of a preliminary geomorphological map that was digitized and used first as a reference map for the hazard maps (scale 1:10,000) and later for the risk maps (scale 1:250,000). These maps, as well as the technical details of the work carried out, were distributed to the institutions participating in the project.

**The formulation and implementation process related to DHA's Volcanic Risks Mitigation Project in Argentina have helped identify the following key steps to be considered for these types of disaster reduction projects:**

- ***Study of the different types of volcanic hazards;***
- ***Vulnerability assessment;***
- ***Determination of the risks and their various levels;***
- ***Design and installation of a proper early warning system;***
- ***Integration of disaster mitigation into the development process;***
- ***Emergency planning;***
- ***Education and public information.***




The maps, together with the vulnerability study of the Peteroa Volcano and its probable eruption scenarios, were prepared by the National Civil Defence Office and presented to the Mendoza Province Government and to the municipal authorities in Malargüe, so that new guidelines for land-use planning and urban and rural development of the Malargüe district would be established.

A modern seismic monitoring system was designed and delivered to the Seismic Prevention Institute in San Juan, which is responsible for its proper installation.

An educational leaflet on the Peteroa Volcano hazards and the measures to be taken in case of a volcanic eruption was prepared and distributed to the students in Malargüe and to the population at large.

Finally, a simulation exercise was carried out in Malargüe, which resulted in the strengthening of the Municipal Civil Defence Group and the Emergency Operations Centre. It was the first time in the life of this community that an activity of this nature was attempted. Lessons learned from this exercise were reflected in the Municipal Volcanic Emergency Plan.

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