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'Understanding volcanoes and society: the key for risk mitigation'



Teaching geological processes and hazards in the Maule Region, Chile

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The Maule Region in central Chile is characterized by the presence of active Holocene volcanism and includes 8 active volcanic centers from the Southern Volcanic Zone (SVZ). In recent years 6 volcanoes are constantly monitored by SERNAGEOMIN (Chilean Geological and Mining Survey).

The region is known for the eruption of Quizapu volcano in 1932, when 10 km³ of pyroclastic material was expelled into the atmosphere, causing ash fall as far as Buenos Aires and southern Brazil. In addition the central valley of the region is filled by large ignimbrite deposits related to long-lived systems active during the Pleistocene. Recently the region is getting the attention of the Chilean government and scientists due to Laguna del Maule Volcanic Complex is showing high deformation rates on its SW side, focusing important efforts in understanding the geometry and dynamics of the magmatic system.

The Maule Region is not free of the likelihood of a large volcanic eruption in the future. In order to prevent part of the consequences that a volcanic eruption could have, a major goal of a geological survey is to make people aware that is living around such active volcanoes. The recently-created SERNAGEOMIN's office in the Maule region is focusing efforts on teaching geological processes on elementary schools. Analog models have been built to explain different subjects as the formation of the mountain chains, volcano models to teach about the geometry of the edifice, the differences of explosive and effusive eruptions and caldera formation, as well as models to illustrate how the underground-water transport works.

We expect to visit a large number of schools in the Maule Region in order to encourage children to learn about geology and their hazards didactically, improving the awareness of their environment, helping the population to be more prepared to behave during volcanic crises.