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



The process map of the 2015 eruption from Calbuco volcano: bellow scientific use.

Mella, Mauricio¹; Moreno, Hugo¹; Bertín, Daniel¹; Basualto Daniel¹; Garrido, Natalia¹; Quiroz, David¹.

¹Servicio Nacional de Geología y Minería, Chile

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The 2015 Calbuco volcano eruption generated several pdc's and lahars which reached up to 8 and 17 km away, respectively. In addition, pyroclastic fallout affected the Ensenada town located northeastwards the volcano. Immediately after and during the eruption a map of volcanic processes was generated. The scientific use of this map was to determine the volumes involved in the eruption (e.g. Bertin et al., 2015; Mella et al., 2015; Romero et al., 2015) and scope to feed both lahar and pdc's models (e.g. Bono and Amigo, 2015), as well as serve as an input for scenario maps issued daily by SERNAGEOMIN. On the other hand, the following was also obtained: 1) determine the scope of pdc's and lahars in order to suggest exclusion zones during red and orange volcanic alert level; 2) emergency management giving the maximum scenario when the eruption began to decay; 3) manage limited resources of backhoes for cleaning of channels that could be affected by secondary lahars in the winter; 4) locate those directly affected to manage housing subsidies and agricultural subsidies; 5) historically record the processes and effects of the eruption 2015; 6) validate the hazard map of Calbuco volcano (Moreno, 1999), which still remains. In the end, the process map of Calbuco volcano 2015 helped to multiple purposes. Therefore, beyond scientific use, process map also helps for mitigation effects.