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



Hazard assessment and hazard map of Chiles – Cerro Negro Complex, Colombo Ecuadorian border. A binational effort

Maria Luisa Monsalve B.¹, Marta Lucía Calvache V.¹ and Benjamin Bernard²

¹ Servicio Geológico Colombiano.

² Instituto Geofísico de la Escuela Politécnica Nacional (Ecuador)

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It is well known that, at the international level, the graphical representation of the volcanic hazards or hazard maps, differ widely in their presentation, depending on the methodology used for the evaluation of the threat, political and cultural context, the preference of design, technical criteria and purpose of the map. Due to the recent reactivation of Chiles - Cerro Negro Volcanic Complex, on the Colombian-Ecuadorian border ($0^{\circ} 49' N$, $77^{\circ} 57' W$), the Colombian Geological Service (SGC) and the Geophysical Institute of the National Polytechnic School (IGEPN) of Ecuador, joined hands in order to expand the monitoring network of these volcanoes and update the existing volcanic hazard map. Generally, in Colombia the "volcanic hazard maps" represent the zoning of the threat in high, medium and low, according to the phenomena that may affect each of these areas, while in Ecuador the "hazard maps" represent the different phenomena that can affect a particular area, considering different VEI and, in some cases, the recurrence of phenomena. Considering that many of the populations in the area of influence of the volcanic Complex, in each country, are on the border and very close together, the SGC and IGEPN carried out joint activities to update the hazard map, based on existing information, additional field surveys and modeling of volcanic phenomena. Due to the emergency context, during the creation of the hazard maps, the modeling activities, divided according to the best competence of each team, allowing the maps to be prepared, revised and published in only 6 months. The result is a graphical representation of threats flexible enough that allowed that the final product, the volcanic hazards map of Chiles - Cerro Negro Volcanic Complex, reflect the criteria of zoning used in each of the countries.