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



Challenges of lahar risk in the communal planning analysis

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The year 2005 the La Araucanía Region lake communes, after the Villarrica - Pucón Intercommunal Regulator Plan returned without taking reason by the Comptrollers General Republic, should deal with the fact that the Chilean State is the responsible for studying the lahar channels that drain Villarrica volcano. Besides, it should define the correspondent appropriate mitigation measures. Thus, three Public Institutions (Ministry of Housing, Ministry of Public Works and the Regional Government) plus Pucón and Villarrica municipalities financed the development of the Prefeasibility study "*Construction of Volcanic and Geologic Risk Mitigation associated to the Villarrica volcano, Villarrica, Pucón and Curarrehue communes*".

This is a pioneer study in Chile with Villarrica volcano lahars modelling, having the 1948 eruptive event as the reference for the model calibration, defining in detail lahars flooding hazards zones with a 1:10.000 and 1:1.000 DEM base scales. In those areas where mitigation works were projected, the scale was as large as 1:500.

On the above basis, "risk areas" were defined in which structural and non-structural mitigation measures were determined. In addition, high hazard zones by lahars cannot or should not be inhabited. Although the valuable information obtained, that was developed through GIS methodology and the high level of accuracy, the Chilean public institutions do not recognize or consider mechanisms for validating this kind of studies and even more, to use them legally as effective tools in decision-making and, in particular, in community planning. Currently, there aren't centers or public entities that could gather, collect and monitor studies of this type and to spread and translate them too, as educational material to share with the neighbors and the school community.