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



## **Volcano hazard maps are only just the starting point, working together with exposed communities is the debt: the case of Tarapacá volcanic complex, northern Chile**

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Taapaca Volcanic Complex (18°06' S, 69°30' W, 5,850 m a.s.l) is located in the Altiplano of Northern Chile and its summit is 2,000 over its base, with a volume estimated in near 35 km<sup>3</sup>. It has emitted predominantly dacites lavas and domes, as well as dozens of pyroclastic flows and debris avalanches in the last 25 ky. The volcano shows no evidence of activity during historical times, with the last documented eruption occurring approximately 2,000 years ago. Putre village is the most important populated area along the Chilean Altiplano and is located as close as 10 km from the summit and is built on top of Taapaca pyroclastic younger than 25 ky. The Chilean Geological and Mining Service (SERNAGEOMIN) published the geologic and hazard maps during 2007 and since 2014?? it is part of the 43 volcanoes that are permanently monitored by the Chilean Volcanologic Observatory (OVDAS) through the National Network of Volcanic Monitoring (RNVV) of SERNAGEOMIN. However, only basic monitoring equipment has been installed so far. With exception of the national program of divulgation named as "The ABC of the volcanoes", no systematic work has been organized together with the local community and county representatives, neither with both students and teachers, and local and regional government groups or private organizations. Due to his lack of work with the community, there is still a big level of ignorance regarding volcanoes and their threat. For these reasons, a multidisciplinary and systematic program of communication and joint work with the exposed community is needed to get a better organization in order to be prepared to face the possible awakening of this dormant volcano and therefore be able to better mitigate the effects of a potential future eruption. Also, an integrated and modern monitoring system and other mitigation projects must be designed and implemented knowing which are the most hazardous volcanic processes associated to this volcano in the recent past and where they have been directed to.