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



The Association of Latin American Volcano Seismologists (LAVAS): A multi-national association of volcano observatory seismologists with a goal of enhanced eruption forecasting

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Volcano observatories use multi-parametric monitoring data and process-based models to forecast eruption probability, size, timing and style. One of the primary real-time data streams that has been used for more than a century at volcanoes world-wide is seismic. Observatories understand the likely precursory patterns for volcanoes that they have monitored long-term and that have well-documented eruption histories. An observatory's largest challenge is when a previously inactive volcano experiences unrest or when a volcano changes its precursory behavior significantly. In such cases the observatory must look to world-wide analog volcanoes and process-based models of pre-eruptive seismic patterns to forecast the eruption. Knowledge of such analogs and the ability to create a process-based model of pre-eruptive seismic patterns comes from extensive experience at dozens of eruptions with different eruption sizes and styles. Multinational partnerships, such as the USGS-USAID's Volcano Disaster Assistance Program and the Association of Latin American Volcano Seismologists (LAVAS), allow observatory scientists to data and experiences volcanoes that exhibit a variety of eruption styles. LAVAS was formed with this very intention at COV5 in Quito: to create a network of volcano seismologists with a common language and to share experiences to enhance eruption forecasting in Latin American and world-wide. The network has also served to enhance cross-border relationships and assistance, while refining volcano seismology terminology to improve the transmission of knowledge.