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**Volcano monitoring in Costa Rica:
The reactivation of Turrialba volcano increases expectations**

G. Avard¹, J.M. Protti¹, M. Martínez¹, V. González¹

¹ Observatorio de Vulcanología y Sismología de Costa Rica, Universidad Nacional, OVSICORI-UNA, P.O.Box 2346-3000 Heredia, Costa Rica

Costa Rica has over ten active volcanoes; five of them are continuously monitored by Observatory of Volcanology and Seismology of Costa Rica, National University, OVSICORI-UNA. Three are within 40 km distance from the Great Metropolitan Area, GAM, that hosts 74% of the 4.6 million Costa Ricans. 42 years of activity of Arenal developed a high public interest on its volcanoes, e.g. Poás volcano counts more than 200,000 visitors per year in a country where tourism represents more than 15% of the Foreign Direct Investment.

Because it is 30 km upwind from the GAM and reactivating, Turrialba is one of the best monitored volcanoes by the OVSICORI-UNA, with currently 4 broad band seismic stations, 2 mini-DOAS stations, 2 CGPS and a webcam transmitting continuously and in real time. Regular field measurements of the composition and temperatures of gas emissions complete this survey. However, measured temperatures over 800°C and direct observations of gas pulses after hybrid seismic signals suggest that the conduit is opened which reduces the chance of anticipating a magmatic eruption. Three small emissions of non-juvenile material occurred in 2012 and 2013 with no or short notice precursors. Despite these observations, no deep magmatic motion signals have been detected since 2010 and a strong touristic pressure is building up to re-open the National Park to the public. The perception of the observatory still benefits from 30 years of presence in the media but it never faced a magmatic eruption, only on-going activity, hence its credibility is at stake with the reactivation of Turrialba. The scientists in charge have to manage the lack of sufficient data and experience with the sensationalism of the media, with the pressure of the touristic sector, and with the need from the authorities for reliable information in order to take decisions and develop prevention.

Two national public institutions, OVSICORI-UNA and University of Costa Rica, are currently working on improving the monitoring of the volcanoes, and are in charge of advising the decision-makers entity: the National Commission of Emergencies (CNE). Meetings are organized on a regular 2-3 month basis plus every time an exceptional tectonic or volcanic event occurs. These meetings are useful for the authorities to organize prevention and take decisions related to the affected areas, and for the scientists to broadcast the official information. However, often the media directly addresses the observatory and discordances in the message can happen at the sources or due to the processing of information. To avoid these issues, the observatory develops direct communication with the population through physical and virtual presentations or interactions. And several workshops have been organized by OVSICORI-UNA to train journalists on volcanic and tectonic processes in order to expose the communicators with the limitations of our knowledge and techniques, and with the variability in natural processes.