

Collecting infrasound data at Reventador volcano to improve hazards monitoring and risk mitigation

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Reventador is one of the most active volcanoes in the Ecuadorian arc. This volcano represents a major source of hazard, as it is very close to populated areas in the country, as well as to major infrastructure like hydroelectric power plants, roads, and oil pipelines. In fact, Quito, the capital of Ecuador, was heavily affected by ash fall during the Reventador's 2002 eruption (IGEPN, 2014). Currently in the volcano scientific community it is common to use infrasound along with other geophysical measurements like seismicity, deformation, gravity, and thermal cameras to infer eruption dynamics. In specific, for this project, we are interested in studying the degassing mechanisms at Reventador volcano, using infrasound arrays. Reventador is an excellent target due to its intense and quasi-continuous infrasound activity, which we will use to understand short term processes, long term processes, and the hazards the volcano represents. We expect to extract relevant information about the dynamics of eruptions at this volcano by studying phases of both volcanic quiescence and degassing at Reventador over long periods of time. Finally, we expect to show possible patterns in the infrasound data that can lead to paroxysmal and lava extrusion phases in Reventador.