



CERG-C - ALVO projects 2024

Please write your project proposal around <u>one of these two</u> topics:

Project 1: Volcanoes across borders

Volcanoes that straddle international or important municipal borders pose particular challenges for hazard assessment and crisis/risk management. In fact, the associated complexity and diversity of volcanic hazards in bordering countries often result in different vulnerabilities, scientific resources, mitigation capacity and public awareness. In addition, associated official volcanic hazard maps generated by individual government or state agencies tend to only show information within the territory of the country that carried out the work, providing a limited analysis of the associated hazard and risk. As a cascading effect, risk reduction and management strategies implemented by the different regions/countries can also be incomplete. A more effective strategy would involve all neighboring regions/countries, generating hazard and risk maps based on a fluent communication as well as a wider understanding of the volcano and surrounding areas and exposed populations.

Around 3-4% (45 out of 1,337) of the world's active volcanoes cross international borders. Of these, 29 are located in Latin America. It is thus not surprising that most of the initiatives aimed at generating binational hazard assessments and monitoring networks have taken place in this region (e.g., Chiles-Cerro Negro, Lanín, Tacaná, Laguna del Maule). This project therefore aims at addressing risk analysis of cross-border volcanoes in Latin America, with a special focus on risk assessment and perception.

Project 2: Volcanic risk in Latin America

Latin America is a region with numerous active volcanoes and large populations exposed to the hazards they pose. Recent eruptions that took place in the region, such as Cordón Caulle (2011-2012, Chile), Calbuco (2015, Chile), Sabancaya (2016-2019, Perú), Colima (2017, Mexico) and Fuego (2018, Guatemala), have demonstrated the potential impact of volcanic activity on modern societies. The consequences of these eruptions can range from local to regional and even global scale, and have negative impacts on various aspects of society, such as health and well-being, urbanism, and economy, among others.

During the last few decades, local and international researchers have invested significant efforts both in the characterization of volcanic activity and assessment of potential hazards in the region. Likewise, government entities have realized the importance of studying the active volcanic systems to quantify and reduce volcanic risk, which is reflected by the rapidly increasing number of volcanic hazard maps and volcanoes monitored in the region. Local resilience to manage volcanic eruptions has significantly improved in many of the countries from Latin America thanks to the compilation of risk reduction guidelines. However, at a regional scale, the absence of a systematic and integrated information system is still a hindrance to a comprehensive and holistic understanding of the volcanic risk scenarios. This is particularly relevant for the Latin American context, where countries share not only socio-cultural characteristics and face similar scientific-technical challenges, but also volcanoes capable of impacting extensive transnational regions.





With the objective of promoting international collaboration amongst Latin American countries, and supporting integrated disaster risk reduction strategies, this project is aimed at filling methodological or data gaps in risk analysis through the development of new and original approaches. Priority will be given to participants from countries underrepresented in the field of volcanology and/or participants from lower middle income countries according to the DAC list*.

*https://www.oecd.org/dac/financing-sustainable-development/development-finance-standar ds/DAC-List-of-ODA-Recipients-for-reporting-2022-23-flows.pdf