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



Providing impact-based scientific advice: anticipating and responding to global volcanic activity

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With governments attempting to increase the resilience of critical systems, infrastructure and citizens to natural hazards, the demand upon scientists for robust and timely advice is growing. Resilience necessitates a multi-hazard approach. At the same time, decision-makers require more than an understanding of hazards: they need to know what impacts to expect from an ongoing event, as well as likely impacts from future events. Governments are concerned with the direct impacts within their jurisdictions and increasingly on the implications of worldwide events for them and their citizens. We provide two examples of multi-hazard partnership pilot projects (one national and one European) within which volcano monitoring institutions, geological surveys and meteorological agencies are expected to provide information and advice on global volcanic activity. Using the two case studies, we demonstrate the challenges, including ensuring users are partners in the development of the process; the difficulty of meeting the demand for simplified advice without losing scientific integrity; ethics of data, information and knowledge sharing; and ensuring both users and other science agencies understand the critical differences between hazard types. The case studies relate to the wider challenge of global reporting of volcanic activity and whether stakeholders and science provides of other hazards understand both the science limitations within our field and the resource constraints. We hope to stimulate interesting discussion and receive constructive feedback, as well as explore how the global community can address the demand for scientific advice at the international level. The role of international networks and collaboration is clear; as is the critical role of volcano observatories, which are embedded in local communities and connected to the international community. We aim to enhance our approaches through the Global Volcano Model Network with partners including IAVCEI, WOVO, GVP and VHub and directly with volcano observatories, VAACs and civil protection agencies.