

Session title

Hydrogeology of volcanic island aquifers : from recharge to ressource

Description

This session explores the distinctive hydrogeological processes at play in volcanic aquifers - including those of volcanic islands - with a focus on recharge dynamics, groundwater flow in heterogeneous media, and the persistent threat of salinization. Through comparative case studies across basaltic, andesitic, and pyroclastic contexts, we will examine the complex rock-water interactions that shape these systems. A core objective is to address sustainable management challenges, as volcanic regions confront the dual pressures of climate variability and anthropogenic demands. We invite contributions showcasing innovative monitoring technologies (including geophysics), advanced modeling tools, Nature-based Solutions (NbS), and integrated mitigation strategies to tackle contamination and optimize resource stewardship. By synthesizing global experiences, the session aims to distill best practices and foster resilient, adaptive approaches to water security in volcanic environments.

Keywords

Andesic, basaltic, pyroclastic, recharge, seawater intrusion, geophysics

Session Chair

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Conveners

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