

CALL FOR PAPERS

Submarine vents releasing fluids characterize many hydrothermal and gas-rich sedimentary systems. These fluid-escape structures vary in size from meters to kilometres and play a fundamental role in controlling the morphology of the seafloor. Despite their overall-accepted importance, the mechanisms of formation of the fluid vents are still poorly known because their formation depend on many factors including the depth of the reservoir, the fluid pressure and temperature, the mechanical properties of the rocks hosting the reservoirs and of the overlying sediments, the chemical composition of the gases, waters and brines, and the occurrence (or not) of fractures and faults. The effects of 'external' dynamic factors such as earthquakes, also play a role in the fluid discharge dynamics and occurrence.

The chemical and isotopic composition of the fluid mixture discharged from submarine vents is a powerful indicator of the fluid sources and of the secondary chemical-physical processes affecting the fluids during their uprising toward the seafloor. From deep sea to shallow water environment, fluid vents may represent a potential resource not only for the obvious, budding exploitation of gas pockets. As an example, mining and pharmaceutical companies are studying the opportunities provided by deep-sited hydrothermal vents and the associated poly-metallic nodules and specific bacterial communities. Studies on the physical and chemical properties (e.g., temperature, backscatter, and heat-fluxes) of active submarine vents started for geothermal applications and evaluation of coastal volcanic and hydrothermal hazard. Despite all the activities in this research-field, fluid vents in underwater environment still constitute a very difficult task due in particular to the expensive survey techniques required for their study.

The aim of this special issue is to provide a collection of new inputs from the scientific community on the specificity of underwater vent of fluids.

Potential topics include but are not limited to the following:

- ▶ Detection and sampling methods of underwater fluid vents
- ▶ Fluid geochemistry
- ▶ Structural patterns linked to active vents of fluids
- ▶ Deformations induced by vents in stratigraphic sequences
- ▶ Hazard scenarios
- ▶ Seafloor (?) morphologies
- ▶ Physical properties of fluid vents
- ▶ Mining potential of sediments linked to underwater fluid vents
- ▶ Biology and microbiology in water and sediments from fluid emission areas
- ▶ Fluid vents in lacustrine environment
- ▶ Sweetwater sources in marine environment

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/geofluids/vfse/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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