

Title:

Follow the fluids: Integrating multi-disciplinary observations of deep-sea hydrothermal systems

Session description (145 words):

Deep-sea hydrothermal systems are associated with significant thermo-chemical transfers between the oceanic lithosphere, the deep biosphere, and the global ocean. Their complexity has led to the establishment of multi-disciplinary seafloor observatories acquiring long, continuous time-series of physical, chemical, and biological parameters at various hydrothermal fields. These massive datasets now require integration, cross-analyses, and modeling that transcend traditional discipline boundaries.

The spirit of this session is therefore to bring together research that conduct and analyze observations with experimental or numerical modeling studies that elucidate the underlying processes. The overarching theme will be to "follow the fluids" throughout the hydrothermal system. We welcome studies of 1/ deep crustal processes (e.g., inferring fluid pathways, permeability distribution, and fluid-rock interactions), 2/ vent dynamics (e.g., fluid chemistry, temperature, fluxes), and 3/ the associated seafloor ecosystems (microorganisms, metabolic processes, larvae). Contributions addressing the spatial-temporal variability of these systems are highly encouraged.

Sponsor:

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Index Terms:

... others?

3017 Hydrothermal systems [MARINE GEOLOGY AND GEOPHYSICS]

3035 Mid-ocean ridge processes [MARINE GEOLOGY AND GEOPHYSICS]

5114 Permeability and porosity [PHYSICAL PROPERTIES OF ROCKS]

Potential speakers:

Julie Huber