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1 minutes of reading

News

Fundamental Research

Geosciences | Geology - Sedimentology | Geostatistics - Geological modeling | Petrophysics and transfers in porous media

The journal Global and Planetary Change (Elsevier), which publishes studies on the past, present and future state of the Earth system in relation to global environmental change, has just published a special issue, co-edited by IFPEN and the Utrecht University, titled *Understanding the coupled evolution of orogens, sedimentary basins and their fluid-rock interactions* *.

Expertise serving the sustainable exploitation of the subsoil

The multi-scale geological processes that are addressed in this special issue are of major societal importance, in terms of geohazards (e.g., earthquakes), geo-resources (e.g., geothermal energy, groundwater) and environmental / climatic changes (e.g., dynamic topography). Investigation of these processes in **natural laboratories** and through **various applied multi-disciplinary approaches** improves our understanding of the dynamic evolution of sedimentary basins and guides the future sustainable exploitation of geo-resources in the context of climate change mitigation.
Throughout this special issue, fluids and their interaction with host-rocks are highlighted because most of the future usages of the subsurface will involve **injecting fluids and gases underground** (e.g., geothermal energy, hydrogen, or CO2 storage), and the dynamics and impacts of these applications still need to be properly understood.

* Edited byr Fadi H. Nader and John J. Armitage (IFPEN) with Liviu Matenco (Utrecht University, The Netherlands), this special issue comprises 14 contributions on complex geological media. The articles come from the annual workshop of the Task Force Sedimentary Basins of ILP (International Lithosphere Programme – UNESCO, IUGG-IUGS) held at IFPEN at the end of 2021. Among these is an article from the thesis work of Marianne van Unen (IFPEN/Utrecht University, 2019) on the thermality of these media.

Reference :

F. H. Nader, L. Matenco, J. J. Armitage, Understanding the coupled evolution of orogens, sedimentary basins and their fluid-rock interactions, Global and Planetary Change, Volume 230, November 2023, https://doi.org/10.1016/j.gloplacha.2023.104272

Scientific contacts : Fadi H. Nader, John J. Armitage

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