



EGU23-12401, updated on 22 Mar 2023  
<https://doi.org/10.5194/egusphere-egu23-12401>  
EGU General Assembly 2023  
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## Fluid Dynamics of the São Jorge Channel, Azores Plateau – First results of RV Meteor expedition M186

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Young oceanic plateaus are important for fluid exchange between the lithosphere and the ocean. Increased heat fluxes can lead to a large-scale upwelling of fluids that play a role in global elemental cycles. In addition, variations in fluid chemistries can potentially influence the biomass and species compositions of microbial and benthic communities in sediments exposed to subsurface fluid flow. Yet, the present understanding of these young oceanic plateaus in terms of their fluid dynamics and their biogeochemical local and global impacts is limited. The goal of RV Meteor Expedition M186 in December 2022 was to investigate how subsurface fluids on the young Azores Plateau, Central North Atlantic, vary with respect to their flow rates, chemical compositions, and the prevalent on microbial and benthic communities at and below the seafloor. First data from the São Jorge Channel (Azores Plateau) show that fluid dynamics here are diffuse rather than focused, and that fluid chemical compositions nonetheless show strong local variations, over a small spatial scale of 65 km<sup>2</sup>, that could be related to differences in fluid origins and fluid flow paths. However, the connection of fluid conduits, heat flow data and biogeochemical data as well as their relation to faults visible in seismic data are rather complex. Our first results thus indicate that diffuse fluid flow on young oceanic plateaus is highly heterogeneous despite occurring over large sediment-covered areas. Thus, the role of fluids at young oceanic plateaus as an important intermediate between the lithosphere and the ocean cannot be generalized over large spatial and possibly temporal scales.

**How to cite:** Schmidt, C., Zitoun, R., Lever, M. A., Schindlbeck-Belo, J., Warwel, A., Ramalho, S., Kaul, N., Klein, J., Adão, H., Dillon, W., Schenk, J., Hübscher, C., Terrinha, P., and Hensen, C.: Fluid Dynamics of the São Jorge Channel, Azores Plateau – First results of RV Meteor expedition M186, EGU General Assembly 2023, Vienna, Austria, 24–28 Apr 2023, EGU23-12401, <https://doi.org/10.5194/egusphere-egu23-12401>, 2023.

