EMAN7: understanding methane seepage dynamics in the Hola Trough

Bénédicte Ferré1, Thibaut Barreyre23, stefan Bünz1, Claudio Argentino1, Jorge Corrales-Guerrero4, Knut Ola Dølven1, Marie Stetzler1, Luca Fallati5, Muhamed Fatih Sert1, Giuliana Panieri1, Samuel Rastrick4, Tina Kutti4, and Manuel Moser1

1Department of Geosciences, UiT the Arctic University of Norway, Tromsø, Norway (benedicte.ferre@uit.no)
2Department of Earth Science/K.G. Jebsen Centre for Deep Sea Research, University of Bergen, Bergen, Norway
3Geo-Ocean, CNRS, Univ Brest, Ifremer, UMR6538, F-29280 Plouzané, France
4Institute of Marine Research, Bergen, Norway
5Department of Earth and Environmental Sciences (DISAT), University of Milano-Bicocca, Milano, Italy

The Hola Trough, offshore Norway’s Lofoten-Vesterålen (LoVe) area, has been of interest for many years due to its rich marine life and potential oil and gas resources. There, coral mounds thrive around methane seepage. The LoVe observatory network monitors this unique environment. Using this observatory platform, associated dataset and research expeditions at sea, the project EMAN7 (Environmental impact of Methane seepage and sub-seabed characterization at LoVe-Node 7) aims to understand the environmental impact of methane seepage as well as its spatio-temporal variability.

The comparison of methane seep activity during two summers with different environmental conditions revealed 3.5 times more seeps when a combination of warmer bottom water and low tide changes the sediment pore pressure. Piezometer data, recording subseafloor pore pressure and bottom temperature, support these findings. Sub-seafloor investigations identified pathways for gas migration in methane seep areas, influenced by topography.

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