

Press Release

Joint press release of the MARUM Centre for Marine Environmental Science at Bremen University and GEOMAR Helmholtz Centre for Ocean Research Kiel

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Methane hydrate dissociation off Spitsbergen not caused by climate change Study identifies post-glacial processes as main reason

8 January 2018 / Kiel / Bremen. For years, methane emissions from the seabed have been observed in the Arctic Ocean off Spitsbergen. The assumption that the warming of seawater by climate change is responsible for the release of methane, has not been confirmed. Research from an international team shows that post-glacial uplift is the most likely cause of methane hydrate break-down. The study is published today in the international journal *Nature Communications*.

Methane hydrates, also known as flammable ice, occur in many regions of the oceans. But only under high pressure and cold temperatures the product of methane and water forms a solid compound. If the pressure is too low or the temperature is too high, the hydrates decompose and the methane is released as gas from the sea floor into the water column. Spitsbergen has been experiencing severe outgassing for several years. F458.08b

The investigations off Spitsbergen show a methane release, which is not caused by climate warming. Further research efforts are necessary at other locations to investigate whether this applies also to other areas of the Arctic or even in middle latitudes.

Scientific Paper:

Wallmann, K., M. Riedel, W.L. Hong, H. Patton, A. Hubbard, T. Pape, C.W. Hsu, C. Schmidt, J.E. Johnson, M.E. Torres, K. Andreassen, C. Berndt, and G. Bohrmann, 2017: Gas Hydrate Dissociation off Svalbard Induced by Isostatic Rebound rather than Global Warming. Nature Communication, DOI: 10.1038 / s41467-017-02550-9

Links:

<https://www.marum.de/Forschung/MSM57.html> Merian Expedition off Svalbard

Images:

At www.geomar.de/n5646 images are available for download.

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