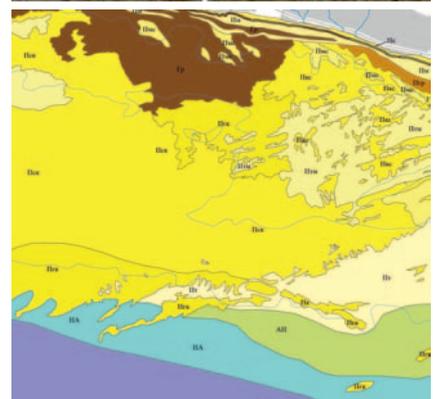




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# GEOHAB 2019

Marine Geological & Biological Habitat Mapping



# ABSTRACTS



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## S3O9. Permafrost distribution in the Quaternary sediments of the Kara Sea

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In the southern part of the Kara Sea, submarine permafrost has been well studied by geophysical methods [1, 2] and penetrated by shallow drilling. Presence of the frozen strata is assumed from geophysical data in shallow waters, including area around the Taimyr Peninsula. The northern part, in contrast, shows a low preservation of submarine permafrost. As is known, permafrost develops to a greater extent in areas that have not been covered with ice sheets. Near glaciers, permafrost may develop either fragmentarily or completely absent. There are no frozen structures near the edge of the continental shelf around the islands of Severnaya Zemlya. Frozen strata are present in shallow water if they are distributed on adjacent land. It is assumed that poor permafrost preservation in the northern Kara Sea is associated with

the expansion of the Atlantic waters. In the south, in shallow water near the Yamal and Taimyr Peninsula, the frozen strata were flooded in the Late Holocene, and therefore their preservation is still significant.

### References

- [1] Portnov A., Mienert J., Serov P. 2014: Modeling the evolution of climate-sensitive Arctic subsea permafrost in regions of extensive gas expulsion at the West Yamal shelf. *J. Geophys. Res. Biogeosci.*, 119, doi:10.1002/2014JG002685
- [2] Portnov A., Mienert J., Winsborrow M., Andreassen K., Vadakkepuliambatta S., Semenov P., Gataullin V. 2018: Shallow carbon storage in ancient buried thermokarst in the South Kara Sea. *Scientific Reports*. 8(1), 14342. <https://doi.org/10.1038/s41598-018-32826-z>