

EGU2020-1337

<https://doi.org/10.5194/egusphere-egu2020-1337>

EGU General Assembly 2020

© Author(s) 2020. This work is distributed under the Creative Commons Attribution 4.0 License.



The modern assemblages of benthic foraminifers of the East Siberian Sea initial and active methane seeps zones of the Laptev Sea

Anna Tikhonova and Sofia Merenkova

Shirshov Institute of Oceanology, Junior Researcher, Moscow, Russian Federation (semeonka@gmail.com)

We present the initial data on the distribution of benthic foraminifera (BF) on East Siberian Sea shelf. Previous researchers analyzed BF in the sediment cores from the continental slope and basin areas of the East Siberian Sea (Wollenburg et al., 2000; Mackensen et al, 2014; Barrientos et al, 2018) but not from central shelf. Last year we received boxcorer samples of bottom sediments from the shelf of the East Siberian Sea and the Laptev Sea during the 78th cruise of research vessel Akademik Mstislav Keldysh (September-October 2019). We examined the species composition of BF assemblages of Rose Bengal-stained surface samples from 2 stations in the East Siberian Sea and 7 stations in the Laptev Sea, and compared this data set with an existing data set along the East Siberian Sea and the Laptev Sea.

Recent studies (Shakhova et al, 2007, 2009, 2015; Nicolsky et al, 2009) state that the East Siberian Sea is one of the largest sources of methane emission into the atmosphere due to degradation of permafrost, ice complex retreat and decaying gas hydrates deposits. Perhaps this has an impact on the species composition of the BF assemblages and the morphological changes and defects of their shells, which we have identified. Samples from active methane seeps of the Laptev Sea have been studied to identify the relationship between methane emission and the reaction of benthic foraminifera. This data have been compared with "background" (i.e. non-venting, without any methane seeps activity) stations of the Laptev Sea and the East Siberian Sea.

The identified features require further detailed study.