

Organochlorine contaminants in suspended matter and surface sediments from selected fjords of the West Spitsbergen.

Zanieczyszczenia chloroorganiczne w zawieszynie i osadach powierzchniowych wybranych fiordów zachodniego Spitsbergenu.

The objective of my PhD thesis is to determine the transfer process of selected persistent organic pollutants (POPs) in the chosen Arctic ecosystems (with special emphasis to the trophic chain) and to assess how changes of the environmental conditions affect the bioaccumulation of POPs in the Arctic. Within the project the concentrations of lindane, HCB, polychlorinated biphenyls, and polycyclic aromatic hydrocarbons in abiotic components of the marine ecosystems and food web components in the area of Svalbard, are determined. The study is conducted in three different locations Hornsund and Kongsfjord and Adventfjord, characterized by different environmental conditions and anthropogenic impact.

During the meeting in Warsaw the results of the analyses of the 7 PCBs, lindane and HCB concentrations in the surface sediments (0-5 cm) and suspended matter collected from Kongsfjord, Hornsund and Adventfjord will be presented. Samples were collected in 2015 from r/v "Oceania" using GEMAX corer, Van Veen grab and Niskin bottle. The sediment samples were freeze-fried and homogenized. Water samples were passed through GF - 5 filters and the collected suspended matter was stored in -80°C. Afterwards the samples were subjected to the extraction and clean-up procedures. GC-ECD technique was used for qualitative and quantitative analysis of the target compounds. The obtained results are also discussed in the context of environmental conditions that may influence POPs accumulation.