

The Arctic is particularly sensitive to contamination by substances of anthropogenic origin: radionuclides, heavy metals and organic contaminants. These contaminants are transported mainly from global sources by atmosphere, sea currents, rivers and are also carried by sea ice. The organic contaminants are particularly dangerous due to their toxicity and resistance to environmental degradation. The organic substances present in the Arctic marine environment may have negative influence to functioning of the ecosystem. There is still a lack of complete assessment of exposure that includes: identification of the sources, transport pathways and transformations in all ecosystem compartments. The main aim of the project is to investigate the origin and migration processes of organic contaminants associated with the suspension in the Arctic fjords. Hornsund, has been selected as the study area due to its accessibility and location away from potential local emission sources. Sampling points will be located close to glaciers, rivers and at the entrance of the fjord. Detailed characterization of the levels, sources and vertical transport of POPs adsorbed to suspension toward bottom will help provide insight into their fate, fluxes to bottom sediments and role of suspended matter in POPs transport in the arctic marine ecosystem. The knowledge gained through the studies in the Hornsund fjord will also provide insight regarding possible effects of climate changes on POPs dynamics in arctic environment.