

**Spatial changes in distribution of suspended matter from the tidewater glacier in  
Hansbukta, Hornsund Fjord (Spitsbergen)**

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In polar regions we can observe the tidewater glaciers that affect the fjords. Glaciers activity includes the outflows, which deliver the freshwater and sediments into the fjords. The lower density of these outflows causes that they are lifted up to the surface of sea. They form the plumes of suspended sediment concentration (SSC) which are transported by dynamic marine processes. The sediments gradually fall on the seabed. The amounts of sediments depend on the season, weather and oceanographic conditions.

The main goals of our work are to analyse the changes of distribution of the SSC, the direction of suspension movements, and localization of sources of these plumes and the amount of SSC in the water column during ablation season. In this purpose, we analysed the results of the field measurements of SSC, oceanographic conditions (CTD and ADCP measurements), and the satellite images for the two bays Isbjørnhamna and Hansbukta in Hornsund Fjord (Spitsbergen).