



## **Title: Suspended matter distribution and variability in Porsanger fiord (Norway) during summer of 2014 and 2015**

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There is a limited number of in situ studies of water optical properties in the Arctic region in spite of the fact that this region is important in a climate change context. Arctic fiords are influenced by their ocean and land boundaries. Land is a source of fresh water influx from rain, melting snow or river runoff. The ocean influences fiords by sea and coastal waters input. Inflowing water can strongly affect turbidity and thereby inherent and apparent optical properties of fiord waters. Information about optical constituents and properties can serve as proxy for possible changes in land water discharge and transport. In this work we present selected results obtained during NORDFLUX experiment. Our results show that there is a significant correlation between beam attenuation coefficient at 648,8 nm/ 650 nm and Total Suspended Matter (TSM) concentration in Porsanger fiord. Therefore we use a combination of TSM determinations on water samples and in situ profiling of beam attenuation coefficient to derive information about spatial distribution of TSM concentration in fiord waters. Results showed a significant spatial variation of TSM and its temporal variability. Data and results are discussed and compared to similar studies from both temperate and polar estuaries.

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