

## Provenance analysis of the Late Glacial – Holocene SW Barents Sea sediments

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The Barents Sea region can be seen as the confluence area between the Scandinavian (SIS) and Barents Sea (BSIS) ice sheets, thus the onset of deglaciation and the following development can be evaluated by determining the sediment provenance changes and prevailed transport agents along time.

Three sediment cores from Nordkappbanken, SW Barents Sea have been studied for sediment components including clay and heavy minerals to reconstruct behaviour of the ice sheets around the Barents Sea region in relationship with the sediment provenance changes over the Late Glacial–Holocene time. These sediments consist of glaciomarine sediments and diamictons overlain by a thin layer of Holocene sediments.

We studied variations in terrigenous input, including clay minerals distribution, geochemical composition of heavy minerals and occurrence of ice-rafted debris (IRD) to obtain critical information on distribution, transport, pathways and sources of the Barents Sea sediments which are still relatively sparsely known. Mineralogical analysis includes main clay minerals content by X-ray diffraction, IRD counting from X-ray radiographs and source rocks indicative heavy minerals compositions obtained by Electron Probe Microanalyzer (EPMA).

Results show variations in contents of clay minerals as well as heavy minerals through Late Glacial–Holocene time that gives an evidence of changes of source areas and types of transportation agents of sediments including sea ice, icebergs, and open sea. The further comparison of our results with the constructed source rock database from land allows identifying precise provenances around Barents Sea region.