



## **Mapping of palaeo-ice streams reveals a very dynamic western margin of the Fennoscandian and Barents/Svalbard Ice Sheets during the LGM**

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The large-scale morphology of the Norwegian Shelf reveals a picture showing shallow bank areas separated by cross-shelf troughs. The erosion that has taken place was caused by palaeo-ice streams mainly during the LGM, but also in some cases during several preceding peak glaciations. The depressions generally start west of the exposed crystalline bedrock and end near the shelf edge. In the glacially eroded depressions, extensive glacial lineations parallel to the trough axis reflect the flow direction of the palaeo-ice streams.

From the morphology and seismic profiles, the position and form of the western margin of the Scandinavian and Barents/Svalbard Ice Sheets have been reconstructed. About 20 palaeo-ice streams have been identified from Skagerrak (57°N) in the south to Svalbard (80°N) in the north. The palaeo-ice stream depressions vary from 20 km to 200 km in width, and may reach lengths of up to 900 km.

On some of the shallow bank areas, lateral ridges several tens of kilometres in length are interpreted to be ice-stream shear margins identifying the transition zones between fast-flowing ice and adjacent passive ice which may have been frozen to the seabed.

An understanding of the processes involved in ice stream evolution is important to both contemporary and palaeo-glacialology, and has implications for mechanisms of abrupt climate change. These diverse data sets constitute important input data for ice-sheet modelling of the Fennoscandian/Barents/Svalbard Ice Sheets during the last glacial cycle.