

What is SVALI?

SVALI is a Nordic Centre of Excellence (NCoE) bringing together researchers from 17 Nordic institutes. It has been formed to study basic glaciological processes using remote sensing, airborne and in-situ measurements and carry out advanced Earth Systems Modelling with focus on land ice in the Arctic and North Atlantic area. The NCoE SVALI will constitute a platform for joint process studies, analyses, sharing of methods, researcher training, outreach activities and for reporting of scientific results regarding the impact of climate change on terrestrial ice.

Institutes and research groups in the Nordic countries will pool their efforts to study:

1. Current ice volume changes, underlining their contribution to sea-level rise.
2. Mass-balance and ice-dynamic processes to improve Earth System Models.
3. Future changes in terrestrial ice and their societal implications.

SVALI graduate school

A major component of SVALI is the Nordic interdisciplinary graduate school in cryosphere science and Earth System Modelling with the main focus on glaciology. The objective is to educate a new generation of scientists, with a focus on Earth System Modelling and related process studies in the Arctic area. The graduate school will provide joint courses; summer schools, workshops and cross-border integration of PhD projects and Post Doc activities within the SVALI framework.

The recent warming of the Earth has led to changes in Arctic land ice – including glaciers, ice caps and the Greenland ice sheet – causing an increased flux of meltwater and icebergs to the oceans. In addition to a rising sea level, increased freshwater discharge to the oceans also impacts ocean circulation as well as the Arctic hydrological cycle.

These changes are happening much more rapidly than predicted. In order to be able to foresee future sea-level rise, it is necessary to strive for a better understanding of glaciological processes, and to include them in Earth System Models.

Key questions:

1. How fast is land-ice volume in the Arctic/North Atlantic area changing?
2. Why is the ice-volume reduction more rapid than previously expected?
3. Will the mass loss continue to accelerate?
4. What are the consequences of ice-volume changes for sea-level and ocean circulation?
5. What are the societal implications of changes in glacial hydrology?

To improve the understanding of the Arctic land-ice changes the Stability and Variations of Arctic Land Ice (SVALI) Nordic centre of excellence (NCoE) has been formed under the Nordic Top-level Research Initiative.





Stability and Variations of Arctic Land Ice



Contact SVALI

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Top-level Research Initiative