

## **Formation of geometrical ridge networks at a non-surging temperate glacier, Østre Svartisen, Norway**

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Østre Svartisen is a plateau icefield located in northern Norway at 66°N. The icefield is understood to have reached its maximum Little Ice Age (LIA) limit at around 1750 AD and glacier recession has been fairly continuous since this time. Recent fieldwork at Fingerbreen, located in the northeast sector of the icefield, has produced a detailed geomorphological map of the glacier foreland, recording landforms such as moraines, flutes and geometrical ridge networks. This contribution focuses on the geomorphological and sedimentological characteristics of the geometrical ridges, which are typically oriented perpendicular and sub-perpendicular to ice flow and are found draped over flutes in the central sector of the foreland. In other settings, similar geometrical ridge networks are often interpreted as crevasse-squeeze ridges (CSRs), which are typically thought to uniquely form during glacier surges. Temperate glaciers in mainland Norway, however, have never been observed to surge, and thus in this work we consider potential processes of geometrical ridge network formation at non-surging temperate glacier margins. This evidence helps to improve our knowledge on former glacier dynamics based on interpretation of the subglacial record by refining our understanding of subglacial to sub-marginal processes of sediment deposition.