

Perennial firn aquifer at Lomonosovfonna (Svalbard)

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Abstract

Quantification of the liquid water supply from the surface of glaciers to their base and further to the periglacial environments and the global ocean is complicated by the poor understanding of water refreezing and retention processes in the upper tens of meters of the subsurface profile. Temporary water storage in perennial firn aquifers (PFA) has been earlier reported from the North Cascades, western Greenland and Holtedalfonna in Svalbard.

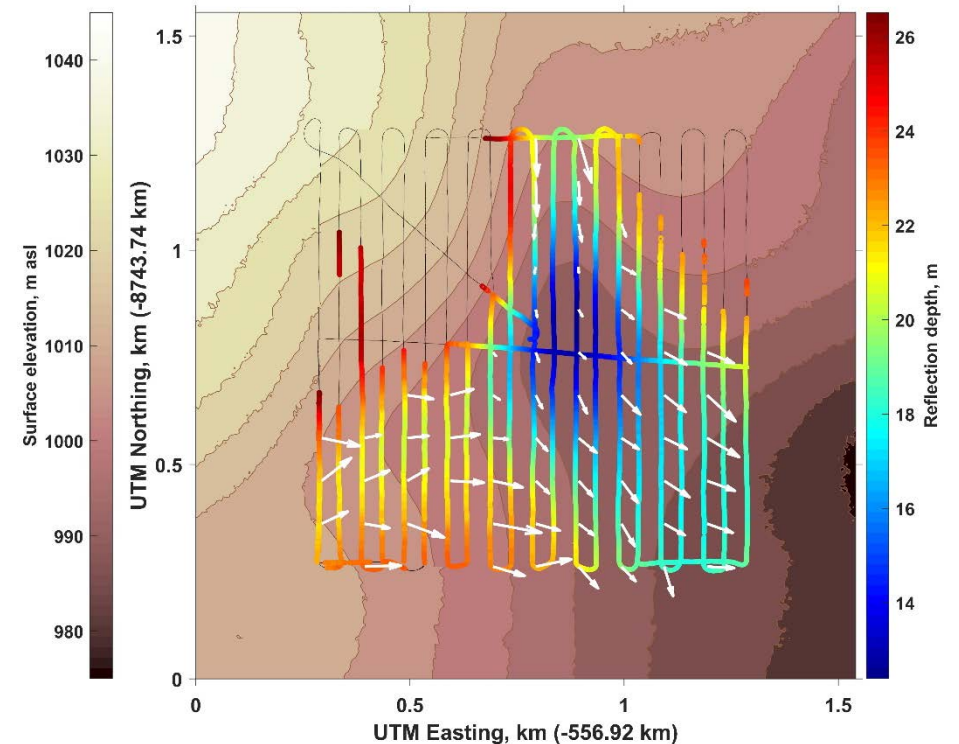


Figure 1. Profiles of GPR surveys in 2017 and the surface topography in the area. White arrows show the slope of the water table interpreted and interpolated from reflectors in GPR profiles.