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**Title:** *Radio-echo sounding and ice volume estimates of western Nordenskiöld Land glaciers, Svalbard*

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As part of ongoing work aimed to obtain a reliable estimate of the total ice volume of Svalbard glaciers and their potential contribution to sea level rise, in this contribution we present volume calculations, with detailed error estimates, for ten glaciers on western Nordenskiöld Land, Central Spitsbergen, Svalbard. The volume estimates are based upon a dense net of GPR-retrieved ice thickness data collected over several field campaigns spanning the period 1999-2012, all of them except one within 2010-2012. The total area and volume of the ensemble are  $113.38 \pm 0.09$  km<sup>2</sup> and  $10.439 \pm 0.185$  km<sup>3</sup>, respectively, while the individual areas, volumes and average ice thickness lie within 2.5-49.1 km<sup>2</sup>, 0.08-5.48 km<sup>3</sup> and 29-108 m, respectively. The maximum recorded ice thickness,  $265 \pm 15$  m, corresponds to Fridtjovbreen, which has also the largest average thickness ( $108 \pm 1$ m). Available empirical formulae for Svalbard glaciers overestimate the total volume of these glaciers by 24% with respect to our calculation. On the basis of the pattern of scattering in the radargrams, we also analyse the hydrothermal structure of these glaciers. Nine out of ten are polythermal, while only one is entirely cold.