



## **The crust and lithosphere thicknesses of Greenland revisited: what do recent gravity data tell us?**

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Crustal and lithospheric thicknesses are nowadays extensively studied and several datasets exist for most parts of the Earth; however, for some regions only a few estimations are available. For high resolution models of glacial isostatic adjustment (GIA), the thickness of the crust and lithosphere beneath the glaciated regions are very important as they affect the calculation of past and future sea level changes. Greenland, with its decreasing ice sheet and rapidly retreating outlet glaciers, is one such region where the GIA estimation is important but where the ice sheet itself prevents extensive studies of the crustal and lithospheric thicknesses. Most of the thickness estimates have so far been obtained from seismological studies, which depend on the density of the station networks.

We will present newly obtained crustal and lithospheric thickness maps, which are estimated from gravity data using the Parker-Oldenburg inversion algorithm. The gravity dataset will be presented together with all the necessary corrections which have to be applied before the inversion procedure. The obtained thickness maps will be compared to former results of seismological and gravimetric studies and differences will be discussed, also from a geodynamic point of view.