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Regional GIA: modelling choices and community needs

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GIA is a global process, because of gravitational effects, its interplay with earth rotation, and the large spatial extent of ice-sheet and ocean loading. However, mainly due to the presence of heterogeneities in the structure of crust and upper mantle, modelling of GIA signals often requires a regional approach. This is particularly true in the light of continuous advances in earth observation techniques, that allow increasingly accurate determination of land deformation, coastal sea level change, and mass balance of glaciers and ice sheets.

This talk will address a number of open issues related to regional GIA models, such as the effect of transient and non-linear rheologies, and the complementary role of forward and semi-empirical approaches, with an eye on the needs of the geodetic, sea level and cryosphere communities.