



GIA-effect from present and future mass balance estimates of the Greenland Ice Sheet

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There is only limited research on how current and future changing ice masses will cause a GIA-effect and its potential influence on relative sea level change. In this study, past (1900-2010) and future (2010-2100) mass balance estimates for the Greenland ice sheet is used to estimate the GIA-effect from present to year 3000. The study reveals that, even though there is no ice loss between 2100 and 3000, the GIA-effect from the Greenland ice melt during the 21st century will cause a RSL-change in continental Europe and along the east coast of North America of 10 to 20 percent of the eustatic change that initiated the viscoelastic (GIA) motion. With further ice melt, the GIA-effect will gain strength and thus importance for RSL-analysis beyond the 21st century.