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Greenland ice sheet melting during the last interglacial

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During the last interglacial period (LIG) peak temperatures over Greenland were several degrees warmer than today. The Greenland ice sheet (GIS) retreated causing a global sea-level rise in the order of several meters. Large uncertainties still exist in the exact amount of melt and on the source location of this melt.
Here we examine the GIS response to LIG temperature and precipitation patterns using the SICOPOLIS ice sheet model. The LIG climate was simulated by forcing the Norwegian Earth System Model (NorESM) with the appropriate greenhouse gases and orbital settings. The resulting LIG ice volume evolution strongly depends on the chosen value of uncertain model parameters for the ice sheet (e.g. basal sliding parameter, PDD factors, and atmospheric temperature lapse rate). We reduce the uncertainty by evaluating an ensemble of model results against present-day observations of ice sheet size, elevation and stability, together with paleo information from deep ice cores.
We find a maximum GIS reduction equivalent to 0.8 to 2.2m of global sea-level rise. In this model set-up most of the melting occurs in southwestern Greenland.