Climate
of the Past

Supplement of

Late Pleistocene glacial terminations accelerated by proglacial lakes

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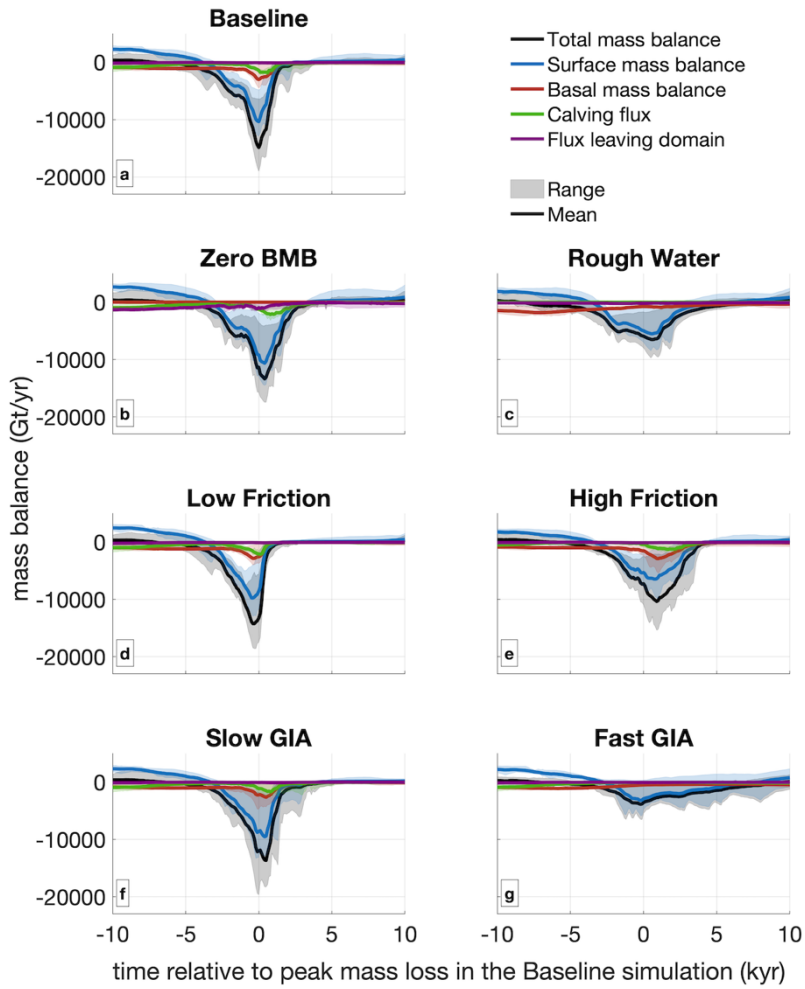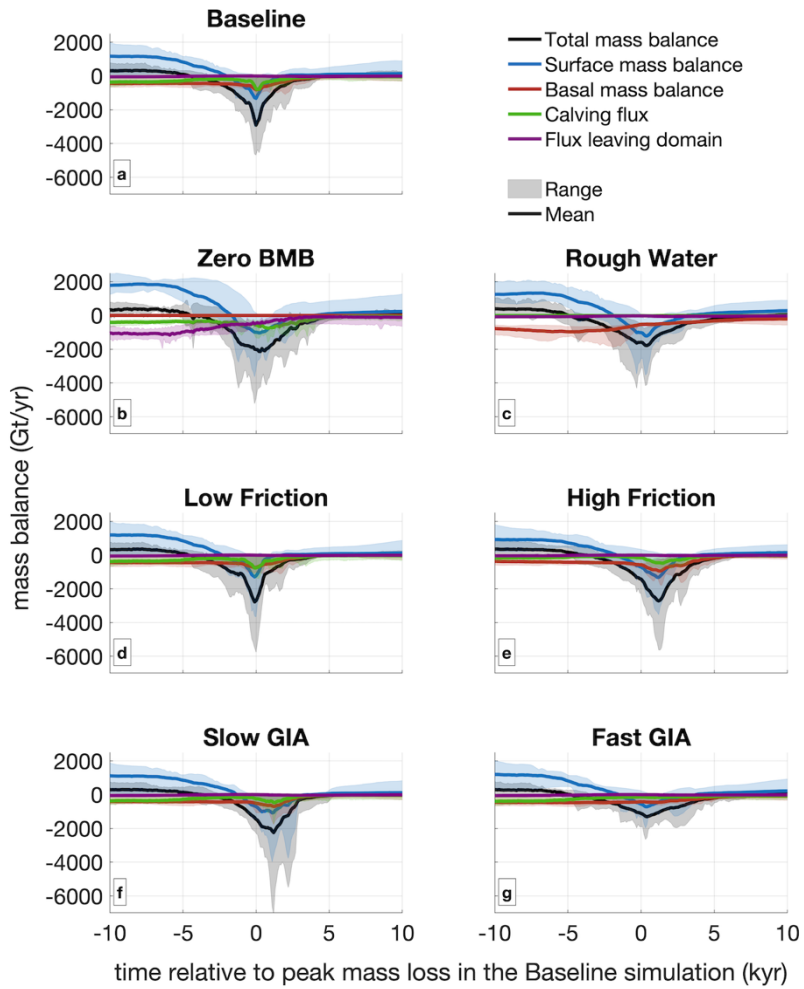*Correspondence to:* Meike D. W. Scherrenberg (m.d.w.scherrenberg@uu.nl)

Figure S1. North American ice sheet mass balance components during termination events. The peak mass balance in the Baseline simulation (a) during every termination is centred at 0 kyr. Panels b-g show the mass balance components of other simulations, but 0 kyr still indicates when the peak mass balance of the Baseline took place. Solid lines show the mean mass balance over every termination, while the coloured areas show the range (minimum and maximum).

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Figure S2. Eurasian ice sheet mass balance components during termination events. The peak mass balance in the Baseline simulation (a) during every termination event is centred at 0 kyr. Panels b-g show the mass balance components of other simulations, but 0 kyr still indicates when the peak mass balance of the Baseline took place. Solid lines show the mean mass balance over every termination, while the coloured areas show the range (minimum and maximum).
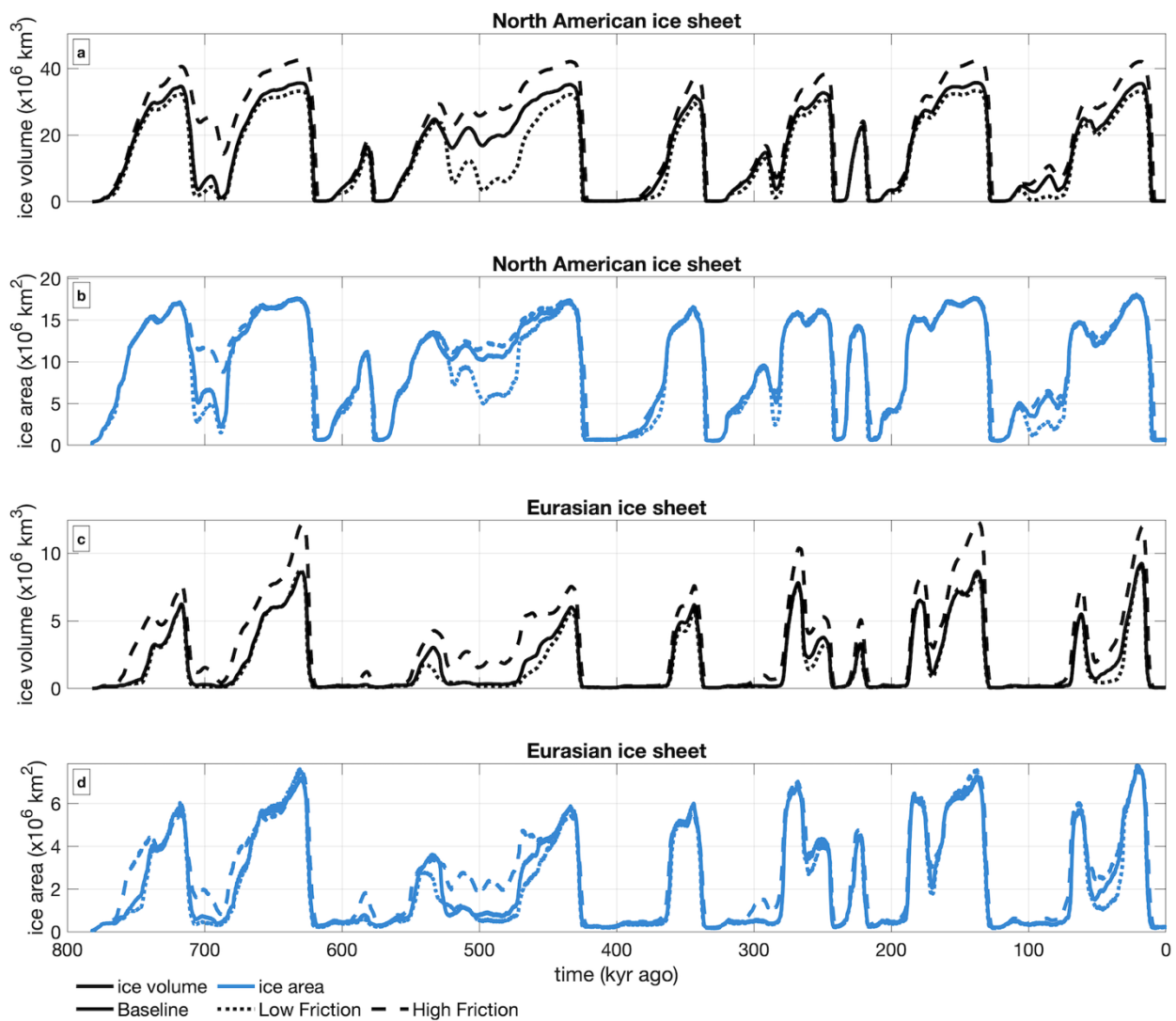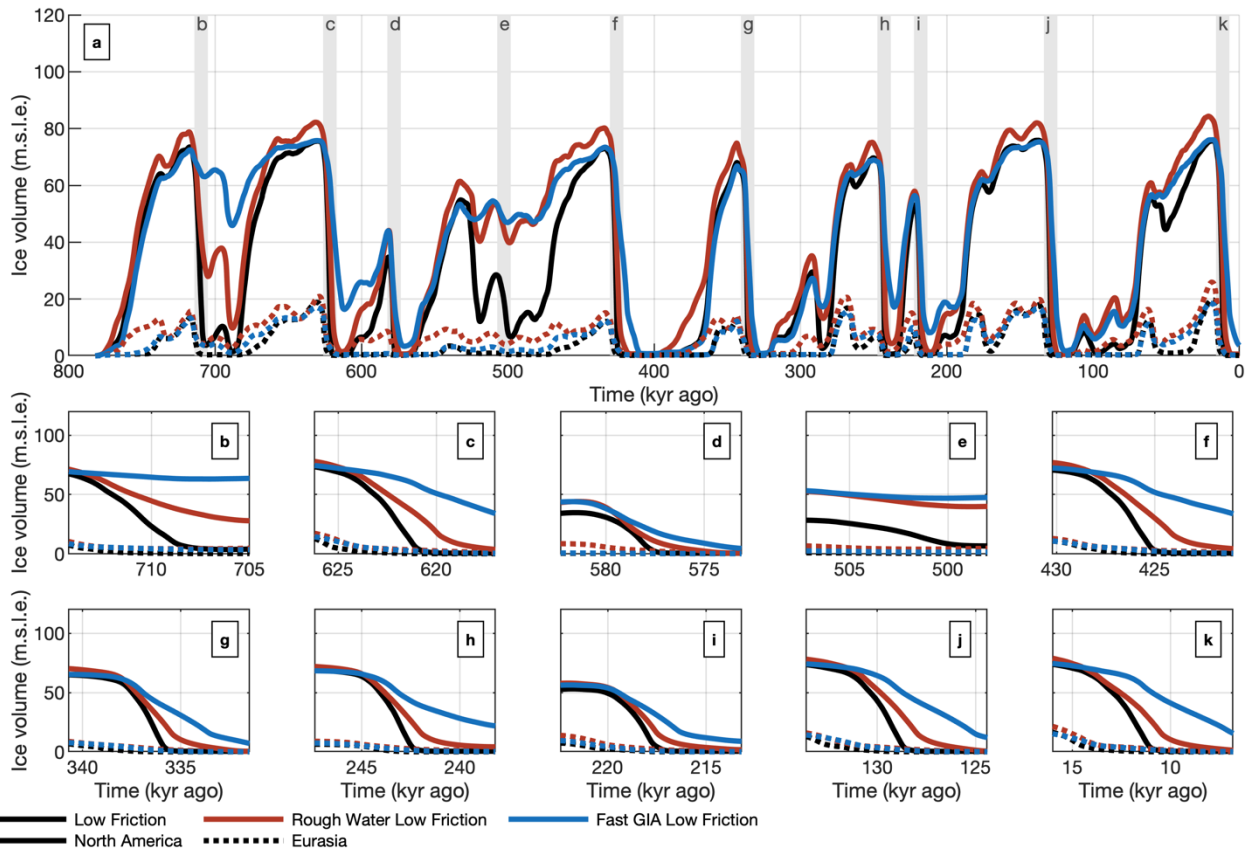
Figure S3. Total ice volume (black; a,c) and ice area (blue; b,d) for the North American (a-b) and Eurasian (c-d) ice sheets. Shown here are the Baseline (solid) compared to the Low Friction (dotted) and High Friction (dashed) simulation.

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Figure S4. Timeseries of ice volume for the simulations with till friction angles of 10 degrees across the Eurasian (dashed) and North American (solid) domain. These simulations were conducted using the Baseline (black), Rough Water (red) and Fast GIA (blue) set-ups.
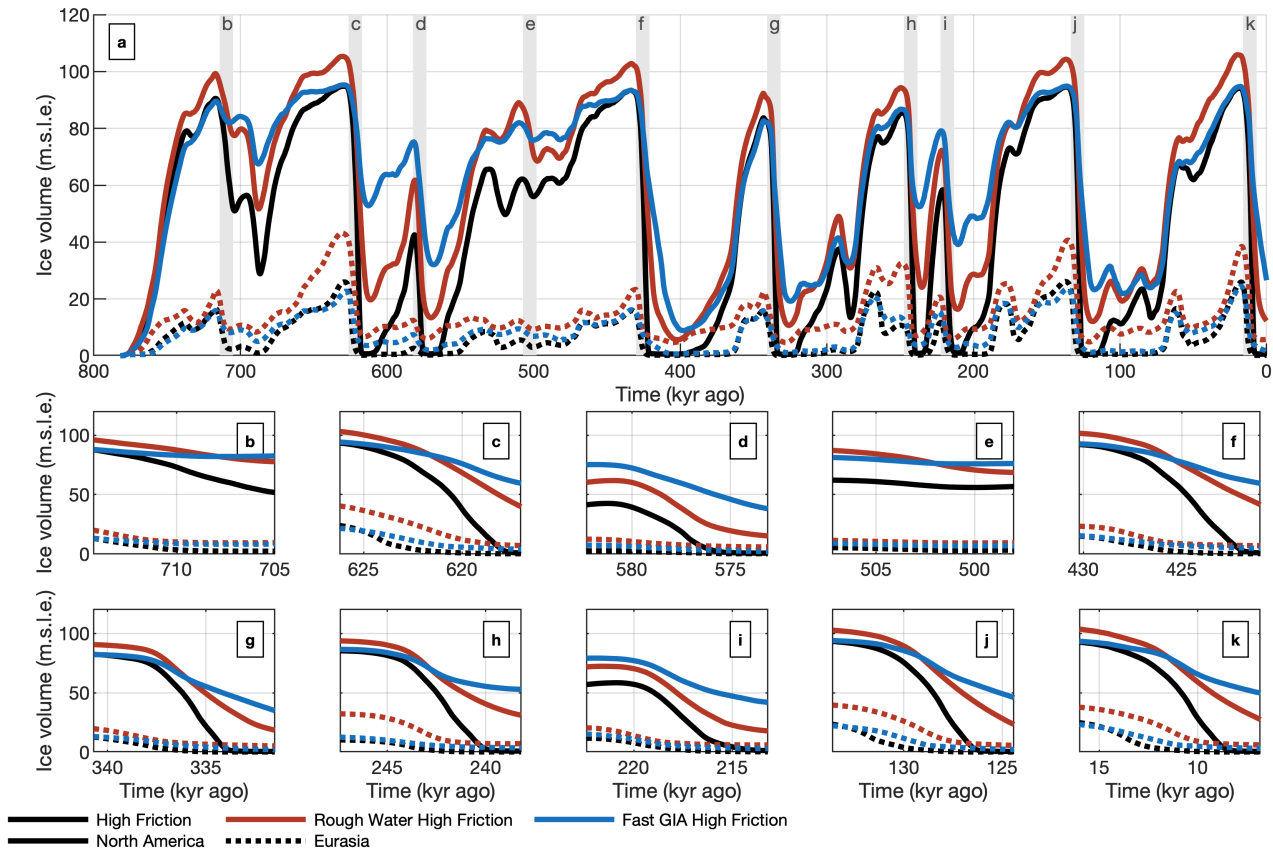
25 **Figure S5.** Timeseries of ice volume for the simulations with till friction angles of 30 degrees across the Eurasian (dashed) and North American (solid) domain. These simulations were conducted using the Baseline (black), Rough Water (red) and Fast GIA (blue) set-ups.
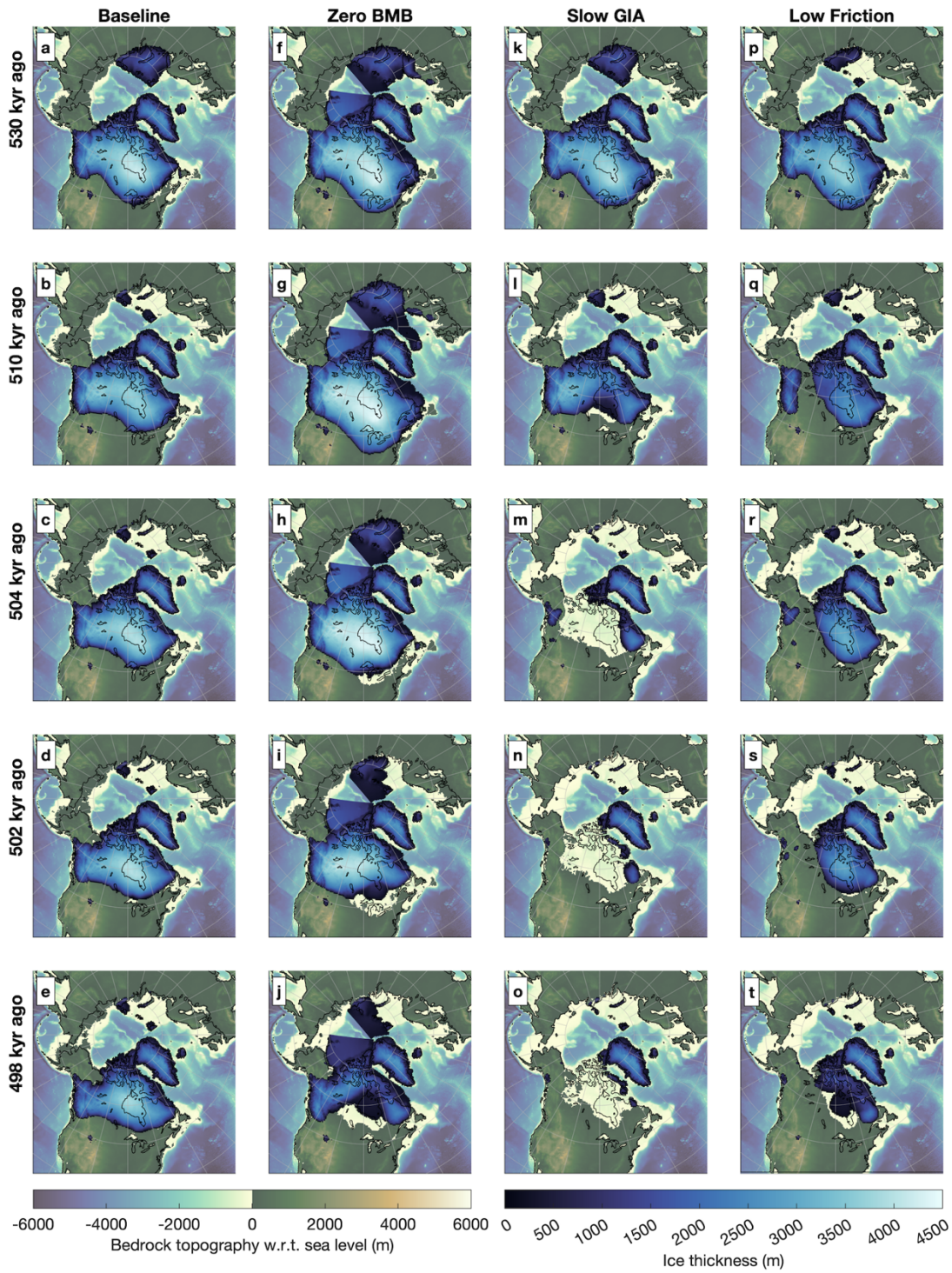
Figure S6. Ice thickness and bedrock topography of the Baseline (panel a-e), Zero BMB (panel f-j), Slow GIA (panel p-t) and Low Friction (panel k-o) during MIS 13.

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