

EGU24-20197, updated on 15 Mar 2024

<https://doi.org/10.5194/egusphere-egu24-20197>

EGU General Assembly 2024

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## Constraining projections of future freshwater fluxes from Antarctica

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As global temperatures rise, Antarctica's grounded ice sheet and floating ice shelves are experiencing accelerated mass loss, releasing meltwater into the Southern Ocean. This increasing freshwater discharge poses significant implications for global climate change. Despite these consequences, interactive ice sheets and ice shelves have generally not been included in coupled climate model simulations, such as those in CMIP6. Consequently, CMIP6 projections lack a detailed representation of spatiotemporal trends in ice-sheet freshwater fluxes and their impact on the global climate system, introducing major uncertainties in future climate and sea-level projections. To address this, we provide future Antarctic freshwater forcing data and uncertainty estimates for climate models. These are derived from an ensemble of historically calibrated standalone ice sheet model projections, produced with the Kori-ULB ice flow model, under different climate scenarios up to 2300. Here, we analyse spatiotemporal trends in calving rates, ice shelf basal melt and surface mass balance for all Antarctic ice shelves.