Simulating Termination 1 in the coupled climate—ice sheet model
LOVECLIM/PSUIM

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Climate—ice sheet coupling processes, such as meltwater discharge and sea-level rise, can substantially modulate
the global ocean circulation and climate. Here, we explore the role of such coupling mechanisms and their impact
on the Atlantic meridional overturning circulation (AMOC) in transient simulations of Termination 1. The simu-
lations are performed with the 3-dimensional climate model of intermediate complexity LOVECLIM coupled to
the Pennsylvania State University ice model (PSUIM) in the Northern Hemisphere and Antarctica. LOVECLIM
includes a parameterisation of the transport through the Bering Strait, which opened during Termination 1 due to
sea level rise. Our simulations illustrate that the Bering Strait transport can stabilise the AMOC in periods of fast
ice retreat and strong freshwater discharge.