

CGD Seminar Series

Global climate changes since the Last Glacial Maximum: new insights from paleoclimate data assimilation

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Date: Tuesday, 16 November 2021

Time: 11am – 12pm

For Zoom information, please contact Tracy Baker tbaker@ucar.edu

For live stream information, visit the [CGD Seminar Webpage](#)

ABSTRACT

The evolution of global climate since the Last Glacial Maximum (LGM; 21–18 ka) offers crucial insights into Earth system responses to large-scale external forcing. Climate models and proxy data have each enabled us to estimate climate change over this interval. However, they have at times yielded disparate conclusions. Here, we use paleoclimate data assimilation to combine a suite of isotope-enabled Community Earth System Model (iCESM) simulations with nearly 600 temperature-sensitive proxy records to reconstruct changes in global climate spanning the last 24,000 years. The resulting reconstruction, the “Last Glacial Maximum Reanalysis”, provides a spatially complete and dynamically consistent view of the LGM-to-present global temperature evolution; the role of external forcing during the deglaciation and Holocene intervals, and; the unusual rate of post-20th century temperature rise.

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