

EGU2020-4227

<https://doi.org/10.5194/egusphere-egu2020-4227>

EGU General Assembly 2020

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Glacial Termination: Going, Going, Gone

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Within the Late Pleistocene, a 'termination' is the name given to the rapid (~10kyr) deglacial transition marking the end of a (~100kyr) glacial cycle. These massive events involve all the critical elements of Earth's climate system: global temperatures, precipitation patterns, ice sheet extent, ocean and atmospheric circulation systems, atmospheric composition and biological activity. Investigations into the mechanisms of glacial termination have been many and it is now thought that abrupt shifts in the ocean/atmosphere system play a ubiquitous and critical role in deglaciation. However, significant uncertainties remain concerning the timing and magnitude of deglacial changes and the likelihood that they will be interrupted by 'terminal oscillations' such as the Bølling-Allerød / Younger Dryas oscillation during Termination 1. In this presentation we will address these uncertainties in the light of recent developments in the understanding of glacial terminations as the ultimate expression of the interaction between millennial and orbital timescale variations in Earth's climate. Innovations in numerical climate simulation and new geologic records that enable us to test these simulations allow us to highlight new avenues of research as well as to emphasise the importance of lingering uncertainties in key climatic parameters such as sea level variability through time.