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## Western North Atlantic paleoceanographic conditions surrounding Neanderthal extinction

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Neanderthal extinction occurred circa 40,000 years ago subsequent to a North Atlantic basin-wide cold event during which large numbers of icebergs were released from the North American Laurentide Ice Sheet. Fresh water buoyancy forcing from melting icebergs would have dramatically reduced or possibly stopped the Atlantic Meridional Overturning Circulation, significantly decreasing poleward heat transport and displacing the marine polar front southward. However, marine sediment cores recovered from the Iberian margin and eastern Mediterranean give differing values for the magnitude of sea surface temperature (SST) drop depending on the proxy used for reconstruction. SST reconstructed from fossil planktic foraminiferal census counts, which relies on calibration using modern analogs, indicates a large magnitude drop to  $\sim 5\text{C}$ , while geochemical methods relying on alkenones produced by phytoplankton indicate a much smaller magnitude drop to only  $\sim 10\text{C}$ . The sensitivity to SST of climate models should be assessed when considering European climate changes surrounding Neanderthal extinction.

Keywords: North Atlantic, Neanderthal extinction, paleoceanography