

Climate sensitivity in low latitudes: glacial/interglacial temperature changes in New Zealand derived from noble gases dissolved in groundwater and snow line elevation changes

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Abstract

Constraining the glacial-interglacial temperature gradient in extra-polar latitudes remains controversial, but is fundamental for calibrating climate models, and in turn, for predicting ongoing and future climate change. Paleoceanographic and mountain glacial records provide contrasting temperature reconstructions for the LGM at extra-polar latitudes. This project aims to reconstruct LGM temperatures in New Zealand (44°S) using groundwater-noble gas-paleothermometry. The Climate Center grant would enable initial sampling and analysis costs and the project would begin immediately this summer.