

Modeling East African tropical glaciers during the Last Glacial Maximum

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The timing and magnitude of tropical glacier fluctuations since the last glacial maximum could elucidate how climatic signals transfer between hemispheres. We focus on ancient glaciers of the East African Rwenzori Mountains, Uganda/D.R. Congo, where efforts to map and date the moraines are on-going. We use a coupled mass balance - ice flow model to infer past climate by simulating glacier extents that match the mapped and dated LGM moraines. A range of possible temperature/precipitation change combinations (e.g. -15% precipitation and -7C temperature change) allow simulated glaciers to fit the LGM moraines dated to $20,140 \pm 610$ and $23,370 \pm 470$ years old.