Geophysical Research Abstracts
Vol. 20, EGU2018-1227, 2018
EGU General Assembly 2018

Extensive ice advance during the Antarctic Cold Reversal in central Patagonia

Monika Mendelova (1), Andrew Hein (1), Ángel Rodes (2), Sheng Xu (2), and Dan Goldberg (1)

(1) University of Edinburgh, School of Geoscience, Institute of Geography, United Kingdom (m.mendelova@sms.ed.ac.uk), (2) Scottish Universities Environmental Research Centre, Scottish Enterprise Technology Park, Glasgow G75 0QF, Scotland

Robust 10Be chronology and geomorphic data document fluctuations of San Lorenzo Ice Cap, central Patagonia (47.9°S) during the Last Glacial – Interglacial transition. Initial deglaciation was interrupted by an extensive re-advance at $\sim$ 13 ka, coeval with the Antarctic Cold Reversal (ACR), which partly overrode the late Last Glacial Maximum moraines. A series of lateral moraines dated to $\sim$ 12 ka suggests a rapid retreat following the deposition of the ACR moraines. A substantial ice mass was present in central Patagonia during the ACR, which subsequently rapidly disintegrated to its near present day configuration by $\sim$ 12 ka. Our results provide an evidence for a significant ACR climatic signal at 47.9°S and important constraints for numerical modelling of the break-up of the Patagonian Ice Sheet.