

The Loch Lomond Readvance in Scotland: constraint and calibration

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Abstract:

What drove abrupt climate fluctuations in the North Atlantic region during the late-glacial period? A wealth of geologic and palynologic data confirms the occurrence of a brief but widespread return to glacial conditions following the decay of the last British ice sheet, during what is known as the Loch Lomond Readvance (LLR; Sissons, 1977). Nonetheless, chronologic constraint of the LLR remains insufficient for viable assessment of the climatic mechanisms driving the event. Outstanding questions include: (i) When did the event begin and when did glaciers reach their LLR maxima? (ii) When did deglaciation from the LLR maximum commence? (iii) What was the nature of deglaciation and when did it end? Our proposed research will use a glacial-geologic approach to provide a detailed record of this abrupt pulse of glaciation in the British Isles, immediately adjacent to the dynamic North Atlantic Ocean.