



The timing of ‘Younger Dryas’ glacial maxima in the Scottish Highlands

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It has recently been proposed that the readvance glaciers that developed in Scotland during the Loch Lomond Stadial (approximately equivalent to the Younger Dryas/GS-1 event) were in an advanced stage of decay by the mid-Stadial. Bromley et al. (2014) use a suite of radiocarbon dates from sites in one of the main ice source areas, the Rannoch Moor plateau, to infer that the area was extensively deglaciated by 12.2 ka, while Ballantyne (2012) concludes from a suite of surface exposure age estimates that the maximum extent of glacial cover on the Isle of Skye was achieved within the first half of the Stadial (Ballantyne, 2012). These findings suggest radical changes to the traditional chronology of events in Scotland during the Younger Dryas, with important implications for palaeoclimatic reconstructions and numerical models of glacier dynamics during this period. We will present evidence that is, however, inconsistent with this scenario. New radiocarbon and tephrostratigraphical data from the Rannoch plateau will be presented which suggest an age for the deglaciation of Rannoch Moor of around 11.5 ka, or slightly before. These results are compatible with robust records, based on morphostratigraphy, radiocarbon dating, tephrochronology and varve chronology, that indicate that two of the largest glaciers to develop on the Scottish mainland during the Stadial – in the Loch Lomond basin and in Glen Spean/Glen Roy – reached their termini towards the close of the Stadial. The talk will close by placing the evidence from Scotland within the wider perspective of the North Atlantic region, and with some general comments about proposed links between climatic transitions and glacier adjustments during the Last Termination.