



Evidence for a Lateglacial plateau icefield in the Monadhliath Mountains, central Scotland

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In Scotland, our understanding of the pattern of glacier fluctuations is still very incomplete. As in the rest of Britain, no systematic research has been carried out on regional landsystem variations and as a result our understanding of glacier dynamics and their relationship to climate reconstructions remains limited. In particular, events relating to the Last Glacial-Interglacial Transition (LGIT) are poorly constrained due to these variations in the quality and density of research and a lack of suitable dating material. The palaeoglaciological record from this period provides key evidence about glacier dynamics and their links to climate change, yet at present, these are far from being resolved.

The Monadhliath Mountains in central Scotland are dominated by a large dissected plateau area which has received little research attention in the last 100 years. As a result, there is a lack of information regarding the behaviour of the last British-Irish Ice Sheet (BIIS) in this region during its growth, maximum extent and retreat. With respect to the Younger Dryas, it is traditionally believed that ice masses did not build up in the Monadhliath Mountains during this time due to low precipitation rates. However, recent modelling suggests that the central plateau area was sufficiently high and wide enough to support glaciation during this time (Golledge et al., 2008), advocating a re-investigation of this area. This research therefore aims at elucidating this suggested role of plateau ice in the Monadhliath Mountains during the LGIT.

Glacial landforms were mapped in the Monadhliath Mountains using a combination of a NEXTMap Great Britain™ DEM, aerial photographs and field surveys. Initial results of fieldwork undertaken in 2009 indicate that, during deglaciation of the BIIS, an icefield existed over a substantial portion of the plateau, feeding a series of outlet valley glaciers to both the north and south. The length of time over which this icefield existed during the LGIT and its persistence during the Younger Dryas is yet to be established. The research presented here is part of a current PhD project in which constraining the timing of plateau icefield glaciation is still ongoing.

Golledge, N.R., Hubbard, A., and Sugden, D.E., 2008. High-resolution numerical simulation of Younger Dryas glaciation in Scotland. *Quaternary Science Reviews*, 27: 888-904.