A multidisciplinary approach for the reconstruction of the last deglaciation in Torridon, NW Scotland.


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During glaciations, north-west Scotland is particularly sensitive to fluctuations in the Gulf Stream, causing variations in ice volume and extent. The Last Glacial Maximum (23.7-22.0 ka BP) was followed by rapid deglaciation, interspersed with stillstands and readvances, which culminated in the Loch Lomond Stadial readvance during the Younger Dryas cooling event (12.5-11.5 ka BP).

Deglaciation and readvance is evident from the complex array of glacial features which are particularly striking in the Torridon area of Scotland. These have been investigated using a number of approaches: Field mapping, aerial photography, digital elevation models, ground-based LiDAR investigations, 10Be Cosmogenic nuclide dating and comparison with modern analogues in Alpine (Switzerland) and Arctic (Svalbard) regions.

Geomorphological mapping studies indicate multiple ice extents and reconfiguration of local ice-cover during the last deglaciation. Cosmogenic dates ranging from Dimlington Stadial (17.2 ± 1.54 ka BP) to Loch Lomond Stadial (11.3 ± 0.78 ka BP) age, suggest that ice was present in the Torridon region during the Late Glacial Interstadial and that final deglaciation took place through either a steady back-wasting of ice into cirques, or rapid backwasting and readvance.