

# Reconstructing post-glacial landscape evolution around Inari, Finland using novel survey and dating instruments

Alastair Goodship<sup>a</sup>, Helena Alexanderson<sup>b</sup> and Johanna Anjar<sup>c</sup>

<sup>a</sup>Department of Ecology, University of Southeastern Norway, Bø I Telemark, Norway, [agood@usn.no](mailto:agood@usn.no); <sup>b</sup>Department of Geosciences, Lund University, Lund, Sweden, [helena.alexanderson@geol.lu.se](mailto:helena.alexanderson@geol.lu.se); <sup>c</sup>Department of Ecology, University of Southeastern Norway, Bø I Telemark, Norway, [Johanna.Anjar@usn.no](mailto:Johanna.Anjar@usn.no)

The landscape between Inari in Finnish Lapland and Younger Dryas age moraines in Finnmark, NE Norway holds a rich succession of landforms reflecting the dynamic final retreat of the Fennoscandian Ice sheet. However, despite the unusually well-preserved landforms this remote area is understudied, and large uncertainties remain about the pattern of retreat.

In this project a combination of DEM studies, field mapping, portable and laboratory-based optically stimulated luminescence and <sup>14</sup>C-dating has been used to unpick the history of the retreat and the subsequent development of the landscape. Use of unmanned aerial vehicles, handheld photogrammetry and LiDAR scanning and a portable luminescence instrument has allowed the collection of a large data set from limited field time. These data allow more efficient analysis of the landscape and make it easier to share the research process and results.

Preliminary results show a pattern of ice-dammed lake formation and rapid drainage events giving way to the breakup of active ice and fast decay. Aeolian processes formed large dune fields stabilised by vegetation growth but containing preserved charcoal layers suggesting forest fire events.