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## Reconstructing the Holocene glacial history of northern Norway

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Detailed investigations into Holocene glacier fluctuations are a fundamental tool in developing reliable reconstructions of past climate variability and the detection of global climate change. There are, however, many mountain areas that have escaped detailed scrutiny. Here we present a large-scale glacial geomorphological and geochronological study of the central Troms and Finnmark county region in Arctic Norway (covering an area of 6,810 km<sup>2</sup>) in order to reconstruct glacier change from the early Holocene to present. We undertake the first glacial chronological study in the Rotsund Valley, central Troms and Finnmark county, based on moraine dating using a combination of absolute, calibrated, and relative age dating techniques (terrestrial cosmogenic nuclide dating (TCND), Schmidt hammer dating, and soil chronosequencing). Together with our chronological data, our detailed mapping from a much wider area reveals a complex picture of early-Holocene deglaciation and late-Holocene glacier re-advance and we postulate that specific moraine formations are linked to key climatic events including: the Erdalen Event (between 10,100 and 9,700 cal. yrs. BP), the Finse / '8.2 ka' Event (between 8,500 and 8,000 cal. yrs. BP), and the Neoglacial (from ~4,500 cal. yrs. BP to the LIA maximum).