Preliminary results from the marginal zone of the Syurzi Moraine, northern Russia

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The Syurzi Moraine is an east-west trending belt of end-moraines in the Mezen Lowland in the Arkhangelsk Region, northern Russia. These moraines have previously been ascribed to the Moscowian (Saalian) by some authors whereas others consider them to be of Valdaian (Weichselian) age. Cutting through the Syurzi Moraine is the small river Kyma, a tributary of Mezen River. Exposed river bluffs near the marginal zone reveal upthrusted till beds with heavily deformed sand beneath. The till is a red-brown, matrix-supported, clayey diamicton. Clast fabric and glaciotectonic measurements suggest deposition from the north by the Barents-Kara Ice Sheet. OSL dates yielded minimum (ca. 60 ka) and maximum (ca. 140 ka) dates of the till. Similar till have been described from large areas on the Russian Plain and is traditionally correlated to the Moscowian glaciation. Possibly the Syurzi Moraine belongs to a retreat stage at the very end of the glaciation around 140-130 ka. However, presently we cannot exclude a younger age.

Widespread presence of glaciolacustrine deposits along the Kyma River indicate that the northbound drainage was blocked by an ice sheet filling the White Sea Basin. This laminated mud shows variation in lithology and presence/absence of glaciotectonical deformation, suggesting that there have been several damming events. The last ice-dammed lake in this area occurred shortly after 60-66 ka, in consistence and agreement with previously dated glaciolacustrine deposits along the Pyoza River to the north.