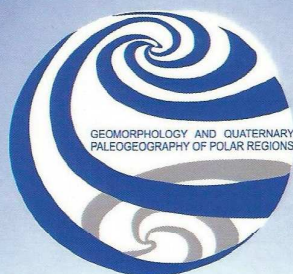


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WEICHSELIAN GLACIATIONS IN MID-NORTHERN POLAND: CHRONOLOGY AND
PALAEOGEOGRAPHY IN THE LIGHT OF OSL DATING

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There is a broad consensus that after the Eemian interglacial major advances of the Scandinavian Ice Sheet occurred during marine isotope stages 5d, 4/3 and 2, however the delineation of particular ice limits and synchronicity of ice advances in different areas are still uncertain. Problems with constraining glacial events of the Scandinavian Ice Sheet during the Weichselian glaciation are perplexing also in the type area of this glaciation in mid-northern Poland. Previous investigations in this area considered three ice advances, i.e. the Toruń advance in the Early Weichselian (MIS 5d), the Świecie advance in the Middle Weichselian (MIS 4) and the Main advance in the Late Weichselian (MIS 2), separated by ice-free interstadials. However dating control of the age of these ice advances and retreats is highly uncertain.

Weichselian sediments in mid-northern Poland were dated with the OSL method. A total of 142 OSL samples were dated from 34 sites spread along a N-S transect covering the area of the Weichselian glaciation from its maximum extent to the Pomeranian ice marginal position. Wherever possible, waterlaid deposits bracketing till units were dated. The OSL method was supported by radiocarbon dating (6 samples). Additionally, numerous luminescence (OSL, TL) and radiocarbon dates for sites known from literature were also included to generate a synthetic event-stratigraphical diagram of Weichselian glaciations in mid-northern Poland.

The OSL ages obtained do not yield support for the ice advance during MIS 5d, neither do they show any unequivocal evidence of MIS 4 glacial sediments. We speculate that the first Weichselian ice advance might have occurred in the early MIS 3, c. 55–50 ka BP. The OSL dates suggest occurrence of till deposits of the late MIS 3 glaciation, c. 30–28 ka BP but more dating control of this suggested ice advance and the delineation of its presumable extent are needed. The results undoubtedly prove two ice advances along the Vistula (Weichsel) River in mid-northern Poland during the MIS 2, c. 22–18 ka BP: the older one (c. 22–21 ka BP) is correlated with the Leszno (Brandenburg) phase and the younger one (c. 19–18 ka BP) is correlated with the Poznań (Frankfurt) phase.