



Ground surface temperature histories reconstructed from boreholes in Poland: implications for spatial variability?

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We present results from ground surface temperature histories (GSTH) reconstructed from two deep boreholes in Poland. One data set comes from the Udryn borehole, located in northeastern Poland. It implies temperatures during the last glacial maximum (LGM) near -10°C , some 17 K lower than today. Because in a low heat flow region (40 mW m^{-2}) the effects of permafrost formation strongly influence the results. Details on this interpretation have already been published elsewhere.

The second data set originates from Czeszewo which is in western Poland. Here, heat flow is considerably higher. This prohibits the formation of a thick permafrost layer in spite of the high porosities. First results from GSTH inversions suggest about 10 K lower temperatures at the LGM than today. This is considerably less than in Udryn and confirmed by recently published result of the 2.9km deep eq. T log in Torun well with considerably higher heat flow than Udryn (60 mW m^{-2} versus 40 mW m^{-2}), however, lower than Czeszewo (90 mW m^{-2}). We discuss possible reasons, e. g. the different position with respect to the Eurasian ice sheet.