



Dynamic and paleoglaciological reconstructions of the Slawa Slaska ice-lobe (LGM), West central Poland

L. Kasprzak, M. Ewertowski

Institute of Paleogeography and Geoecology, Adam Mickiewicz University, Poznan, Poland.
(l.kasp@amu.edu.pl)

Transport efficiency of the ice stream is one of the most important factor for the formation of glaciomarginal forms. Measured at the head of the ice sheet it is its depositional efficiency which could be understood as the difference between the quantity of mineral materials transported to the edge of the actively flowing ice stream and the quantity of material taken by melting waters to distant foreland. Based on investigations of glacial forms and deposits in the Wielkopolska Lowland three models of shaping the subglacial relief by active ice streams was proposed.

Considering the relatively short period over which the glacial relief in the Wielkopolska Lowland was formed it is supposed that outwashes and the related ice lobe contact sedimentary scarps represent the periods of stops of the vistulian ice-sheet, measured in hundreds of years. The forms created with the ice-cored moraine ridges can represent periods of maximum one hundred years, whereas the glaciomarginal fans - periods of a few scores of years.

Based on the location of the edge of the vistulian ice sheet and the longitudinal profiles, two reconstructions of the morphology of its surface were made. For the maximal reconstruction the theoretical profile of the Greenland and Antarctic glaciers was used. The surface of the glacier obtained in this way rises very steeply. About 100 km from the head the ice sheet reached the height of 1,400 m above foreland level. For the minimal reconstruction a flatter longitudinal profile was used, which characterized the projecting lobes of the Laurentide ice sheet. In the minimal reconstruction ice-sheet thick increased very slowly and reached about 600 m over 150 km from the outer

edge. Selected climatic parameters was also calculated.