

SIMULATION OF THE WEICHSELIAN GLACIATION IN FENNOSCANDIA WITH THE ICE-SHEET MODEL SICOPOLIS

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In order to reconstruct the palaeo-glaciation in Fennoscandia during the last (Weichselian) ice age, simulations with the dynamic/thermodynamic ice-sheet model SICOPOLIS are carried out. Model time is from 250 kyr BP until the present. Climatic forcing is based on present distributions of mean annual surface temperature and precipitation over the region, which are derived from the NCEP/NCAR Reanalysis Project and University of Delaware (GHCN and Legates & Wilmott, 1990) data sets. For the past, these distributions are modified due to climatic changes as reflected by the GRIP $\delta^{18}\text{O}$ record and changes in surface elevation. Emphasis is put on the Last Glacial Maximum (LGM) ca. 20 kyr BP. It turns out that the glaciation patterns vary to some extent for the two different data sets and depend strongly on the parameters which determine the past variations of surface temperature and precipitation. By comparing the results with geological reconstructions of maximum ice extent, reasonable values for these parameters can be estimated. We discuss the simulated dynamic and thermodynamic state of the Scandinavian ice sheet at the LGM and the timing and pattern of deglaciation during the transition to the Holocene.