

WHAT CAN BE LEARNT FROM GROUNDWATER AND GLACIATION CLIMATE MODELING

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Groundwater and heat flow below the glacier was modeled. Models included changes both in ground surface temperature and hydraulic head over the period of past 120,000 years. Modeling results suggest that permafrost under the glacier disappears relatively quick and large scale groundwater flow systems may occur below the glacier. In general, the groundwater flow is subhorizontal with moderate particle velocity and do not produce significant thermal disturbances. Only in the frontal area of glacier quicker and deeper flow occurs if there is no permafrost. The freezing of water-bearing rocks during the cold periods i.e. the latent heat effect seems to have unimportant disturbances to present day thermal field. Modeling results suggest that post-glacial some of the groundwater flow systems have not reached thermal equilibrium.