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Christoph Mayer

Commission for Glaciology, Bavarian Academy for Sciences and Humanities
Alfons-Goppel-Str. 11
80539 Munich
Germany

Abstract of Poster Presentation:

C. Mayer (1**),** Astrid Lambrecht (2), Wilfried Hagg (1,3), Olaf Eisen (4)

(1) Commission for Glaciology, BAfSH Munich, (2) IMGI, University of Innsbruck
(3) Institute for Geography, LMU, Munich, (4) VAW, ETH Zurich

The ice-flux into Merzbacher Lake, Inylchek Glacier, Kyrgystan

Merzbacher Lake provides one of the most regular glacier outburst floods (GLOF) of known glacier dammed lakes. Almost every year the rising lake level due to increased melt rates in early summer leads to a seepage of lake water underneath the glacier tongue. Subsequent fast erosion of the water channels creates massive GLOFs with outflow rates of more than 1000 m^3/s.

During the refilling of the lake in spring large amounts of ice is discharged into the growing lake. In the summer 2005 glaciological investigations focussed on the determination of mass fluxes involved in the dynamic response of the ice dam. For this purpose surface ablation, ice thicknesses and ice velocities were measured along several transects on the ice dam and adjacent areas. In addition weather information recorded at base camp, situated on the lateral moraine, provide the necessary input for spatial and temporal extrapolation of the ablation stake measurements.

Despite difficult conditions, due the abundance of melt water and a rather widespread debris cover, ground penetrating radar investigations showed ice thicknesses of more than 300m in the vicinity of the ice dam. First estimates of ice discharge into the lake are 7x107 m^3/yr, in case of similar ice velocities during the year. For large differences in seasonal velocities the total ice discharge reduces to 5x107 m^3/yr.