Geophysical Research Abstracts, Vol. 9, 08693, 2007
SRef-ID: 1607-7962/gra/EGU2007-A-08693

The glacial history of landscape in the Batura and Haramosh Muztagh, N.W. Karakoram

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The post to late glacial glaciation history of recently glaciated tributary valleys of the Hunza and the Indus valley is closely linked with the scientific discussion about the maximum extent of glaciation during the LGM in the main Indus valley. Investigations are focused on the reconstruction of glacier stages between the Postglacial and the Late Glacial to the Last Glacial Maximum according to the principle of their positional relationship. The calculation of the snow lines after the method of Kuhle (1988) yields evidence of climatic change. In detail two still glaciated tributary valleys of the Hunza- and the Indus Valley can be shown as characteristic examples, the Bar valley on the Batura SW side and the Haramosh- Kutwal valley on the Haramosh NW side. Today, the recent avalanche fed glaciers come down from high lying catchment areas with average altitudes of 6200–6800 m and terminate in between 2700 – 3000 m. Snow line runs at 4600– 4700 m in the steep flanks which is common in the Karakoram Mountains. In the Bar valley one can differentiate four stages (except subrecent stages) marked by different lateral moraine level but there are no endmoraines preserved. Late glacial moraines at the valley outlet allow a snow line depression of c. 800 m. For the Haramosh valley five stages can be reconstructed after the former glacier joins the Indus glacier. The valley outlet moraine indicates a snow line depression of 600- 700 m and seems to be the latest stage of Last Glacial. For the Postglacial the great lateral moraine (GLM) is prominent which frequently reached down 2.5–5 km away from the recent glaciers with a calculated snow line depression of c. 300 m in maximum.

References:

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