



Late-glacial ice dynamics of the northeastern sector of the Cordilleran Ice Sheet reconstructed from the glacial landform record

M. Margold, K.N. Jansson, J. Kleman, and A.P. Stroeven

Stockholm University, Department of Physical Geography and Quaternary Geology, Stockholm, Sweden
(martin.margold@natgeo.su.se)

The northeastern sector of the Cordilleran Ice Sheet displayed a fanwise pattern with the Liard Lobe draining ice from accumulation areas in the Selwyn, Pelly, Cassiar and Skeena mountains during the peak of the last glacial period. Ice retreat pattern of the Liard Lobe during the last deglaciation is reconstructed from the glacial landform record that comprises glacial lineations and landforms of the meltwater system such as eskers, meltwater channels, perched deltas and outwash fans. The spatial distribution of these landforms defines the successive configurations of the ice sheet during the deglaciation. The Liard Lobe retreated to the west and southwest across the Hyland Highland from its local Last Glacial Maximum position in the southeastern Mackenzie Mountains where it coalesced with the Laurentide Ice Sheet. The retreat across the Liard Lowland and a subsequent splitting of the thus far uniform ice surface into several ice lobes is evidenced by large esker complexes that stretch across the Liard Lowland cutting across the contemporary drainage network. Ice margin positions from the late stage of deglaciation are reconstructed locally at the foot of the Cassiar Mountains and farther up-valley in an eastern facing valley of the Cassiar Mountains. The presented landform record indicates that the deglaciation of the Liard Lobe was accomplished mainly by active ice retreat and that ice stagnation did not play a significant role in the deglaciation of this region.