



Architecture and sedimentation pattern of Skeidarárjökull end moraine at Gigjukvisl gap, Iceland

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A complex assemblage of ice marginal and proglacial sediments and their geological architecture were preliminary studied at the Skeidarárjökull marginal zone along the western slope of Gigju River gap, south Iceland. Catastrophic jökulhlaup of 1996 have widened the gap in the end moraine dated to the end of the 19th century exposing the glaciogenic sediment sequence. Erosion as a result of the heavy waters flow provided the possibility of detailed structural analysis of the section at the proximal part of the end moraine as well as its architecture study at extra-marginal part. The study was supplemented with some geomorphological observations of the area. The end moraine exposed at the Gigjukvisl gap is composed of the sediments from melting-ice, glaciofluvial, glaciolacustrine, mass-transport and probably other facies related to terminoglacial and proglacial subenvironments. The melting-ice facies is presented by the variety of deposits ranging from gravelly-boulder to sandy-silty diamicton. The meltwater streams have formed the stratified sands and gravels mostly laid in form of fans or small sandurs at the ice front. Glaciolacustrine sandy silt sediments possess seasonal lamination. Partly glaciotectonically disturbed series of diamicton, silt, sand and gravel with the originally stratified structure preserved in many places reveal the complex geological structure of the end moraine. Sedimentary succession reflects the dynamic change of the position of ice margin and sedimentation pattern during short time interval in quite narrow area on Skeiðarársandur, the largest active outwash plain in the world. This study was financed by the Research Council of Lithuania (No. MIP-045/2011).