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Determining how to differentiate different glacier flows with respect to transported sediment of specific grain size.

J. Ploug
Denmark (joplo@byg.dtu.dk)

Kangerlussuaq, West Greenland is currently one of the most ice free areas in Greenland. This makes way for long glacio fluvial rivers, transporting vast amounts of sediments embedded in the glacier to the Kangerlussuaq Fjord. This study is an attempt to deduce the origin of the sediment eroded from bedrock far beyond the glacial proximity, by manual microscope interpretation, XRD and ICP-MS interpretation. The ice sheet near Kangerlussuaq has two different ice flows, originating within two different bedrock regimes. Sediments were collected from large meltwater outlets at the glacial margin, along with bedrock outcrop samples in close proximity to the glacier. This does not only make it possible to infer an origin of eroded bedrock beyond the glacier limit, but will make it possible to interpret the origin of sediments in fjord gravity cores from the Kangerlussuaq Fjord and determine the paleo transport of sediments in the Kangerlussuaq region in the past.