



Investigating rates and patterns of late Neogene denudation using detrital apatite fission track thermochronometry: Kangerlussuaq, East Greenland

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Rates and patterns of denudation have previously been constrained using apatite (U-Th)/He or fission track thermochronometric datasets obtained from horizontal and/or vertical sample profiling on land. We report the first results from a project to constrain rates and patterns of late Neogene denudation in the Kangerlussuaq region of East Greenland using a detrital fission track thermochronometric dataset obtained from fjord-floor sediment cores. We aim to use detrital fission track thermochronometry to obtain single-grain AFT ages for 70 or more grains in samples from each of up to 12 sediment cores located throughout the principal Kangerlussuaq fjord system. Statistical analysis of the single-grain AFT age distribution for each sediment sample allows interpretation of the distribution as a number of age populations that reflect the exhumation history of the sediment source areas. Using this method we hope to constrain rates and patterns of denudation of the Kangerlussuaq region and thereby test competing models of landscape evolution during the late Neogene.