



New apatite fission-track data from Jotunheim-Sognefjord, Norway

P. Japsen (1), P.F. Green (2), J.M. Bonow (1) & **J.A. Chalmers** (1)

(1) Geological Survey of Denmark and Greenland (GEUS), Copenhagen, Denmark
(pj@geus.dk)

(2) Geotrack International, Victoria, Australia (mail@geotrack.com.au)

Twenty-four samples for apatite fission-track analysis (AFTA) were acquired from the margin of the Oslo Graben across Jotunheim (up to 2090 m) to the inner part of Sognefjord, southern Norway, in the summer of 2006. Interpretation of the data in relation to the present topography with elevated plateaux and incised valleys are expected to give new insight about when southern Norway experienced uplift and exhumation and thus contribute to our understanding of why there are mountains in Norway. The fission-track data reveal the same general trend of track lengths vs. ages as our data from West Greenland where our study led to the conclusion that the present summits were buried below up to 1 km of rocks in the late Eocene. Interpretation of the data reveals several phases of Mesozoic and Cenozoic cooling with a considerable Neogene event. We interpret the Neogene cooling event as caused by removal of rock, probably related to fluvial incision of major valley systems along the Norwegian margin.