

Mega-scale glacial lineations beneath Rutford Ice Stream

E.C. King

British Antarctic Survey, Madingley Road, Cambridge, UK.

I used a 3 MHz ground-based radar to map the spatial distribution of deforming sediment beneath the fast-flowing (*c.* 375 m/a) part of Rutford Ice Stream. The sediment is organised into streamlined bed forms with high elongation and exceptional parallel conformity. The forms are identical to mega-scale glacial lineations (MSGSL) described from polar continental shelves and the former bed of the Laurentide Ice Sheet. The sedimentary system here is known from repeated seismic surveys to be very dynamic with both erosion and deposition of substantial quantities of sediment over a 13 year period. These data prove the hypothesis that MSGSL are formed beneath ice streams and provide control on process models of bed form evolution.

