

Electronic Appendix D for the article: "High-resolution LiDAR mapping of glacial landforms and ice stream lobes in Finland" by Putkinen et al. (2017), Bulletin of the Geological Society of Finland, vol. 89, issue 2.

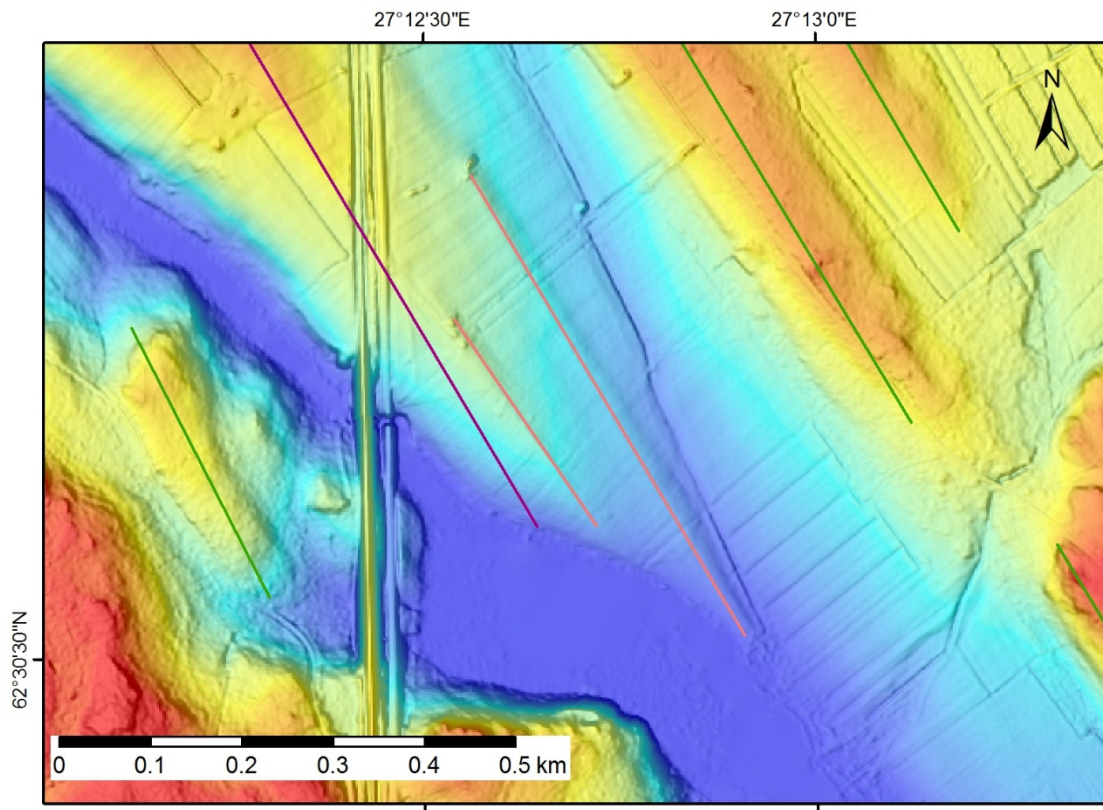


Figure 16. Small flutings (pink lines) at Suontee, Suonenjoki in the lee side of obstacles with larger drumlins (green).

CLASSES IN THE DATABASE: 3.1, 3.4, 3.5

COORDINATES (EUREF-FIN): 510869 / 6931080

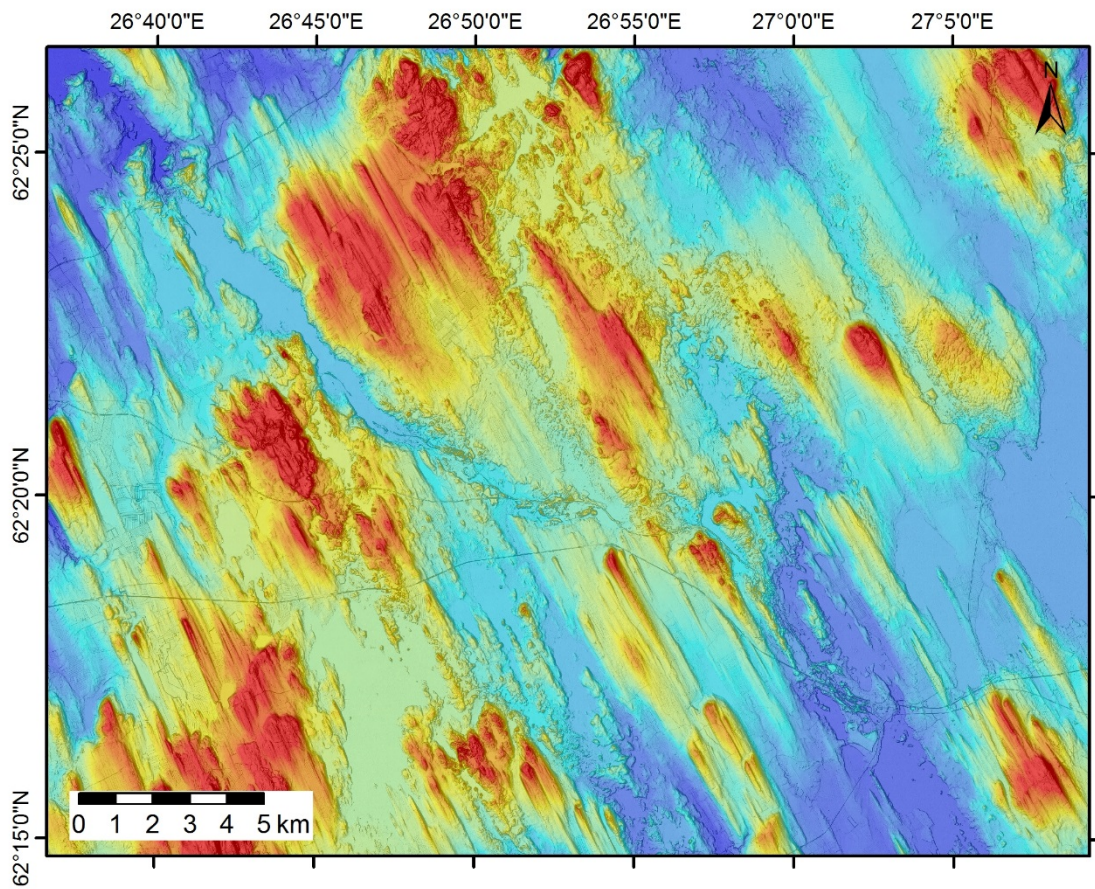


Figure 17. Streamlined bed of Finnish Lake Ice Lobe ice stream at Pieksämäki showing well developed drumlins and megaflutings and larger drumlinoids (red) cored by bedrock.

CLASSES IN THE DATABASE: 1, 4, 3.1, 3.4, 3.5, 6

COORDINATES (EUREF-FIN): 493511 / 6912695



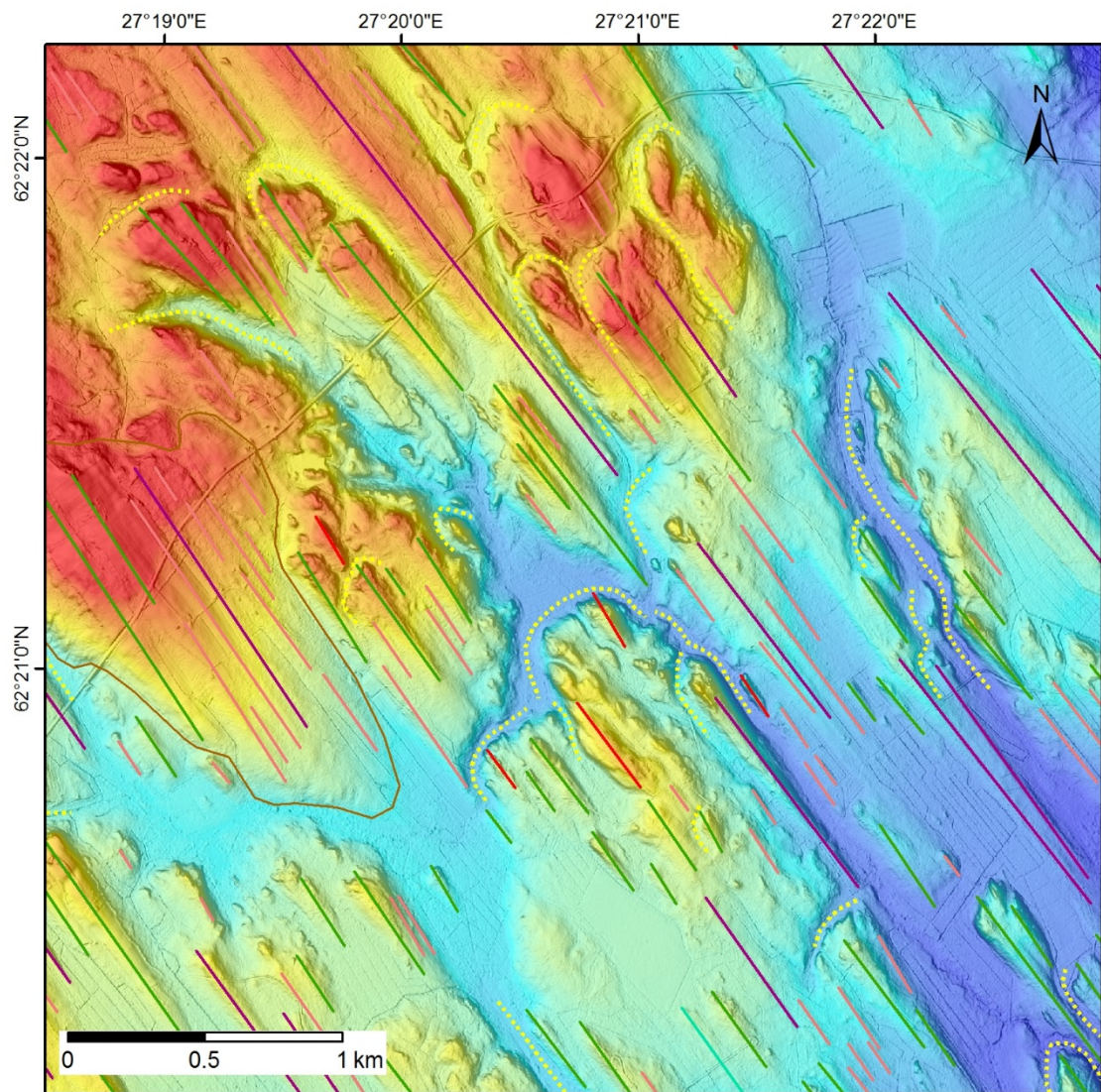


Figure 18. The main flow corridor of the Finnish Lake District Lobe ice stream at Heinämäki, Pieksämäki with numerous megaflutings (purple lines) and drumlins (green). Smaller flutes are shown in pink.

CLASSES IN THE DATABASE: 3.1, 3.2, 3.3, 3.4, 3.5

COORDINATES (EUREF-FIN): 517912 / 6913558



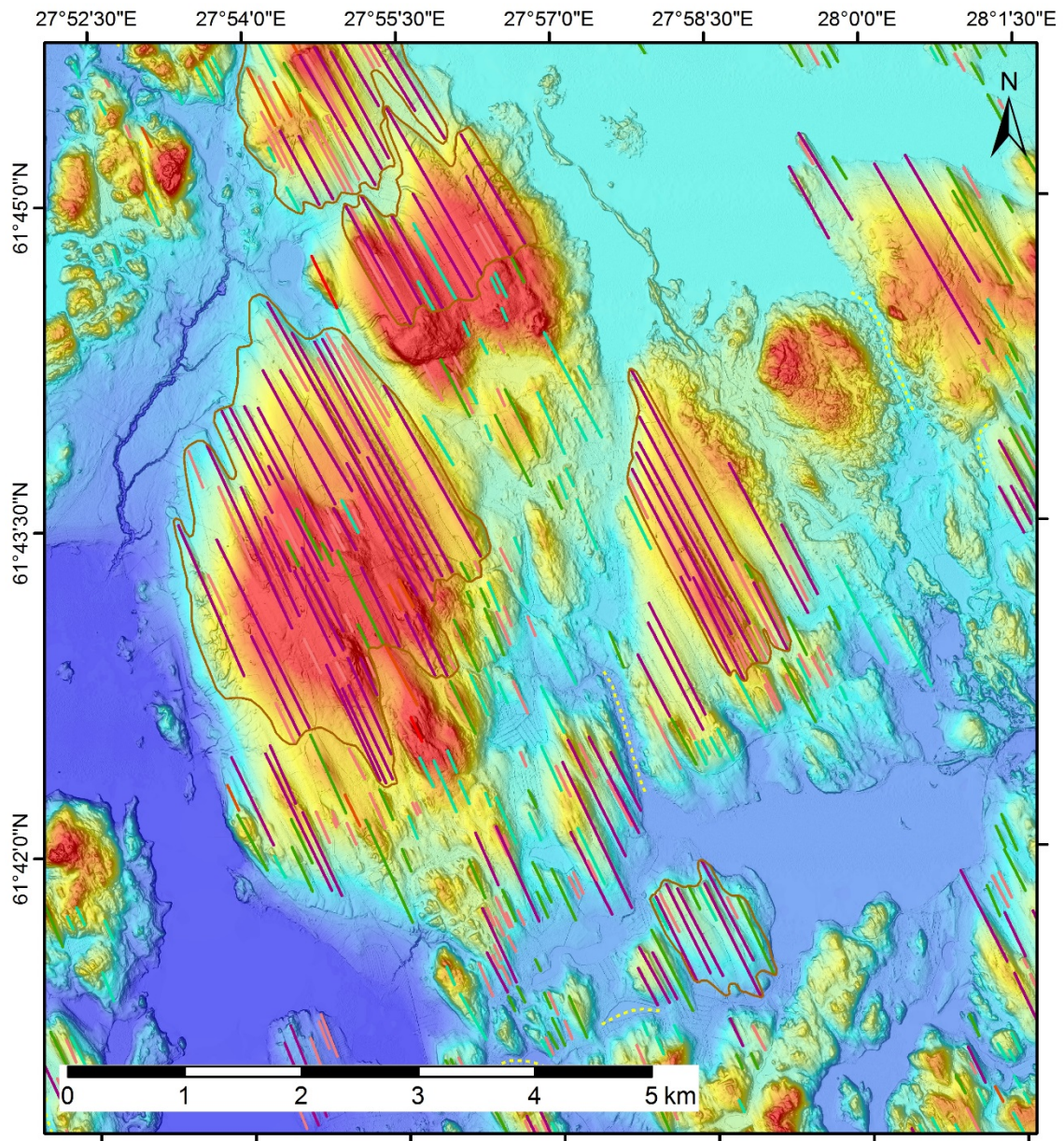


Figure 19. Drumlinized and megafluted uplands underlain by older sediment at Koikkala, Juva.

CLASSES IN THE DATABASE: 2.2, 3, 3.1, 3.3, 3.4, 3.5

COORDINATES (EUREF-FIN): 550192 / 6843432

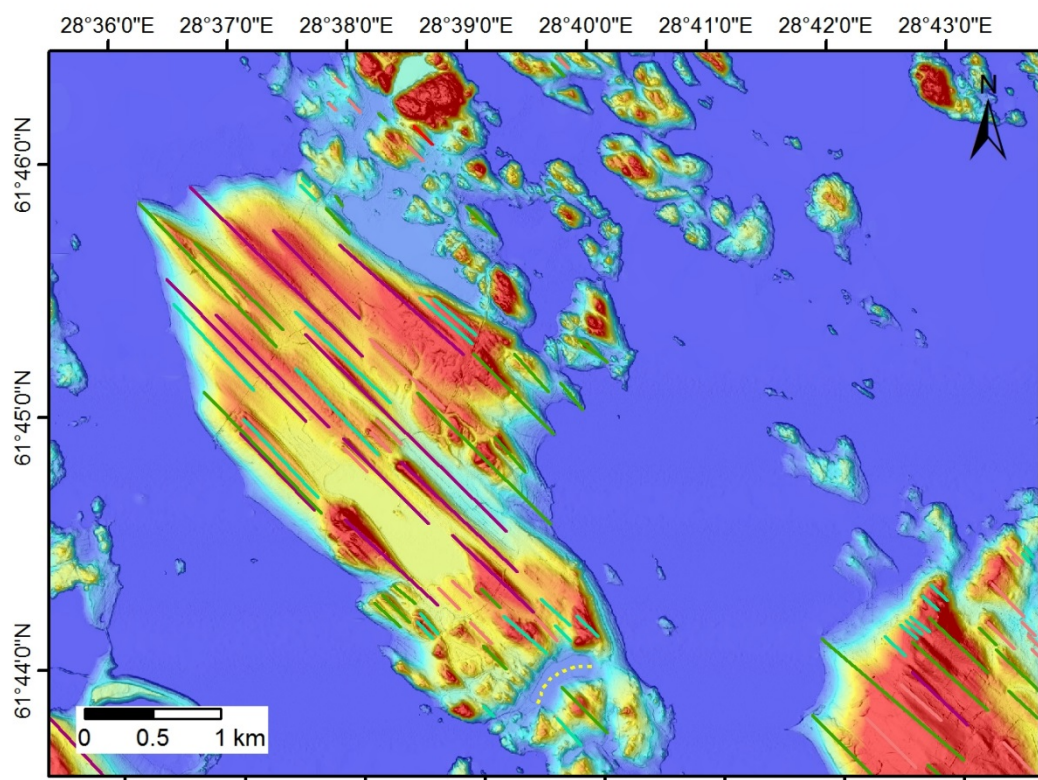


Figure 20. Large glacially-streamlined drumlin upland ('megadrumlin') of pre-existing sediment at Tuohisaari, Sulkava with flutings (pink), drumlins (green) and megaflutings (purple).

CLASSES IN THE DATABASE: 2.2, 3, 3.1, 3.3, 3.4, 3.5

COORDINATES (EUREF-FIN): 586282 / 6847213



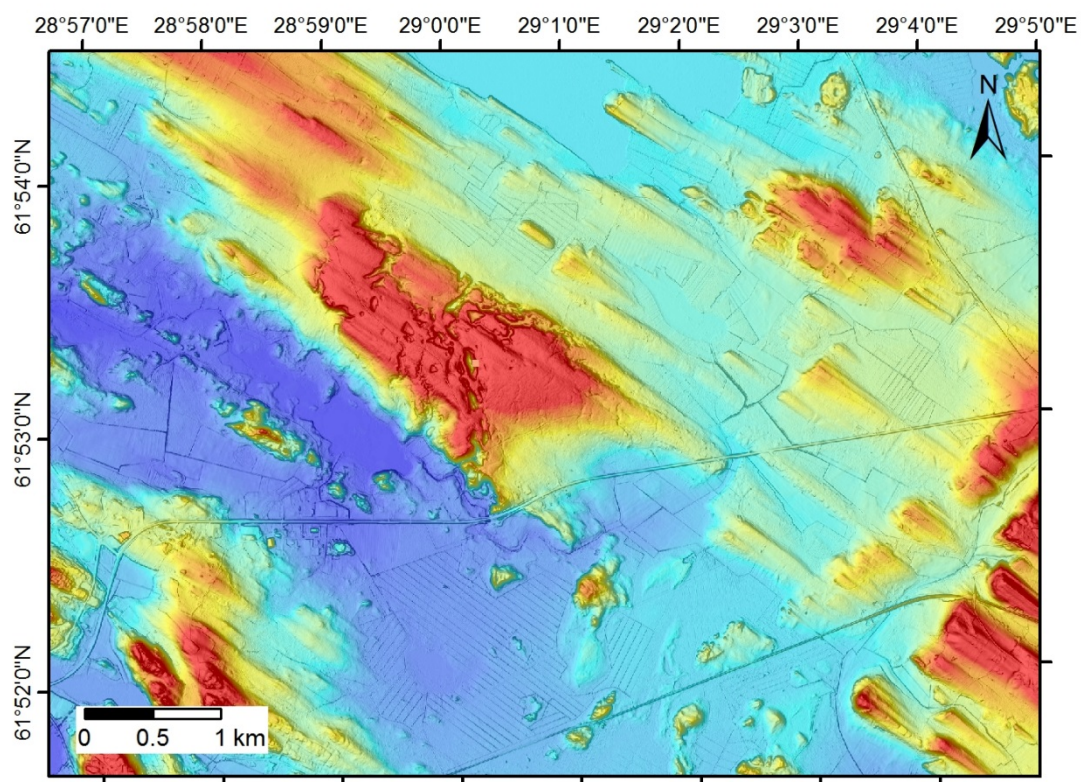


Figure 21. Drumlinized upland (megadrumlin) at Hiisjärvi, Savonlinna with numerous megaflutings and drumlins.

CLASSES IN THE DATABASE: 2.2, 3, 3.1, 3.4, 3.5

COORDINATES (EUREF-FIN): 605542 / 6863248

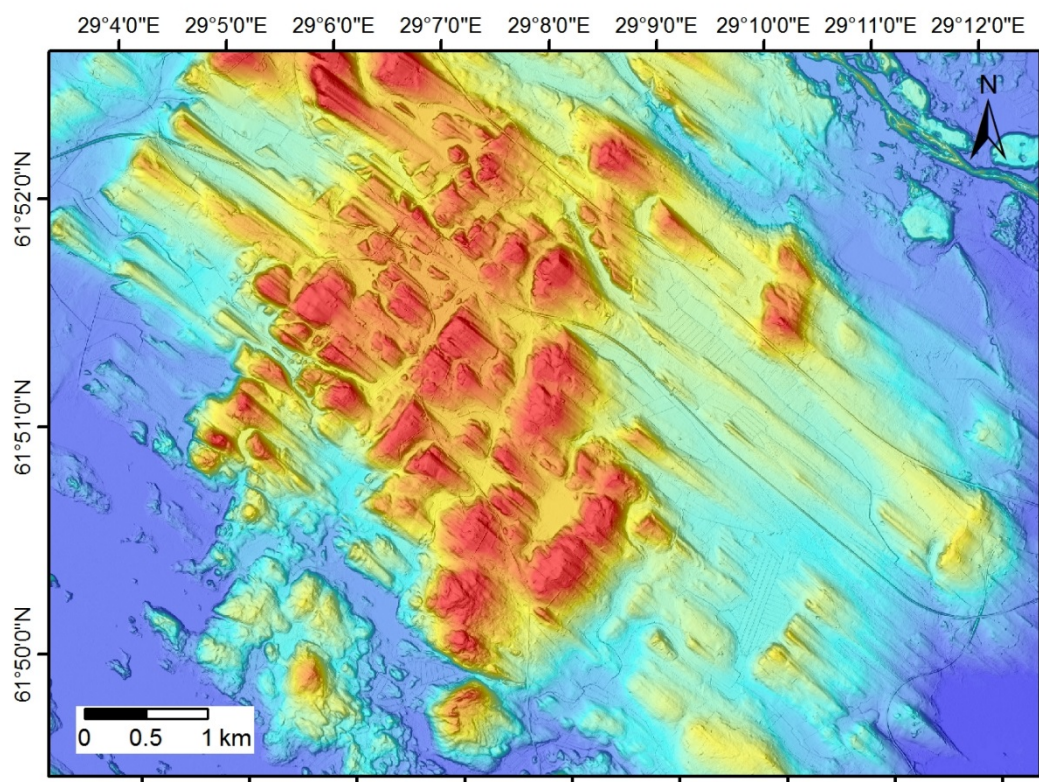


Figure 22. Crag and tail flutings on bedrock highs (red), drumlins and megaflutings on the bed of the Finnish Lake District Lobe ice stream.

CLASSES IN THE DATABASE: 3, 3.1, 3.3, 3.4, 3.5

COORDINATES (EUREF-FIN): 611471 / 6858535



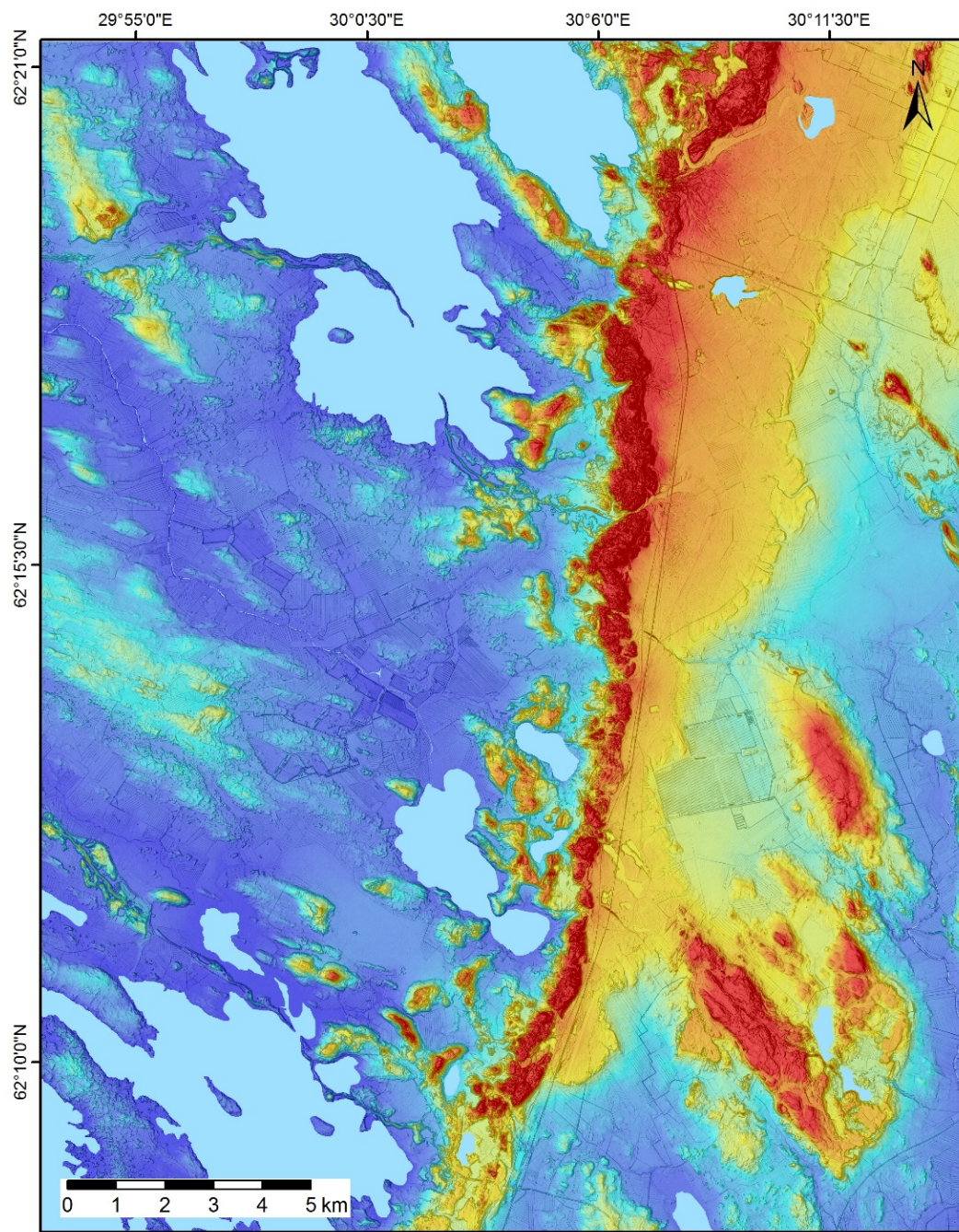


Figure 23. Part of the Salpausselkä II end moraine at Onkamo, consisting of deltas (yellow) and large push moraine (red) formed at the terminus of the Finnish Lake District Ice Lobe ice stream.

CLASSES IN THE DATABASE: 1.1, 1.3, 1.3.1, 1.3.2, 1.3.3, 4.1.1, 7

COORDINATES (EUREF-FIN): 658835 / 6904877



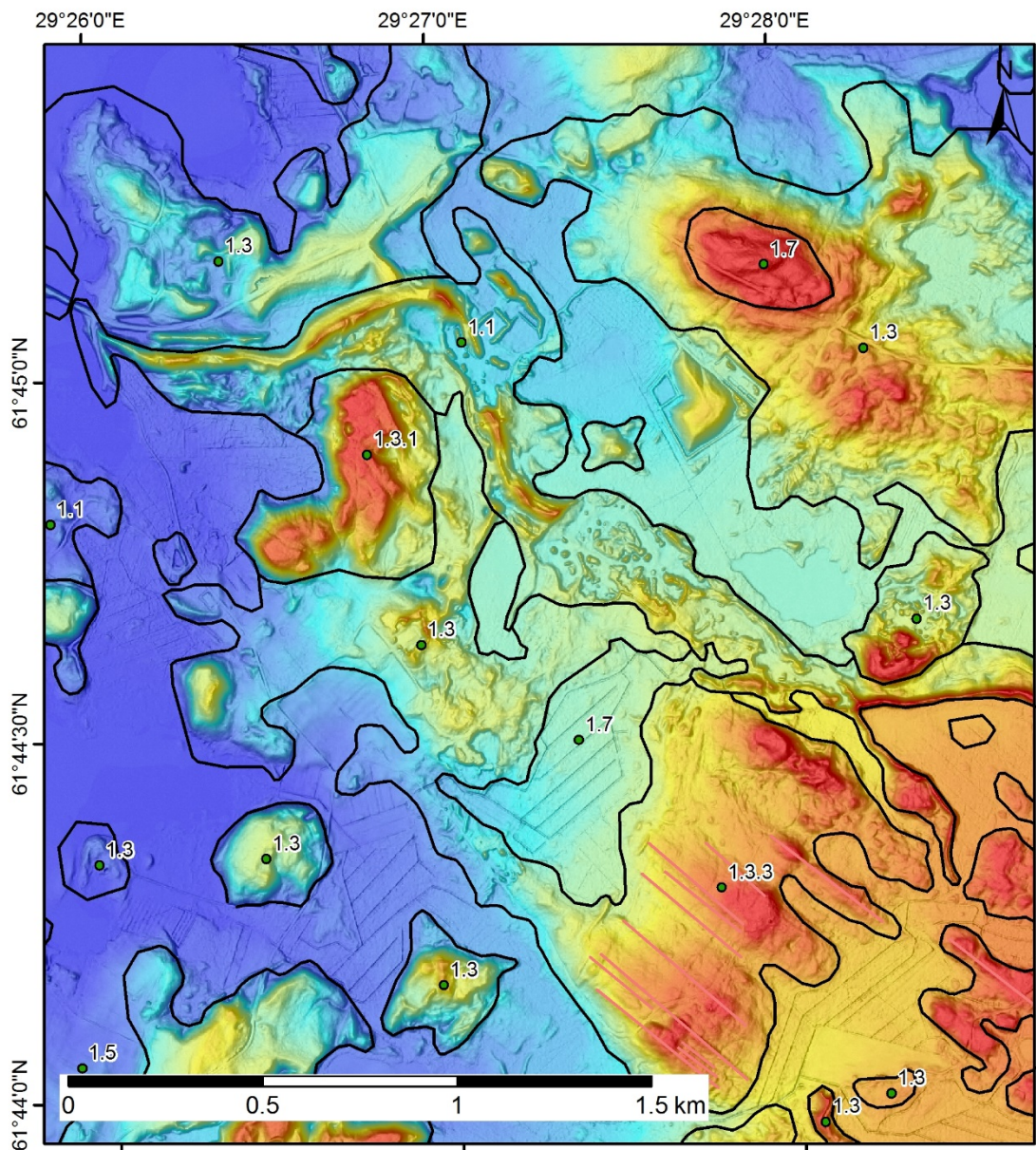


Figure 24. An example of a complex ice marginal landscape of the Salpausselkä II end moraine at Punkaharju with small streamlined ridges (pink) recording a short-lived readvance of the ice stream terminus.

CLASSES IN THE DATABASE: 1.1, 1.3., 1.3.1, 1.3.3, 1.5, 1.7

COORDINATES (EUREF-FIN): 629576 / 6848683

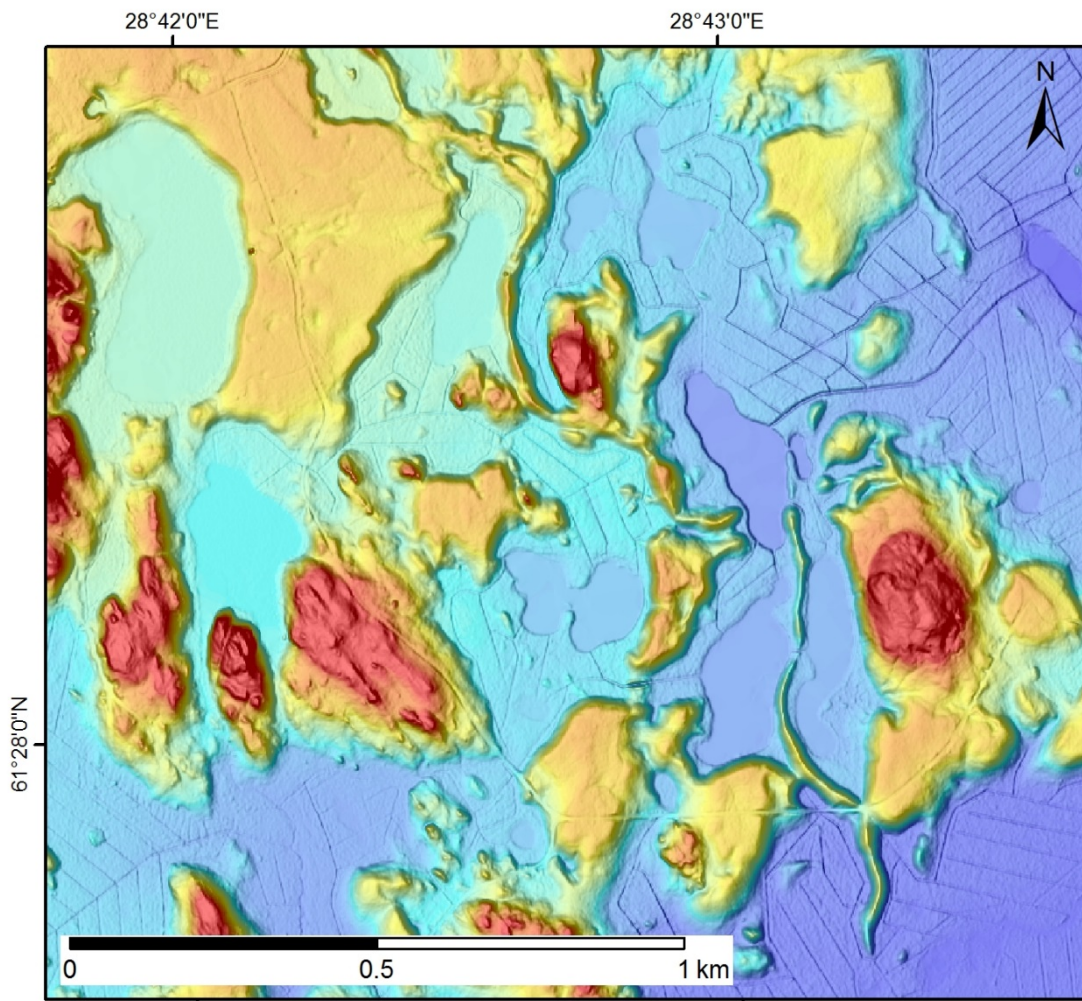


Figure 25. II Salpausselkä end moraine landscape near Husunkylä, Ruokolahti in southeastern Finland with deltas (larger yellow areas) and sinuous esker ridges. Note poorly streamlined bedrock highs (red).

CLASSES IN THE DATABASE: 1.1, 1.3.1

COORDINATES (EUREF-FIN): 591190 / 6816308



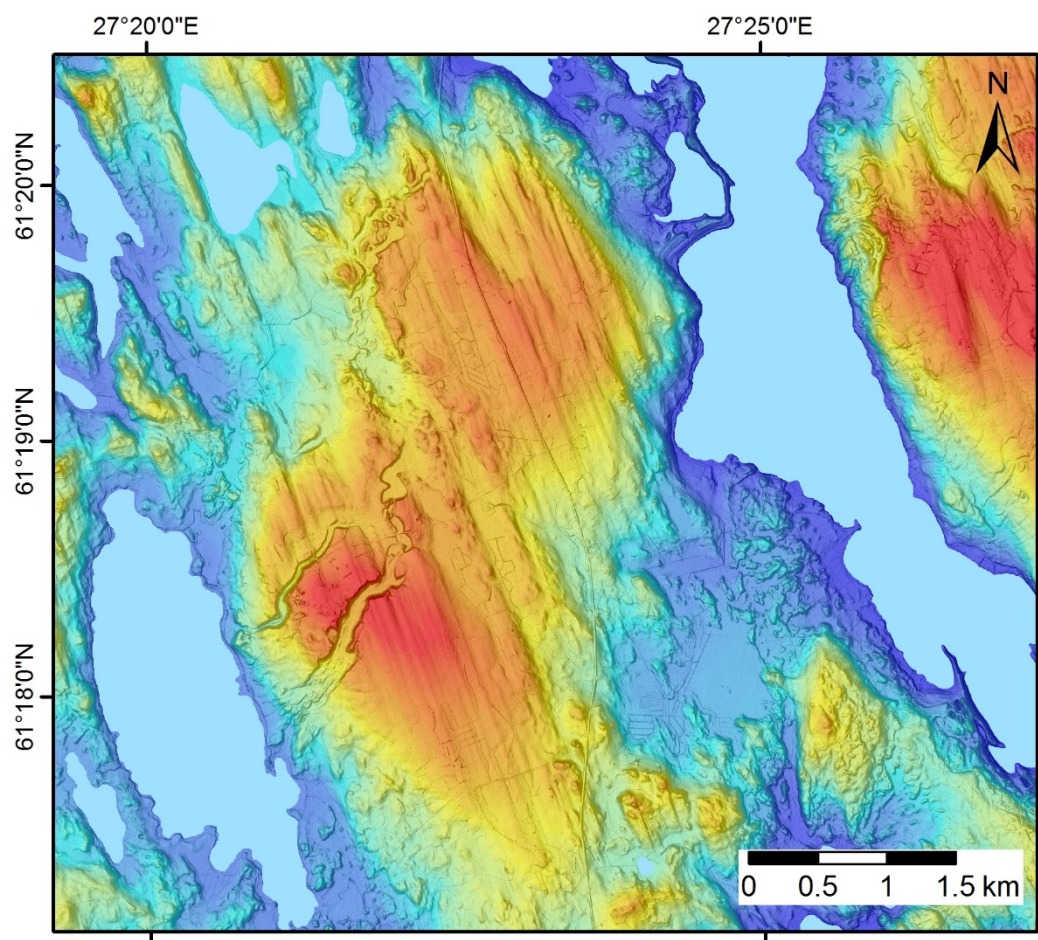


Figure 26. Megaflutings developed on upland of older sediment at Hostila, Savitaipale.

CLASSES IN THE DATABASE: 2.2, 3.1, 3.4, 3.5

COORDINATES (EUREF-FIN): 520677 / 6797818

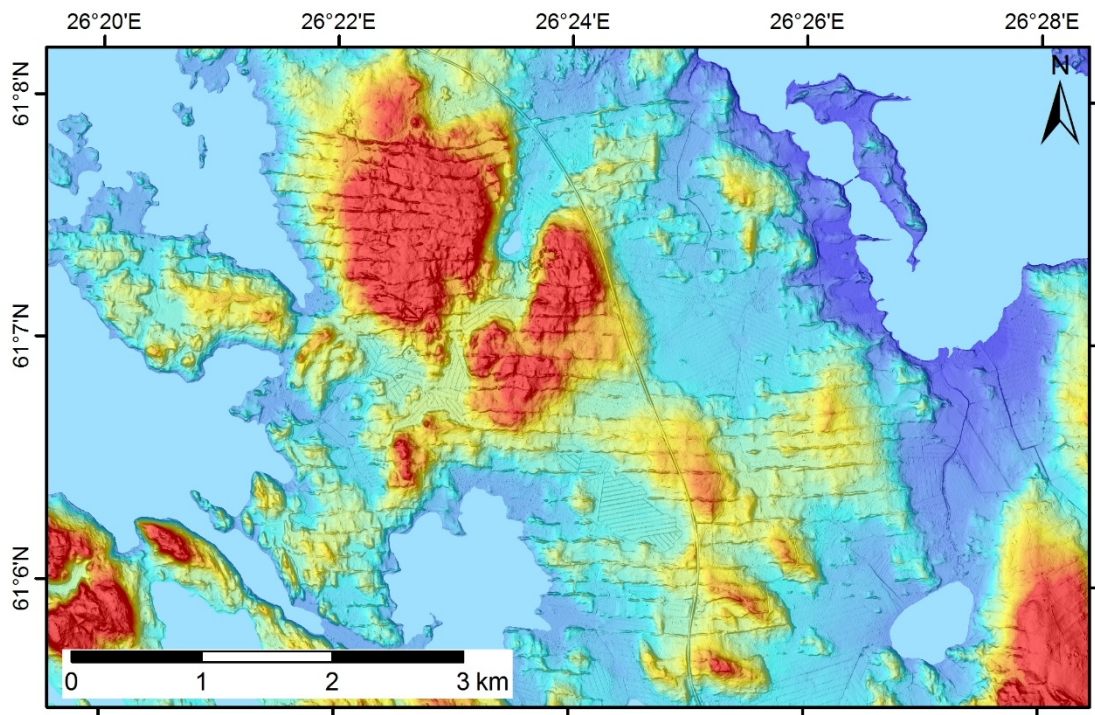


Figure 27. De Geer moraine ridges (class 1a according to Ojala 2016) from Ruokojärvi, some 30 km N-NW of the city of Kouvola. Ridges are rather even in height (mean of 1.9 m) and width (mean of 16 m). The mean separation distance of ridges is 120 m and they formed in water depths of about 50 m.

CLASS IN THE DATABASE: 4.1.2

COORDINATES (EUREF-FIN): 3467860 / 6778420

#### References:

Ojala, A. E. K., 2016. Appearance of De Geer moraines in southern and western Finland – Implications for reconstructing glacier retreat dynamics. *Geomorphology* 255, 16-25.

Ojala A. E. K. et al., 2015. Characterization of De Geer moraines in Finland based on LiDAR DEM mapping. *GFF* 137.



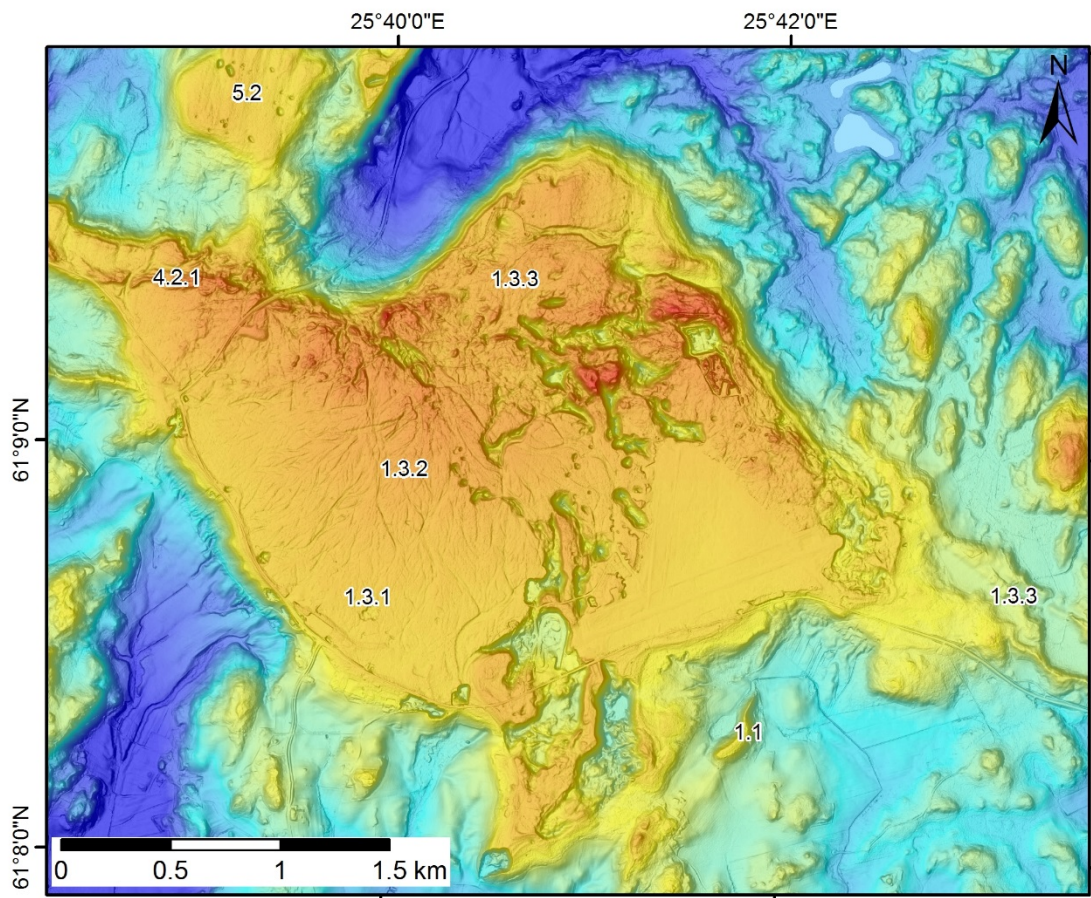


Figure 28. Salpausselkä end moraine complex at Vesivehmaankangas, of the Asikkala, Päijät-Häme region of Southern Finland, with prominent sandur (1.3.2) - delta (1.3.1) with channeled surface. Note kettle holes on northern proximal side of complex.

CLASSES IN THE DATABASE: 1.3.1, 1.3.2, 1.3.3, 4.2.1, 5.2

COORDINATES (EUREF-FIN): 428810 / 6780120

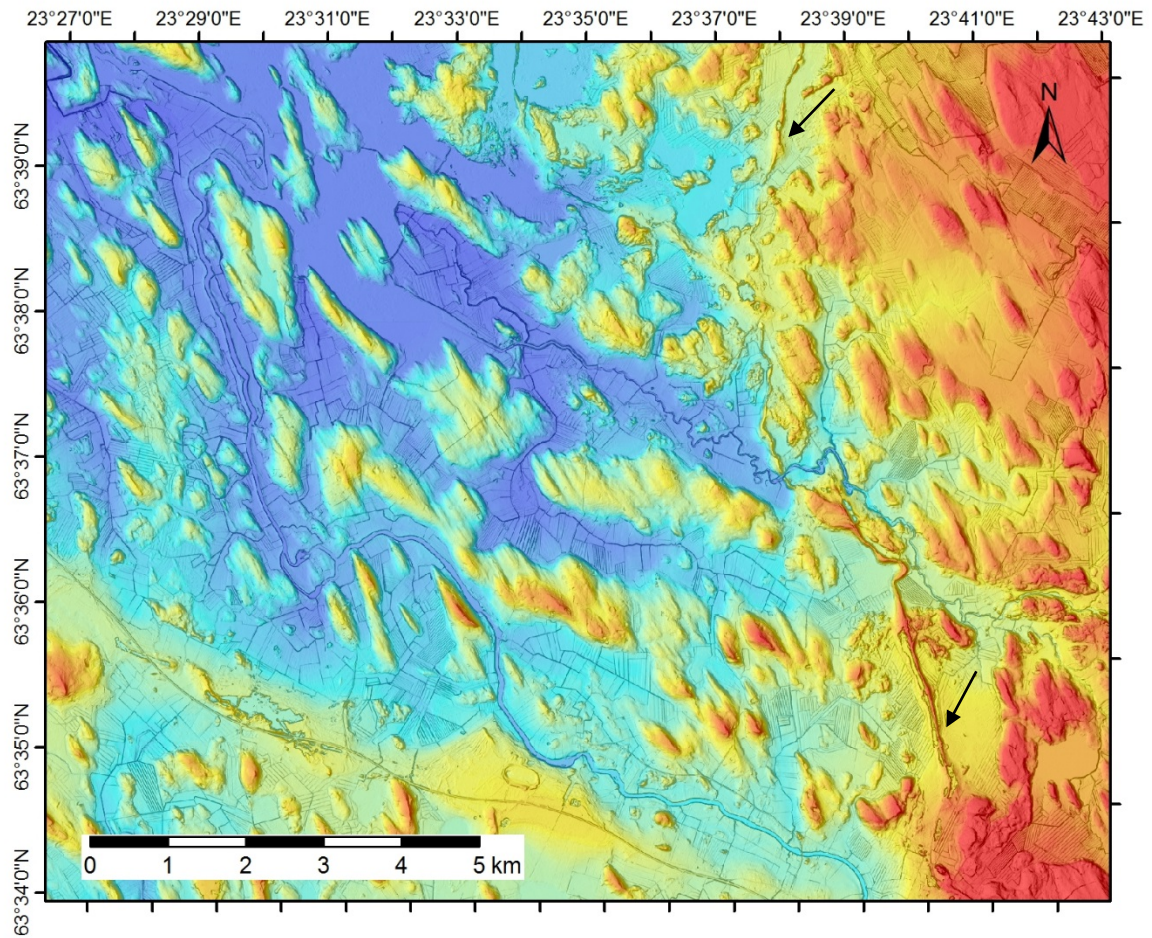


Figure 29. Example of streamlined palimpsest topography of Finnish Lake District Lobe ice stream onset zone. Older west-east oriented ridges have been partly refashioned later southeastward directed flow set indicated by drumlins. Note esker (arrowed).

CLASSES IN THE DATABASE: 1.1, 3.1, 3.4, 3.5

COORDINATES (EURE-FIN): 330587 / 7059178