

Appearance of PGFs in Finland – case Lauhavuori

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Northern Fennoscandia has experienced late- and postglacial fault (PGF) activity and high-magnitude seismicity attributable to lithospheric plate stresses and glacio-isostatic rebound. During the last decades, PGFs have been found and described in northern Fennoscandia, the first fault scarps being discovered in western Finnish Lapland in the 1960s. LiDAR-based digital elevation models (DEMs) have recently provided a new and accurate remote sensing mapping methodology for systematic screening and detection of geological and geomorphological features. It allows the rapid and low-cost mapping of late- or postglacial faults and, for instance, mapping of landslides from areas where they have not previously been recognized (Palmu et al., 2015).

In Fennoscandia, most PGFs have been found in Finnish Lapland and Norrbotten in Sweden. Recently, new potential PGF systems were discovered in Lauhavuori, western Finland (Palmu et al., 2015), and in Bollnäs, central Sweden (Mikko et al., 2015), both representing the southernmost locations of PGFs in Fennoscandia.

This paper describes the preliminary findings of the proposed Lauhavuori PGF. The general geological and geomorphological description of the PGF features in this locality is given. The geomorphological features extracted from the LiDAR DEM include the ramp height of the fault and shoreline displacement features, used in the preliminary age determination of the proposed PGF.

References:

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