

Soil formations in Rovaniemi

Large streamlined forms

The soil formations in the Rovaniemi region were created at the melting stage of the last Weichselian glaciation. The edge of the glacier was then divided into strips, the flow orientation of which was mainly west to east. The glacier deposited the material that it had loosened into different moraine formations on the edge of the ice. These formations are often ridges, which go either with the direction of movement or transversely across it. Towards the end of the thawing period, the movement of the glacier slowed down and finally stopped. As the ice melted, the fractured material was deposited at the edge of the glacier either as gently sloping fields or as hummocky moraine. All these types of formations can be encountered in the Rovaniemi region, even quite near to the centre of the city.

In places, the powerful movement of the glacier formed a base and deposited different soil formations. The direction of this movement is visible, for example, near to the centre of Rovaniemi in the orientation of the rocky hills around Korkalovaara, Ounasvaara and Pöyliöjärvi Lake. As a result of glacial wear, the hills are rounded and smoothed out into elongated forms.

The often oval or cigar-shaped moraine ridges, parallel to the movement of the glacier, from several hundred meters to a few kilometers long are called drumlins. Drumlins often appear as fields consisting of several dozen or maybe hundreds of individual ridges, and, in the area of Kuusamo, even thousands. These forms generally appear east of Rovaniemi, in locations such as the village of Koskenkylä, near the Kemijoki River.



Transverse moraine formations

Of the transverse moraine formations, the most common are ribbed moraines formed through rib-like morphology. Individual ridges are 100m – 1½km long, 5-10m high and 50-200m wide. Typically, the tops of the ridges are covered with large boulders and the areas between the ridges either have swamps or ponds (aerial view of Petäjäskoski). For this reason, the terrain is often difficult to negotiate.

Ribbed moraines are the most common type of formation in Southern Lapland, and they form extensive fields at such locations as the areas between the lakes of Portimojärvi and Simojärvi and between Misinjärvi and Vijajärvi, in the region of between Muurola and Petäjäskoski, on both sides of the Kemijoki River, and also south of the centre of Rovaniemi around Virikkolampi in Pöykkölä.

Small streamlined forms

Smaller formations parallel to the glacial movement are flutings and so-called crag and tail formations. Flutings are elongated or ribbed surface forms, which are typically several hundred meters long, but only a meter or two high. Usually they are not so visible from the ground, but, seen from the air, they are discernable as ribs in the soil. In Rovaniemi, these formations can be found in such places as the swamp area to the west of Ala-Korkalo. Crag and tail formations are a little similar to flutings and roughly the same size. A distinguishing feature is how they were created, as there where the flutings are formed only of moraine, crag and tail formations have, as their names suggests, a crag or protrusion at the head of the glacier-orientated ridge, and a tail formed of moraine in the direction of flow. These can be seen at such a location as Viiruavaa, south of Olkkavaara Hill.



Hummocky moraines



Towards the end of the melting of the glacier, moraine material freed from the ice was deposited in vague forms and collections of moraine hummocks dominated by kettle holes. Individual ridges did not necessarily have a diameter of more than a few dozen meters and at most a few hundred meters. Formations of this type can be encountered in such areas as north of Norvajärvi Lake.