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Applicant UNESCO Global Geopark

Salpausselkä, Finland

Geographical and geological summary



Map of the Salpausselkä aspiring UNESCO Global Geopark



1. Physical and human geography

The proposed geopark is located in southern Finland, in the southernmost part of the Finnish Lakeland. Its surface area is 4506 km², of which 21 % is water and over a half covered in forest. The hundreds of lakes are a central feature of the landscape all over the area, along with the long, distinct sandy ridges. In the hilly eastern and northern parts of the area superficial deposits are often very thin and bedrock exposures are common. The north-western upland has vast forests, while most of the farmland is situated on the plains between and south of the Salpausselkä ridges. The highest point of the area and of southern Finland is Tiirismaa quartzite residual mountain, 223 m above sea level. The climate is boreal with strong seasonal variation: mild summers and relatively cold winters with snow cover. Due to the prominent Salpausselkä ridges and vast lake areas of Päijänne and Vesijärvi, the amount of rainfall varies substantially within the area.

The proposed geopark covers most of the Päijät-Häme region, encompassing six municipalities. The area has some 177000 inhabitants, the main city Lahti some 120000. Lahti can be reached in one hour by train from the capital, Helsinki. The densely populated areas are located close to the lakes and along the ridges. In the three smallest municipalities population doubles or even triples during the summertime because of the high number of holiday homes. Tourism is a growing industry in the area, traditionally strong in manufacturing and woodworking. Agriculture and forestry still play an important role in the rural municipalities. The city of Lahti has become a forerunner in sustainability and circular economy and has been awarded the title of the European Green Capital 2021 by the European Commission.

2. Geological features and geology of international significance

The massive Salpausselkä ice-marginal ridges represent the best-known geological heritage of Finland. They have been studied in the area of the proposed geopark since the 19th century and are widely referred to in geological literature. The First and Second Salpausselkä extend for over 600 km across southern Finland and hold record of the prehistoric climate change of the Younger Dryas period. They were deposited along the margin of the ice sheet, when the climate got suddenly colder and the retreating of the ice sheet margin stopped. In the proposed geopark the Salpausselkä ridges appear mainly as large ice-contact deltas. Here they are at their most diverse and prominent, due to the location at an interlobate region of two main ice lobes. The long feeding esker chains radiate in a northerly direction, according to the direction of the two ice lobes. Together these features form a unique entity of glaciofluvial landforms, made of sand and gravel transported, sorted and deposited by glacial meltwater streams some 12000 years ago.

The ice sheet and its meltwaters have also shaped the ancient Palaeoproterozoic bedrock into what it is today. The fracture zones of the bedrock were eroded and deepened, and lakes developed into many of them. Lakes were also formed in the kettles of the sandy ridges. The largest lake, Päijänne, is the deepest and second largest lake of Finland.

The aspiring Salpausselkä Geopark highlights that this impressive, scenic and easily accessible 'landscape created by water' is also a significant source of water: the glaciofluvial landforms are vitally important for their abundant, renewable reserves of groundwater, providing the region with naturally high-quality drinking water. Altogether the area provides around one fourth of Finland's population with water, as the southern part of Lake Päijänne is the main water source for over a million people of the capital area.