

FINLAND



Source: esri

General

Finland - officially the Republic of Finland - is bordering the Baltic Sea, Gulf of Bothnia, and Gulf of Finland, between Norway in the North, Sweden in the Northwest, and Russia in the East. The country has an area of 33.8 Mha (million hectares) with in 2020 a population of 5.5 million, or 0.16 persons per ha (Wikipedia and United Nations, 2019).

Climate and geography

Finland is one of the world's northernmost countries. The main factor influencing Finland's climate is the country's geographical position between the 60th and 70th northern parallels in the Eurasian continent's coastal zone. In the Köppen climate classification, the whole of Finland lies in the boreal zone, characterized by warm summers and freezing winters. Within the country, the temperatures vary considerably between the southern coastal regions and the extreme North, showing characteristics of both a maritime and a continental climate. The Gulf Stream combined with the moderating effects of the Baltic Sea and numerous inland lakes give an explanation of the unusually warm climate. Winters in southern Finland (when the mean daily temperature remains below 0 °C) are usually about 100 days long, and in the inland the snow typically covers the land from about late November to April, and on the coastal areas such as Helsinki, snow often covers the land from late December to late March. Even in the South, the harshest winter nights can see the temperatures fall to -30 °C although on coastal areas like Helsinki, temperatures below -30 °C are rare. Climatic summers (when mean daily temperature remains above 10 °C) in southern Finland last from about late May to mid-September, and in the inland, the warmest days of July can reach over 35 °C (source: Wikipedia).

Finland has about 168,000 lakes (of area larger than 500 m²) and 179,000 islands. Its largest lake, Saimaa, is the fourth largest in Europe. The greatest concentration of islands is found in the southwest, in the Archipelago Sea between continental Finland and the main island of Åland (source: Wikipedia).

Much of the geography of Finland is a result of the Ice Ages. The glaciers were thicker and lasted longer in Fennoscandia compared with the rest of Europe. Their eroding effects have left the Finnish landscape mostly flat with few hills and fewer mountains. The retreating glaciers have left the land with morainic deposits in formations of eskers. These are ridges of stratified gravel and sand, running northwest to southeast, where the ancient edge of the glacier once lay. Having been compressed under the enormous weight of the glaciers, terrain in Finland is rising due to the post-glacial rebound. The effect is strongest around the Gulf of Bothnia, where land steadily rises about 1 cm per year. As a result, the old sea bottom turns little by little into dry land: the surface area of the country is expanding by about 7 km² per year. Relatively speaking, Finland is rising from the sea (source: Wikipedia).

The landscape is covered mostly by coniferous taiga forests and fens, with little cultivated land. Of the total area 10% is lakes, rivers and ponds, and 78% forest. Moraine or till is the most common type of soil, covered by a thin layer of humus of biological origin. Podzol profile development is seen in most forest soils except where drainage is poor. Gleysols and peat bogs occupy poorly drained areas (source: Wikipedia).

The Finnish climate is suitable for cereal farming only in the southernmost regions, while the northern regions are suitable for animal husbandry (source: Wikipedia)

Existing polders

The Group Polder Development (1982) identified a polder of 6300 ha near Vaasa that was in 1982 under construction.

Reiter (1970 and 1972) describes tests with polder pumping stations. From these documents it can be derived that there are more polders in Finland.

Sundom (web site) describes the polder Söderfjärden that has been developed in a former crater. They also show the pumping station of the polder (Figure 1).



Figure 1. Pumping station of the polder Söderfjärden (Sundom, web site)

Characteristic date of the polders in Finland are shown in Table I.

Proposed polders

No proposed polders have been identified.

References

- Group Polder Development, Department of Civil Engineering, Delft University of Technology, 1982. *Polders of the World. Compendium of polder projects*. Delft, the Netherlands
- Reiter, P.H., 1970. *Tests with horizontal axis propeller pumps at the polder pumping station Kullaanluoma*. National Board of Agriculture (in Finnish).
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- Reiter, P.H., 1983. *Test runs and acceptance tests of polder pumping stations*. In: Proceedings International Symposium ‘Polders of the World’. International Institute for Land Reclamation and Improvement, Wageningen, the Netherlands.
- United Nations, Department of Economic and Social Affairs, Population Division. 2019. *World Population Prospects, medium prognosis. The 2019 revision*. New York, USA.

Website: <https://sundom.fi/en/soderfjarden>

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Table I. General characteristics of existing polders in Finland

Name	Reclamation	Area in ha	Type *)	Latitudes	Longitudes	Elevation in m+MSL	Land use
Polder near Vaasa	±1982	6300	RLL				
Söderfjärden	1927	2300	RLL	63° 00' N	31° 34' E	9	Agriculture, former crater
Kullaanluoma			RLL				
Total							

*) RLL = reclaimed low-lying land; LGS = land gained on the sea; DL = drained lake