# Country Profile: Finland

Country Profile (PDF)

## Country Resources

### Nautical

| Series | Publisher | Scale | Years | Sheets |
|---|---|---|---|---|
| Finland Nautical Charts (All Scales) | TRAFICOM | Varies | 2015 – 2024 | 33 |

### Aeronautical

| Series | Publisher | Scale | Years | Sheets |
|---|---|---|---|---|
| Finland 1:500,000 Scale Aeronautical Charts | FINAVIA | 1:500,000 | 2024 | 8 |
| Sweden 1:500,000 Scale Aeronautical Charts | LFV | 1:500,000 | 2018 | 7 |
| Norway 1:500,000 Scale Aeronautical Charts | AVINOR | 1:500,000 | 2019 | 3 |

### Thematic

| Series | Publisher | Scale | Years | Sheets |
|---|---|---|---|---|
| The World 1:30,000,000 Scale Topographic Map Series 1145 (NGA) | DMA | 1:30,000,000 | | 2 |

## Global Census Archive: GIS Census Data

East View Geospatial has an ongoing effort to add GIS census data to our Global Census Archive program. Please contact us for the status and availability of Finland census resources.

## Global Resources

### Topographic

| Series | Publisher | Scale | Years | Sheets |
|---|---|---|---|---|
| Soviet Military City Plans | VTU GSh | Varies | 1944 – 2003 | 3,020 |
| Soviet Military 1:100,000 Scale Topographic Maps | VTU GSh | 1:100,000 | 1947 – 1999 | 24,897 |
| Soviet Military 1:200,000 Scale Topographic Maps | VTU GSh | 1:200,000 | 1949 – 2009 | 17,799 |
| Soviet Military 1:500,000 Scale Topographic Maps | VTU GSh | 1:500,000 | 1953 – 1998 | 3,093 |

### Nautical

| Series | Publisher | Scale | Years | Sheets |
|---|---|---|---|---|
| NGA Nautical Charts POD Certified (All Scales) | NGA | Varies | 1943 – 2013 | 4,517 |

### Aeronautical

| Series | Publisher | Scale | Years | Sheets |
|---|---|---|---|---|
| Joint Operations Graphic (JOG 1501A) 1:250,000 – Aeronautical | DMA | 1:250,000 | 1958 – 2007 | 4,204 |
| Tactical Pilotage Chart (TPC) 1:500,000 Scale – Aeronautical | DMA | 1:500,000 | 1967 – 2006 | 598 |
| Operational Navigation Chart (ONC) 1:1,000,000 Scale – Aeronautical | DMA | 1:1,000,000 | 1969 – 2001 | 243 |
| Jet Navigation Chart (JNC) 1:2,000,000 Scale – Aeronautical | DMA | 1:2,000,000 | 1971 – 1999 | 117 |

| | | | | |
|---|---|---|---|---|
| Global Navigation and Planning Chart (GNC) 1:5,000,000 Scale – Aeronautical | DMA | 1:5,000,000 | 1981 – 1999 | 27 |

### Geoscientific

| Series | Publisher | Scale | Years | Sheets |
|---|---|---|---|---|
| Soviet Military 1:1,000,000 Scale Topographic Maps | VTU GSh | 1:1,000,000 | 1948 – 1994 | 1,089 |

**Note:** East View Geospatial is continuously sourcing new resources that may not yet be listed in Global Explorer. Please contact us if you have geodata needs beyond what is listed above and we will be happy to discuss available off-the-shelf and custom solutions.

Shop all products in Global Explorer

# Historical Country Mapping Information

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Country Profile (PDF)

### Topographic

The **National Land Survey of Finland (NLS)** (In Finnish, **Maanmittaushallitus**), Helsinki, was founded in 1919, soon after Finland's independence. It is Finland's principal mapping agency, responsible for cadastral mapping as well as topographic survey, and also for the production of a range of thematic maps. **NLS** was reorganized and decentralized in 1994 and further restructuring took place in 1999. It now comprises 13 District Survey Offices, together with five national operational units. The **Satellite Image Center** has been fully privatized and is now **Novosat Ltd**.

A modern mapping program was started after World War II using aerial photogrammetry. High precision geodetic control is provided by the **Finnish Geodetic Institute (Geodettinen Laitos)**, which also carries out research into technical aspects of surveying, GIS and computer cartography. The **Finnish Defence Forces** have also cooperated in the mapping of northern Finland.

The basic scale mapping is 1:20,000 and the 3,750 sheets required to cover the country were not completed until 1975. This basic map, *Peruskartta*, in Finnish, has been continually updated since then. The projection is Gauss–Krüger, International ellipsoid 1924, and the country is divided into four projection zones, each 3° longitude wide. Maps are overprinted with the Finnish national grid coordinate system called KKJ.

The original specification for the 1:20,000 scale sheets differed somewhat between northern and southern Finland. In southern Finland, the map was designed for cadastral purposes and was compiled at 1:10,000 scale and then photo-reduced for publication. It was printed in five colors. In the north, compilation was at the publication scale, giving a somewhat more generalized map, printed in three colors, which did not show property boundaries. These sheets were termed *Topografinen kartta*. The standard map sheets are in a 50 cm × 50 cm (10 km × 10 km) format, with a contour interval of 5 m. The legend is given in Finnish and also in Swedish. New digitally-produced sheets of the 1:20,000 scale map are printed in four colors.

Derived map series were published from the 1950s at scales of 1:50,000 and 1:100,000, originally produced by photo reduction and generalization of the 1:20,000 scale line work. The 1:100,000 scale, a colorful map showing cultivated land in yellow, with forest in green and grazing land white, was started in 1953 and completed in 1984. Complete cover of the country at 1:50,000 scale in 647 sheets was achieved in 1986, and in 1987-88, a new 1:50,000 map specification was prepared, and computerized production of this new series began in 1989. Since 1994, this map has been wholly derived from the Topographic Data System (TDS).

In 1979, a 1:5,000 scale base map was started, using orthophoto images. Today digital orthophotos at this scale are combined with digital vector data from the TDS in a hybrid product. Planimetric maps at scales of 1:500, 1:1,000 and 1:2,000 are produced as required by municipal survey organizations or their production is contracted by the municipal authorities to private consulting companies or to the **NLS**.

Soviet military topographic mapping of Finland is available at the following scales: 1:1,000,000 (8 sheets, complete coverage, published 1980-1989); 1:500,000 (18 sheets, complete coverage, published 1976-1993); 1:200,000 (82 sheets, complete coverage, published 1974-1993); 1:100,000 (220 sheets, complete coverage, published 1972-1999); 1:50,000 (36 sheets, minimal coverage, published 1980-1998) and city (1:10,000) topographic mapping of 11 major cities from Espoo to Tampere published between 1952 and 1989. These products are available in print, digital raster and digital vector GIS formats from **East View Geospatial**.

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## GIS/Vector

Machine processing of map data began at the **NLS** in the 1970s, and a management system for digital map data, FINGIS, was developed and used for updating the basic map. Today Finland is well advanced in the creation of a fully digital mapping system, and the focus of the **NLS** has moved away from the printed map to the provision of digital data. The Topographic Data System (TDS) will incorporate the whole 1:20,000 scale basic map in vectorized digital form. The program was started in 1991. Small scale databases have been constructed at scales of 1:100,000, 1:250,000, 1:500,000, 1:1,000,000, 1:2,000,000 (a Nordic database covering all the Scandinavian countries and including the Faroe Islands and Greenland) and 1:4,500,000. The system also includes 1:20,000 scale raster data, a national roads database, digital elevation data and administrative boundary polygons. There will be an estimated 53 gigabytes of data. The TDS is being used to generate new printed maps (both 1:20,000 and 1:50,000 topographic scales) using automated interactive techniques. Other customized products can be compiled and plotted on demand. The database is also designed to provide digital data in suitably structured formats for use in geographical information systems.

Raster scanned versions of the topographic maps are available on a set of 13 CD-ROMs, each of which contains the mapping of a single province. There are between 300 and 350 map sheets on each disk, including general maps of the province at 1:400,000 and 1:1,000,000 resolution, a general map of Finland at 1:8,000,000, and complete 1:20,000 scale cover of the province. Contour lines and cadastral boundaries are not included for the basic scale mapping, but the other thematic elements are stored as separate files permitting some interactive use of the data.

A detailed National Road Database (NRDB) project commenced in 1992. This database has been created in ARC/INFO and includes all roads which can be driven by car. It has been derived in part from the basic map and also from larger scale mapping where available. It has a positional accuracy of ±3 m. This database is also available on CD-ROM.

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## Nautical

Nautical charts are produced by the **Hydrography and Waterways Department** of the **Finnish Maritime Administration (FMA)** (**Merenkulkuhallitus**). There are series of large scale and special charts of the Finnish coast, and of the numerous lakes and inland waterways. Smaller scale general charts and Decca charts cover the Baltic, Gulf of Bothnia and Gulf of Finland. A series of 1:100,000 scale charts has also been produced in association with the Estonian hydrographic agency.

For recreational boating a number of charts of lakes are published by **Karttakeskus Oy** in cooperation with **FMA**. These are printed on waterproof paper and include information about service points, navigation and mooring locations. Descriptive information is provided on the reverse in Finnish, English and German. For more precise navigational requirements, the charts of the **Hydrography Department's** (Navigation Series T) should be used. Since 1995.

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## Aeronautical

Aeronautical charts of Finland in the ICAO 1:500,000 series are published by the **Civil Aviation Administration**.

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## Geological/Scientific

The **Geological Survey of Finland (GSF)**, (**Geologian Tutkimuskeskus Suomeksi**), Espoo, was founded in 1885, and is a department of the **Ministry of Trade and Industry**. It is responsible for geological, geophysical and geochemical investigations, and for resource inventory. Its broad environmental remit also takes in soils and land use and problems of environmental pollution. Mapping has been carried out since the foundation of the Survey, and includes series of detailed maps of bedrock geology, of quaternary deposits and of geophysical data. The latter are particularly important since only 3-5 percent of bedrock is exposed in Finland, and **GSF** was one of the first organizations to start a systematic airborne geophysical mapping program, in 1951. There is a complete cover of the country in bedrock and quaternary series at 1:400,000 scale. The principal active series are at 1:100,000 scale. A 1:20,000 scale series of surficial deposits (1:50,000 in Lapland) was initiated in 1979 following a collaborative agreement between **GSF**, **NLS** and the **Agricultural Research Center**. About 500 sheets have been produced, but the project was completed in 1995.

Two cooperative projects with the geological surveys of Norway and Sweden have resulted in the production of 1:1,000,000 scale maps of northern and central Fennoscania.

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## Vegetation/Forestry

The forests of Finland have been mapped by **NLS** for the **National Board of Forestry** as part of a digital land cover inventory captured from satellite imagery. The data set has a resolution of 25 m x 25 m and the classification comprises about 50 land cover classes. The data can be provided in rectangular blocks of 1200 km2 or larger.

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## Thematic

Small scale general and thematic maps, road maps, and numerous recreational maps are now published by the **Finnish Map Center** (**Karttakeskus Oy**). Until 1990, this organization was the publications division of the **National Land Survey**, but it now operates as a commercial government enterprise and receives no government funding. It continues both to publish maps for the government mapping agencies, including the geological mapping of **GSF** and nautical charts from the **Finnish Maritime Administration**.

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## Atlas

Geochemical mapping has also been an important element of **GSF's** work, and three volumes of a geochemical atlas have so far been published, with text in both Finnish and English and color maps produced from digital data. In collaboration with the **Finnish Cancer Registry**, **GSF** produced an *Atlas of cancer incidence in Finland 1953–82*, and more recently an atlas of cancer distribution in Poland was produced, using methods developed for geochemical mapping.

Finland prides itself in having produced the world's first national atlas (in 1899), and since then four further editions have appeared, culminating in the fifth edition, which was issued between 1976 and 1993. This work includes over 3,000 thematic maps and diagrams organized into 26 separate folios with closely integrated texts, available also as separate booklets in English and Swedish translation. The standard map scale is 1:8,000,000, but there are also a number of 1:1,000,000 scale thematic maps which are also published separately as wall maps. In 1999, a new, more modest, single-volume 6th edition was published by the **Geographical Society of Finland** with

**Werner Söderström Publishing House (WSOY)** to commemorate the centenary of the publication of the first edition.

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## Cadaster

Cadastral mapping of rural areas is at scales of 1:10,000 or 1:5,000, while in urban areas, scales of 1:500 to 1:2,000 are used. The maps have all recently been digitized, and in 1998 the JAKO cadastral information system was implemented. This permits all cadastral operations to be conducted through a single graphical user interface.

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## Tourist/Reference

The 1:200,000 scale *GT Road map of Finland* originated in 1964 and now covers the country in 19 sheets. It is revised every three years for the southern sheets and every five for the northern. The map is on a Lambert conformal conic projection. It has also been used as a base map for thematic mapping of various kinds, and currently there is an edition showing the forests of the **National Board of Forestry**, and an edition for the Finnish rescue services.

General maps, *Yleiskartta*, are published at scales of 1:400,000 (in six sheets), 1:800,000 and 1:1,600,000. The last two in particular are designed primarily as road maps and are frequently updated. There is also a 1:800,000 scale bicycling map of Finland.

**Karttakeskus** publishes a number of CD-ROM-based digital mapping products, including a road map CD which also includes street maps of towns, road names and route planning software.

Numerous recreational maps have been adapted from the standard topographic maps published by **NLS**. These are described as *Ujlkoilukartta* (in Finnish) or *Friluftskarta* (Swedish), and they generally also have English and German translations of the legend. Information on skiing, hiking, cycling and canoeing routes is overprinted on these maps, together with the location of tourist accommodation, shelters and camping sites. Some have relief shading as well as contours, and scales vary from 1:15,000 to 1:100,000. Recent sheets use WGS84 datum facilitating their use with GPS receivers.

There is only one other major commercial cartographic publisher in Finland. This is **Geodata Oy**, which has published a new 1:250,000 scale series of digitally produced road maps of Finland in 17 sheets. Publications also include a general map of Finland, regional maps of economically important areas and street maps of major towns. The series mapping is also available on CD-ROM, and the street maps in the form of an atlas of towns. Other products include street mapping of Helsinki and a pocket atlas of Finland.

Large scale mapping of towns and cities is carried out or commissioned by municipal authorities, and urban street and tourist maps are also published by these agencies.

A few foreign publishers offer maps of Finland or street maps of Helsinki, including **Kummerley and Frey (K+F)** and **Falk**. Topographic mapping contracts in developing countries are undertaken principally by **FM-International**, formerly **Finnmap Oy**.

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## Census/Demography/Statistics

**Statistics Finland (Tilastokeskus)** has cooperated with **Karttakeskus Oy** in the production of demographic maps and publishes numerous statistical data, much of them in English, in both hard copy and electronic form. The latter include FINREGION, a regional online database of municipal statistics, and FINSERIES, a time series of economic statistics.

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