



GTK

GEODATA AND ONLINE SERVICES

Exploration Finland


- Online services
- Map services
- Interface services
- Spatial data products and geodata –few examples
- Customer services

ONLINE SERVICES

GEO.FI

- Portal to Finnish geoscientific data
- Brings together all of GTK's online services and data products on one site

GTK // Services // Data Sets and Online Services – geo.fi




Data Sets and Online Services – geo.fi


Browse and take advantage of GTK's datasets.

The geo.fi website is a centralised and up-to-date interface service for browsing and downloading geological documents and spatial data products. It also includes an online store for data products. Contribute to Finland's national geodatabase and make full use of the centralised management of the data.


- Energy and Construction
- Geodata Management
- Circular Economy
- Mineral Economics
- Water
- Environment




Finnish spatial data, documents and metadata database service




Map services



Interface services




GTK library



Sample archives and collections

National geological database and smart data



National geological database

HAKKU.GTK.FI

- Includes metadata, spatial data products, reports, maps, photos...
- Majority of the data is free of charge
- Online store for data purchasing

The screenshot shows the Hakku.GTK.FI website. At the top left is the GTK logo, and at the top right is the Hakku logo. Navigation links include 'SIGN IN', 'SIGN UP', 'FRONT PAGE', and 'SUOMEKSI'. A dark blue header bar contains a menu: 'PUBLICATIONS, REPORTS, MAPS AND POSTERS | SPATIAL DATA PRODUCTS | PHOTOS | MAP DRAWINGS | INFO PAGES |'. On the right of this bar is a shopping cart icon labeled 'Shopping Cart 0 pcs'. The main content area is divided into several sections:

- Welcome to the Hakku service!**: A text block explaining the service's scope from the 19th century to the present.
- LATEST**: A blue button above a list of featured items:
 - Glacial features**: Includes a map thumbnail and a 'Read more' link.
 - Bedrock surface 1:1 000 000**: Includes a map thumbnail and a 'Read more' link.
 - Stratum data for superficial deposits**: Includes a thumbnail and a 'Read more' link.
- PUBLICATIONS, REPORTS, MAPS AND POSTERS**: A featured section with a collage of images, a description of the archive, and a 'TO SERVICE' button with social media icons.
- SPATIAL DATA PRODUCTS**: A featured section with a topographic map, a description of the data, and a 'TO SERVICE' button.
- PHOTOS**: A featured section with a collage of geological photos, a description of the image files, and a 'TO SERVICE' button.
- MAP DRAWINGS**: A featured section with a historical map, a description of the old maps, and a 'TO SERVICE' button.

MAP SERVICES

Map Services

GTK's map services include a large amount of observation and measurement data and related interpretations.

Metallic minerals, industrial minerals and ore prospecting

Mineral Deposits and Exploration (MDaE)

MDaE is an online map service covering Finland and showing the locations of known ore and industrial mineral deposits.

[Enter service](#)

Fennoscandian Mineral Deposits application, ore deposits database and metallogenic map

Includes mineral deposits, mines, metallogenic maps as well as geological and geophysical maps from the Fennoscandian Peninsula. It also provides links to downloadable map files, a database and summaries of information about critical minerals.

[Enter service](#)

MPM Online Tool

MPM Online Tool is a web tool for using GTK's spatial data products with the spatial analysis functions of the ArcGIS software family and for assessing possible ore prospecting areas in northern Finland.

[Enter service](#)

Mineral Systems of Finland

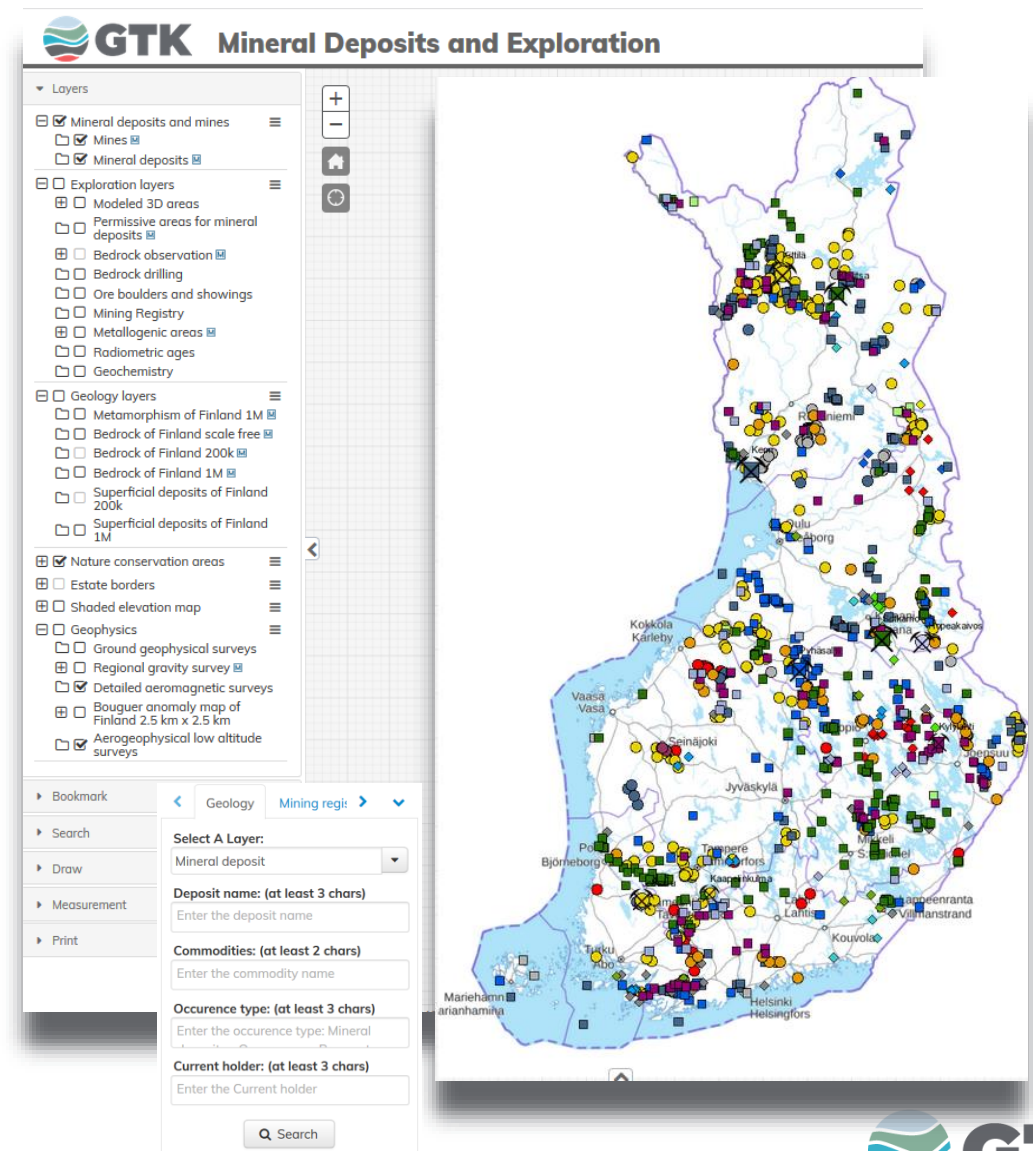
The online service contains systematically organized and maintained data for various types of mineral systems and aims to support identification of new mineral exploration targets in Finland.

[Enter service](#)

- GTK offers for its customers a wide selection of map services for different purposes
- All are maintained on a regular basis

MINERAL DEPOSITS AND EXPLORATION

- Designed for mineral exploration
- Includes information on mineral deposits and mines, exploration data, permit areas and nature conservation areas
- Contains many useful features like search function



Mineral Systems in Finland

This website contains systematically organized and maintained data for various types of mineral systems and aims to support identification of new mineral exploration targets in Finland.

Formation of different types of ore deposits can be connected to transient episodes during the history of large-scale Earth systems. Holistic analysis of earth systems helps to recognize those combinations and hierarchies of geological processes which triggered formation and supported preservation of mineral belts, districts and deposits. In the point of view of mineral exploration, those processes which left mappable footprints in the Earth's crust have primary importance because they directly reveal the preferable settings of mineral belts and districts on regional-scale or vectors-to-ore on deposit-scale.

The sources of energy driving geological processes, as well as the temporal-spatial variation in style of tectonism, magmatism, sedimentation and metamorphism are determined by the time-dependent geodynamic setting and the corresponding evolution of crustal units which can be read out from the present day architecture of the crust.

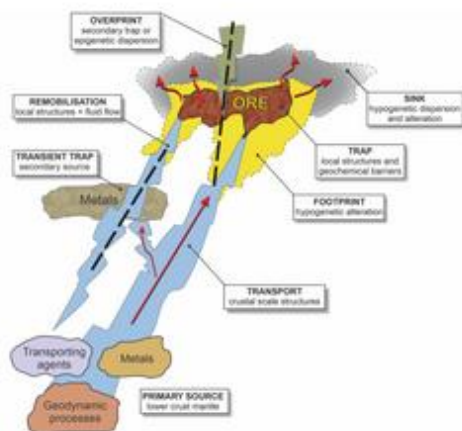
The temporarily and spatially restricted periods of formation of different types of ore deposits are confined by the coincidences of several geological processes operating on different time-scales and from local to regional scales. Therefore the absolute timing of ore formation during the evolution of the crust is one of the most important critical parameters in the evaluation of mineral potential.

The geodynamic evolution also defines the formation and opening up of source regions of metals and their transportation agents, as well as the development of conduits for transportation and structures for concentration of metals. The properties of the corresponding local footprints and traps depend on the chemical and physical interaction between the metal transporting media and local lithology and structure. Ore deposit models support recognition of vectors for targeting at this scale. The post-depositional processes also have to be understood in the point of view of preservation of ore deposits and formation of secondary footprints.

Mineral system models summarizing the knowledge available from mineral belts and mappable parameters of those geological processes which are critical for formation of deposits can be used as conceptual or data-based layers in mineral prospectivity mapping or mineral potential evaluation.

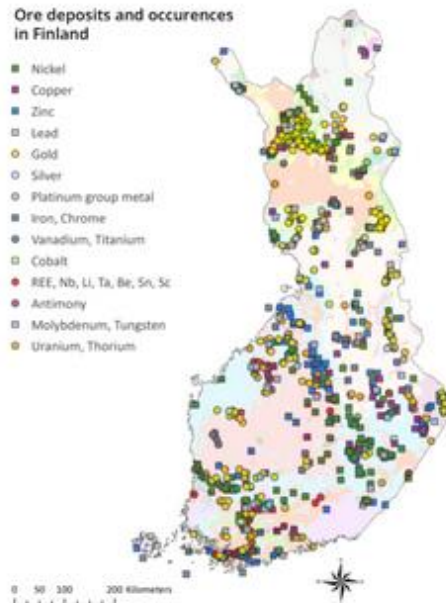
The scale- and time-dependent hierarchy of geological processes and their mappable parameters are organized into modules corresponding the most important types of mineral systems in Finland. Modules contain short descriptions with maps/figures and with links to GTK's databases/maps and services according to the major types of economically most significant ore deposits in Finland.

(Last update: 20.05.2020)



Ore deposits and occurrences in Finland

- Nickel
- Copper
- Zinc
- Lead
- Gold
- Silver
- Platinum group metal
- Iron, Chrome
- Vanadium, Titanium
- Cobalt
- REE, Nb, Li, Ta, Be, Sn, Sc
- Antimony
- Molybdenum, Tungsten
- Uranium, Thorium



MODULES

- 1 Orogenic Gold Mineral Systems

MINERAL SYSTEMS OF FINLAND

- Systematically organized and maintained data for various types of mineral systems in Finland

INTERFACE SERVICES

Geophysics

Map layers

Address for the WMS service: http://gtkdata.gtk.fi/ArcGIS/services/Rajapinnat/GTK_Geofysiikka_WMS/MapServer/WMSServer?

Bedrock

Map layers

Address for the WMS service: http://gtkdata.gtk.fi/arcgis/services/Rajapinnat/GTK_Kalliopera_WMS/MapServer/WMSServer?

Map layers

Address for the WFS service: http://gtkdata.gtk.fi/arcgis/services/Rajapinnat/GTK_Kalliopera_WFS/MapServer/WFSServer?

Rock material resources

Map layers

Address for the WMS service: http://gtkdata.gtk.fi/arcgis/services/Rajapinnat/GTK_Kiviainesvarannot_WMS/MapServer/WMSServer?

Map layers

Address for the WFS service: http://gtkdata.gtk.fi/arcgis/services/Rajapinnat/GTK_Kiviainesvarannot_WFS/MapServer/WFSServer?

Soil

Map layers

Address for the WMS service: http://gtkdata.gtk.fi/arcgis/services/Rajapinnat/GTK_Maopera_WMS/MapServer/WMSServer?

Map layers

Address for the WFS service: http://gtkdata.gtk.fi/arcgis/services/Rajapinnat/GTK_Maopera_WFS/MapServer/WFSServer?

Ground surveys

Map layers

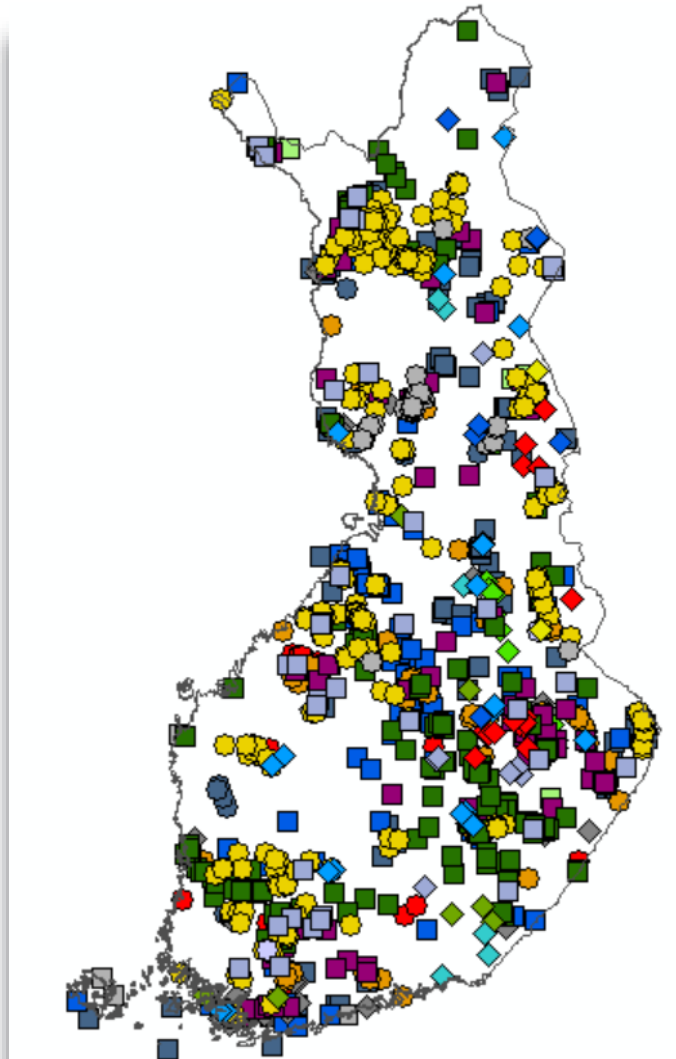
Address for the WMS service: http://gtkdata.gtk.fi/arcgis/services/Rajapinnat/GTK_Pohjatutkimukset_WMS/MapServer/WMSServer?

- Connect directly to GTK's server with spatial data software, select and download data
- Use of GTK's interface services is free of charge, no need to create an account
- User must agree to terms and conditions of the service

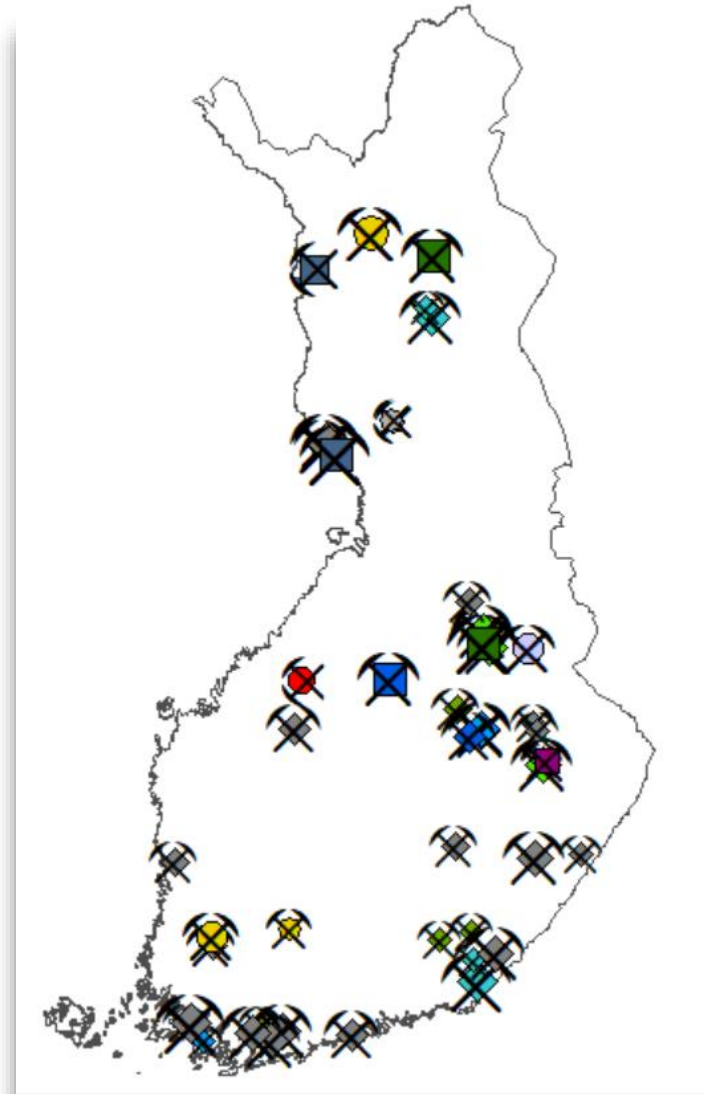
SPATIAL DATA PRODUCTS AND GEODATA, FEW EXAMPLES

MINERAL DEPOSITS AND MINES

- Mineral deposits
- All mineral deposits
- Nickel
- Copper
- Zinc
- Lead
- Gold
- Silver
- Platinum group metal
- Iron, Chrome
- Vanadium, Titanium
- Cobalt
- REE, Nb, Li, Ta, Be, Sn, Sc
- Antimony
- Molybdenum, Tungsten
- Graphite
- Uranium, Thorium
- Calcite, Dolomite, Marble, Wollastonite
- Apatite
- Sulphur
- Talc
- Kyanite, Sillimanite, Kaolin, Feldspar, Quartz
- Material for rock wool, Asbestos
- Diamond
- Semi-precious gemstones

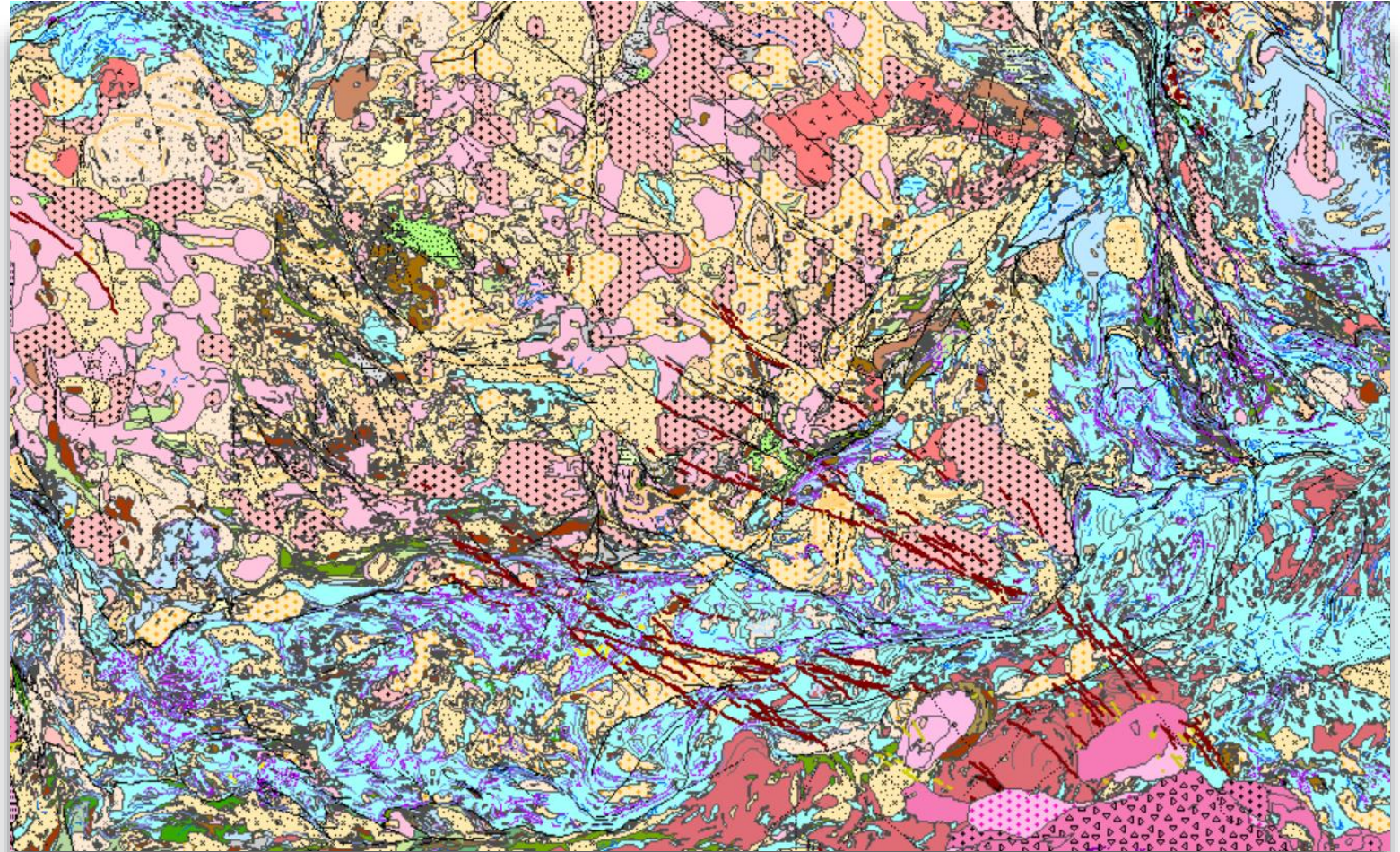


- Mines
- Metallic mines
 - Active mines
 - Chromium
 - Copper
 - Gold
 - Nickel
 - Silver
 - Zinc
 - Closed mines
 - Historic mines
- Under development
 - Iron
 - Lithium
 - PGE
 - Titanium/Vanadium
- Industrial mineral mines
 - Active mines
 - Apatite
 - Calcite
 - Dolomite
 - Feldspar/Quartz
 - Material for rock wool
 - Talc
 - Semi-precious gemstones
 - Closed mines
 - Historic mines
 - Under development

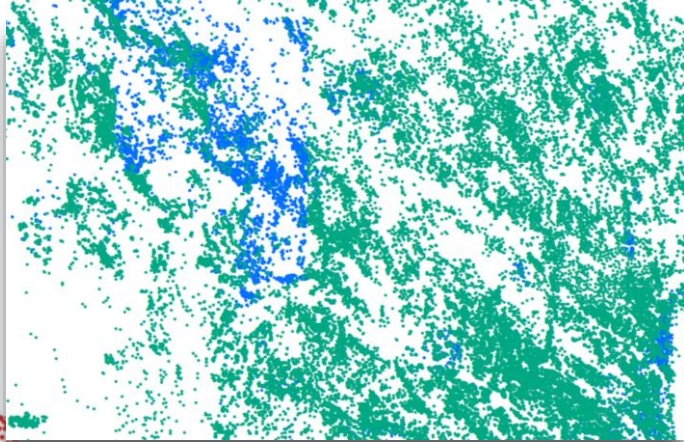
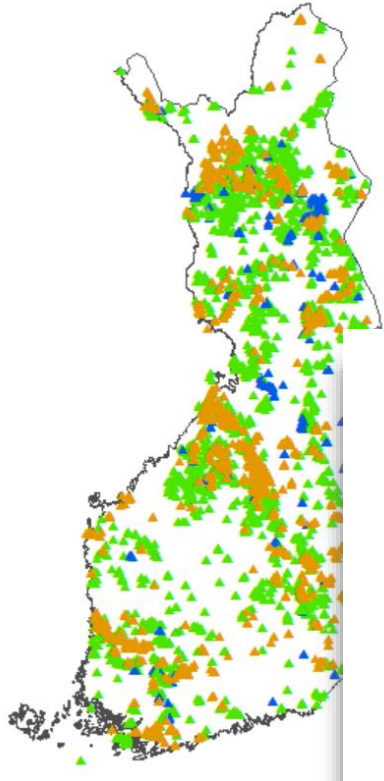


BEDROCK OF FINLAND

- Scale-free
- 1:200 000
- 1:1000 000
- Black shales
- Dykes
- Structural interpretation

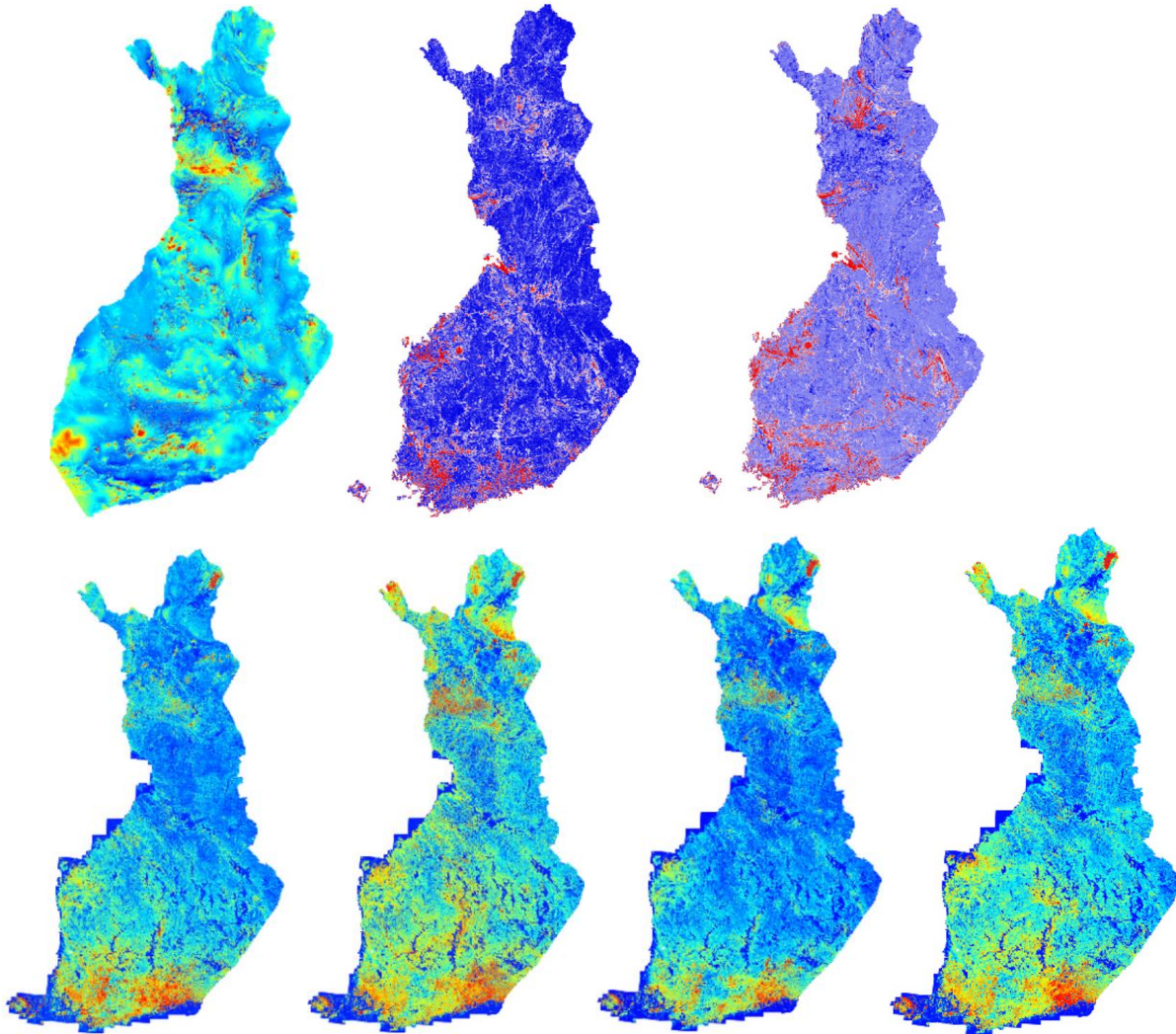


BEDROCK DRILLING AND OBSERVATIONS



- Information on 34000 drill holes including collar, survey, lithology, analysis data
- Information on 666 000 bedrock observation points including lithology, structures, samples, analysis data
- Rock geochemical data of Finland with 6500 analysed samples
- Archived thin and polished sections includes 129 000 records

AEROGEOPHYSICAL SURVEYS

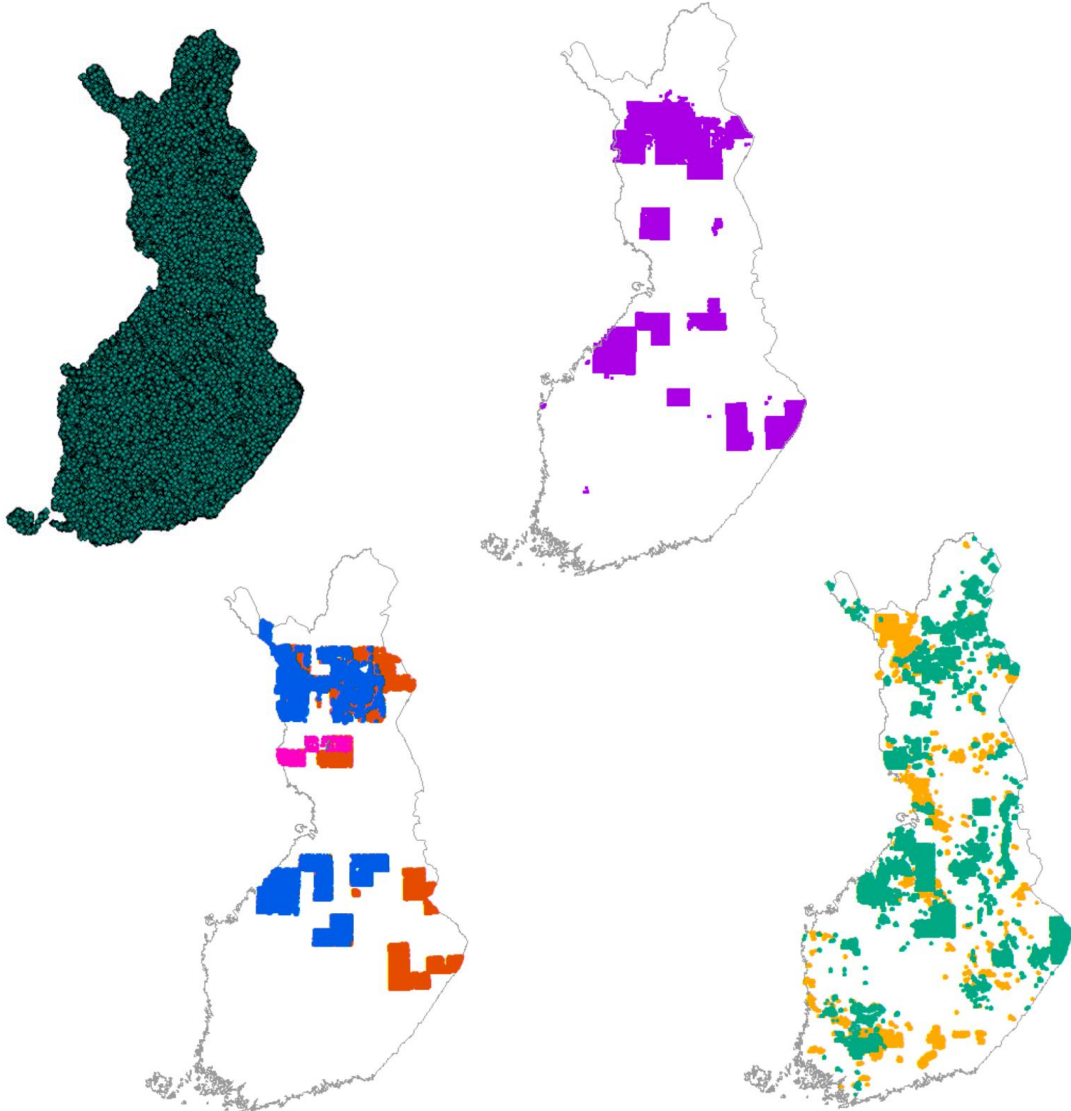


- Aeromagnetic anomaly map
- Aeroelectromagnetic imaginary component map
- Aeroelectromagnetic real component map
- Aeroelectromagnetic apparent resistivity map
- Aeroradiometric potassium map
- Aeroradiometric thorium map
- Aeroradiometric uranium map
- Aeroradiometric total count map

GROUND GEOPHYSICAL SURVEYS

- Magnetic
- Slingram
- VLF, VLF-R
- Maxmin
- Mise a-la-masse
- Induced polarization (IP), IP-12
- Self potential (SP)
- Gravimetric

GEOCHEMISTRY



- Regional till geochemistry with over 82 000 samples
- Targeting till geochemistry with 385 000 samples
- Regional stream sediment geochemistry
- Detailed till geochemistry with 847 000 samples
- Analytical powders and fine fractions available for some parts

CUSTOMER SERVICES

EXPERT SERVICES

- GTK offers expert services covering data management and analysis
 - Data management
 - *Data models, databases etc.*
 - *Online services*
 - Data analysis
 - *Prospectivity mapping*
 - *Training*

GEODATA CUSTOMER SERVICES

- Data product catalog with pricing details available online:
 - <https://www.gtk.fi/en/the-price-list-for-digital-data-products/>
- Licensing options for geodata:
 - http://tupa.gtk.fi/paikkatieto/lisenssi/gtk_peruslisenssi_grundlicens_basic_licence_1.pdf
 - http://tupa.gtk.fi/paikkatieto/lisenssi/gtk_cc40_nimea_lisenssi_erkan_nande_licens_attribution_licence.pdf

CONTACT US

- Our customer service is happy to help you in all questions and feedback regarding data sets or online services at:
 - geodata@gtk.fi
- If you are interested to hear more about GTK's data management services, contact Information Solutions -unit
 - niina.ahtonen@gtk.fi



GTK

THANK YOU

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