oGIIR
Improvement of Spatial Data Sets

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Finnish Geospatial Research Institute FGI, National Land Survey of Finland

Geoinformatiikan tutkimuspäivä 2018 – Helsinki, Finland

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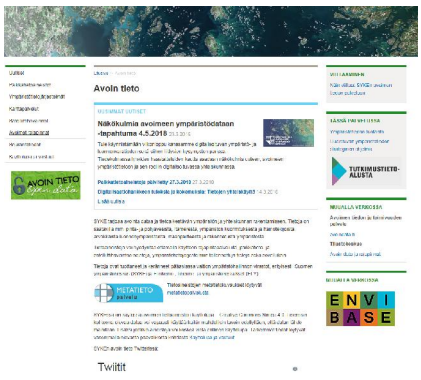
SYKE INTEGRATES TO OGIIR BY

1. SYKE's open data, metadata and research data portals
2. Providing Core data sets for the HPC-environment (including land use/cover and bathymetry data)
3. Providing data for cPouta/ArcGIS environment (10 key data sets currently)
4. Providing data for the PalTuli service (320 data sets currently)



http://www.syke.fi/avointieto;
http://metatieto.ymparisto.fi:8080/geoportal ;
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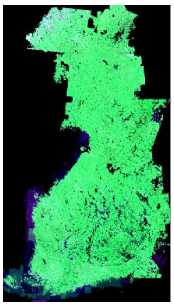
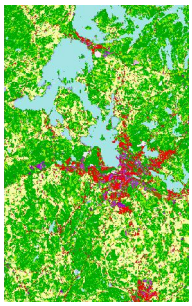
SYKE

CREATION OF ENHANCED DATA SETS TO SUPPORT SCIENTIFIC RESEARCH IN SYKE





SYKE provides data for the oGIIR GeoCubes Finland (Corine)

Describe best practices for using oGIIR geospatial data in environmental models

Develop version history management and download services for SYKE's key geospatial data sets

SYKE

oGIIR / GTK / metadata

- Updating process of metadata

(mainly Finnish > Finnish and English)

Käyttötarkoitus:	1:250 000 happamien sulfaattimaiden aineisto soveltuu käytettäväksi yleismittakaavaisessa maankäytön suunnittelussa, vesienhoidon suunnittelun ja toimenpideohjelmien laadinnassa ja toteutuksessa, sekä pintavesien tilan seurannassa ja happamoitumista ja metallikuormitusta ehkäisevässä työssä. Lisäksi aineistoa voidaan hyödyntää maa- ja metsätaloudessa, tieteellisessä ja soveltavassa tutkimuksessa sekä mm. pohdittaessa toimenpiteitä happamien sulfaattimaiden aiheuttamien haittojen vähentämiseksi ja ehkäisemiseksi. Kartta-aineiston (aluetasojen) käyttömittakaava on 1:100 000 – 1:250 000. Aineisto ei sovellu yksityiskohtaisten, esimerkiksi tilakohtaisten suojelu / kunnostustoimenpiteiden määrittämiseen. Aineiston perusteella voidaan kohdentaa yksityiskohtaisempia tutkimuksia.

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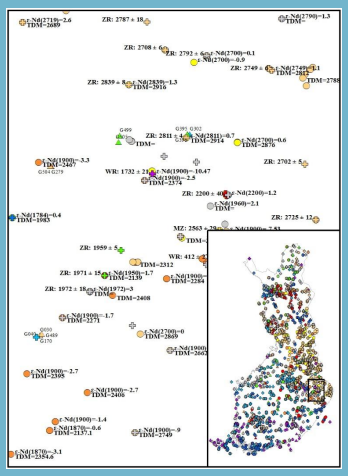
GTK gtk.fi

oGIIR / GTK / Updated products

- Isotope data of Finnish bedrock
- Purpose:

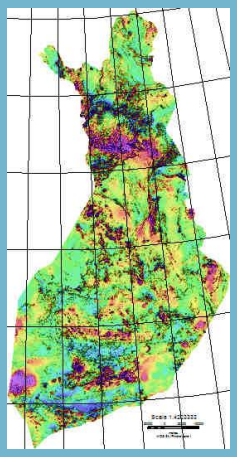
The database can be used in geological research.



oGIIR / GTK / Products to be updated

- High altitude aeromagnetic data of Finland
- Purpose:

Anomaly values are mainly of lithospheric origin and can be used for regional bedrock surveys and ore exploration.

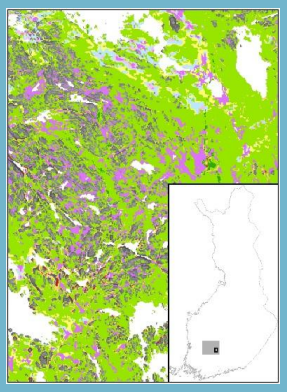


oGIIR / GTK / New products

- Construction conditions of superficial deposits
  - Two new areas to be added in 2019 (now 7)
- Purpose:

The construction conditions of superficial deposits dataset can be used as an aid in land use planning in provincial and zoning plans.

The dataset can be used to locate the difficult areas in respect to construction.

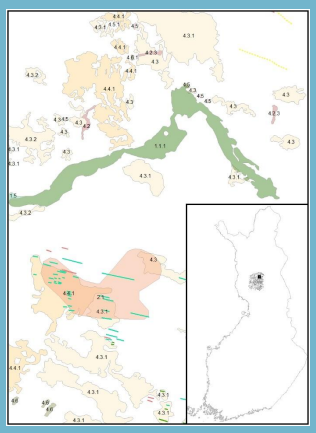


GTK
gtk.fi

oGIIR / GTK / New products

- Glacial features
  - Coverage expands 2018/2019
- Purpose:

The dataset can be used in scientific and applied studies. The data can be utilized for studying and making inventories of raw materials such as minerals, groundwater and aggregates for planning land use and construction, agriculture and forestry, and environmental management in general.



GTK
gtk.fi

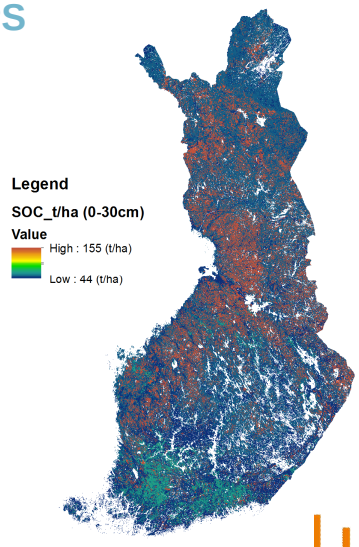
LUKE IMPROVES SOIL DATABASE AND OPENS HISTORICAL NATIONAL FOREST INVENTORY MAPS

1) Improving the Finnish soil database

- Soil Organic Carbon –grid: t/ha, in upper layer of the soil (0-30 cm)
- Soil Texture: Percentages of sand, clay, silt and OC in the upper layer of the soil (t/ha, 0-30 cm) as a 100 m x 100 m grids (produced) and as a 10 m X 10 m grids (work ongoing)

2) Opening of the historical multi-source national forest inventory (NFI) maps

- All the NFI maps are openly available, from 1990 (VMI 8)



Soil Organic Carbon map

Luke
LUONNONVARAKESKUS

NLS / FGI work on new data sets for oGIIR

- At NLS, there are several development initiatives for new data sets, including Kansallinen Maastotietokanta (KMTK) and Paikkatietoalusta (PTA)
- At FGI, in oGIIR we have focus in developing high resolution one meter DEM/DSM, based on the national laser scanning data

oGIIR

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National high resolution one meter DEM/DSM

- Digital elevation model (DEM) in one meter resolution for ground elevation
  - Creation of consistent elevation surfaces for the water bodies is especially challenging
  - Work in progress, first release during Fall 2018
- Digital surface model (DSM) in one meter resolution
  - Consistent top-surface model
  - Work will be started once one meter DEM completed

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Digital elevation model (DEM) in one meter resolution for ground elevation

- DEM is generated from the NLS aerial laser scanning data
- Surfaces of water bodies require special processing
- Additional mask (raster) for water bodies
  - Constant height for lakes
  - Monotonous descent downstream for streams

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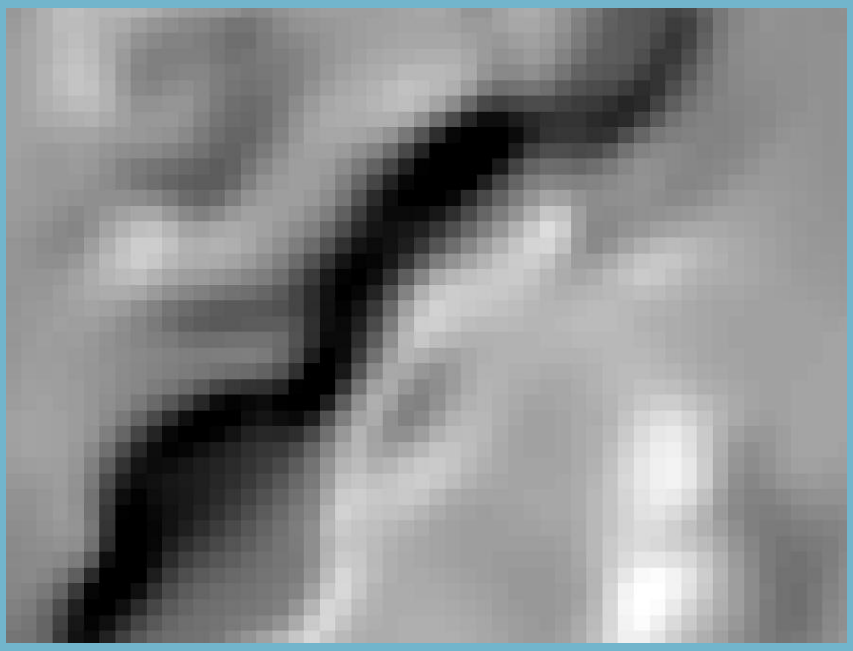

DEM
10 m resolution

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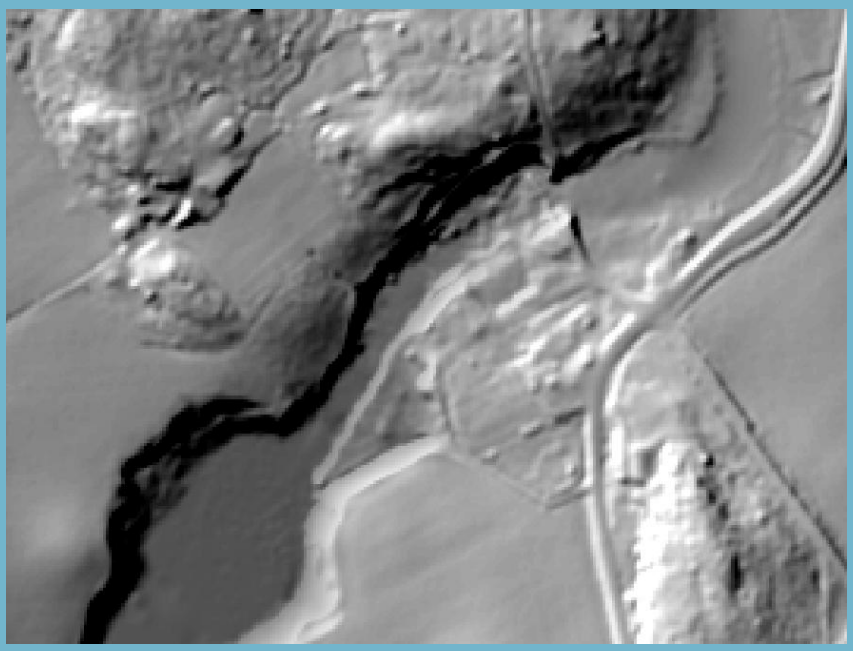

DEM
2 m resolution

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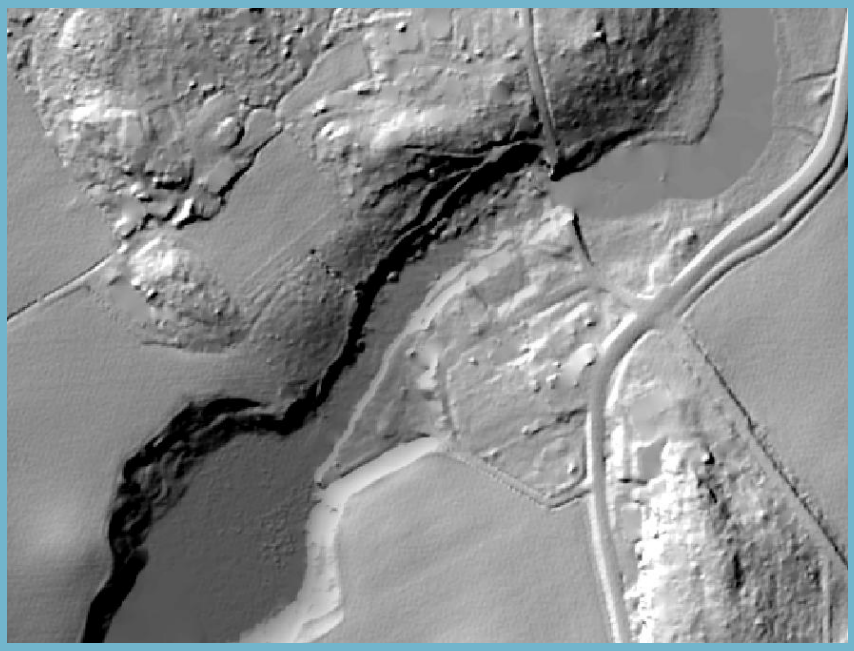

DEM
1 m resolution

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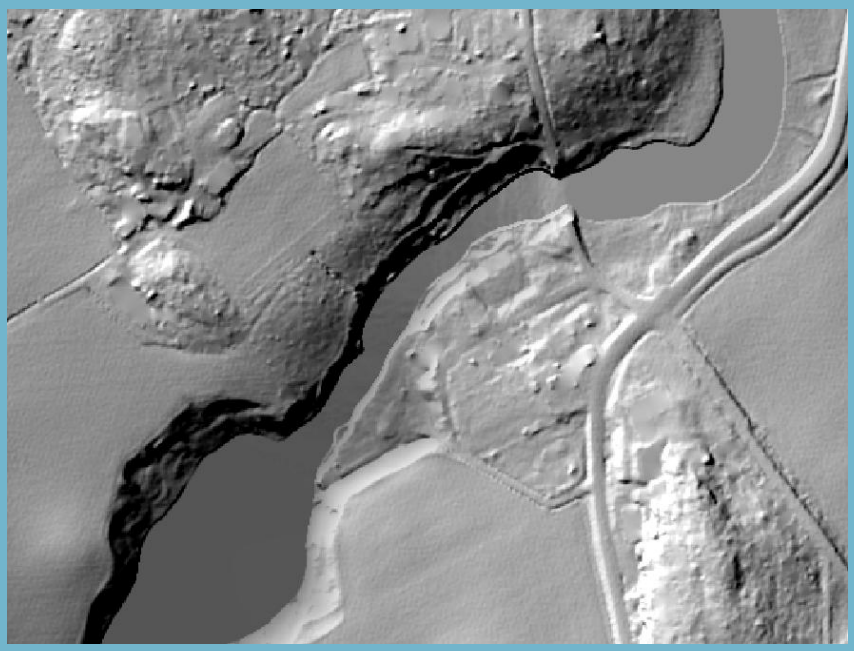

DEM
1 m resolution
with improved
water mask

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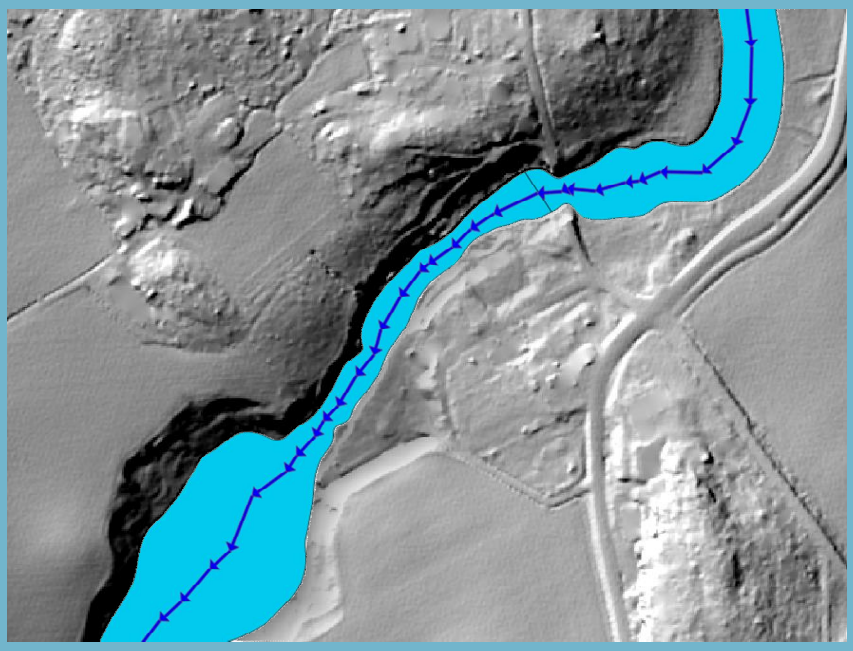

Water mask creation:

- Skeletonize stream polygons
- Determine flow directions
- Adjust elevations on the path
- Rasterize path and extend inside the polygon

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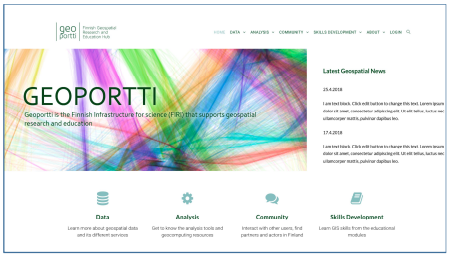
GEOPORTTI

- geoportti.fi is an integrating web-portal functioning as a hub for various resources on geospatial research and education
- Planned to act as a cooperation platform for all partied in geospatial research and education
- First release planned to be opened before the end of year 2018



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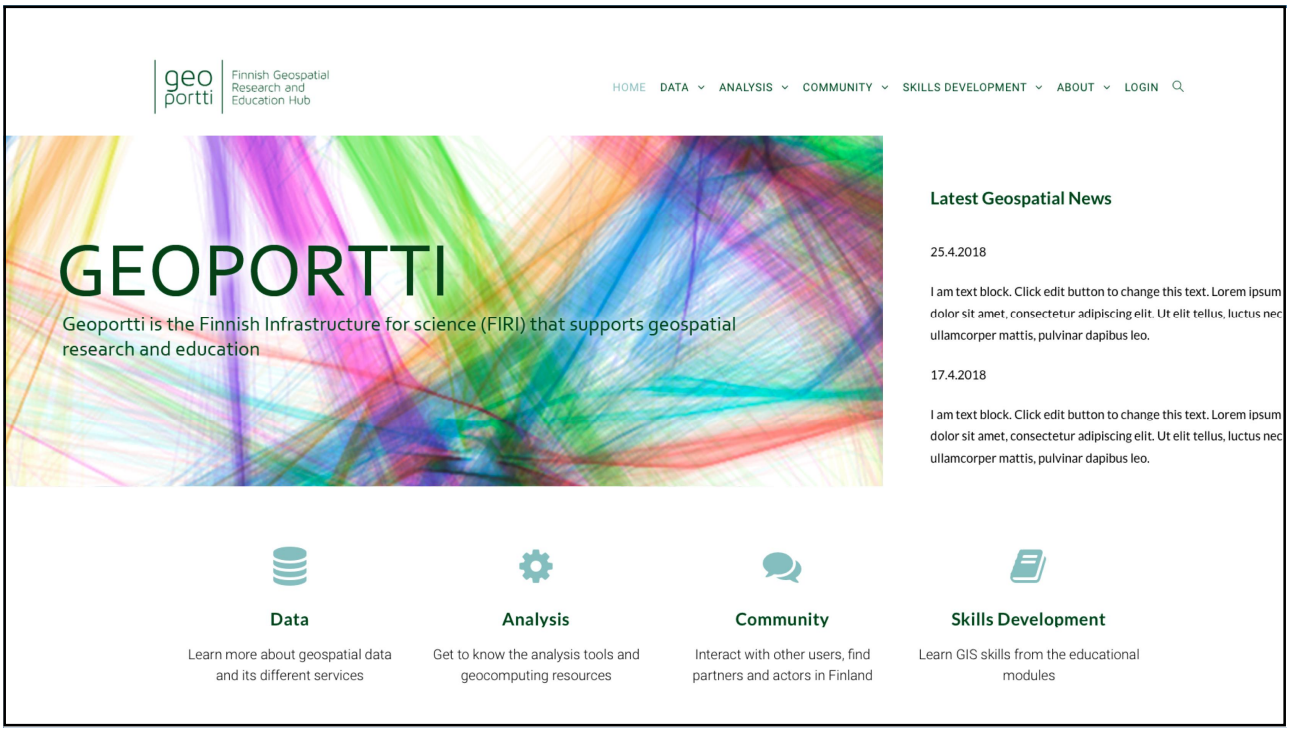
geo portti
Finnish Geospatial Research and Education Hub
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GEOPORTTI
Geoportti is the Finnish Infrastructure for science (FIRI) that supports geospatial research and education
Latest Geospatial News
25.4.2018
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17.4.2018
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Data
Learn more about geospatial data and its different services
Analysis
Get to know the analysis tools and geocomputing resources
Community
Interact with other users, find partners and actors in Finland
Skills Development
Learn GIS skills from the educational modules