Maa- ja metsätalousvaliokunnan kokous 07.02.2023

E 128/2022 vp Valtioneuvoston selvitys: Ennakkovaikuttaminen: EU:n maaperän terveyslaki

Luonnonvarakeskus

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Johdanto

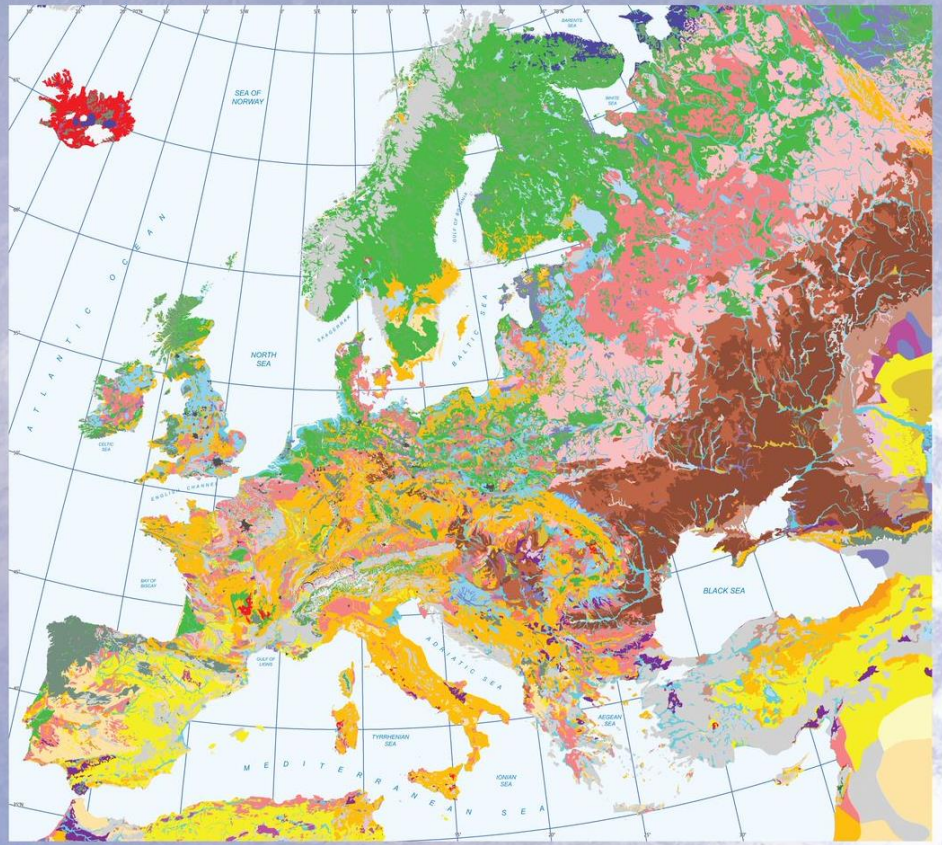
- Maaperällä ja sen kestävällä käytöllä olennainen merkitys
    - luonnon monimuotoisuuden
    - hiilineutraalisuustavoitteiden
    - vesienhoidon kannalta
- Maaperä on luonnonvara johon perustuu maa- ja metsätalousbiomassojen tuotanto
- EU:n maaperästrategia on tärkeä askel, jotta maaperänsuojelu voitaisiin saattaa samalle tasolle vesien, ilman ja merien suojelun kanssa





THE MAJOR SOIL TYPES OF EUROPE

Supporting the European Union's Thematic Strategy for Soil Protection



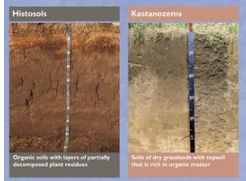




































What is soil?

Soil is composed of mineral particles, organic matter, water, air and living organisms. It is an extremely complex, variable and living medium. Soils are the result of six main factors: parent material (rocks and sediments), climate, position in the landscape, vegetation, living creatures, time and the effect of people. The patterns shown on the map reflect variations in the intensity of the various soil forming factors from one region to another and explain why there are so many different types of soils in Europe. From the photographs on the chart, it is clear that soils have distinct colours which are due to the varying proportions of organic and mineral matter. If the soil is rich in organic matter then the soil is dark and vice versa. If the soil is rich in a specific mineral, such as iron oxide (red) or calcium carbonate (white), then the soil will reflect that colour.

Soil functions

Soil is defined as the uppermost layer of the Earth's crust and is the interface between the ground, air and water. Soil performs many vital functions: food and other biomass production, storage, filtration and transformation of many substances including water, carbon, nitrogen. Soil has a role as a habitat and gene pool, serves as a platform for human activities, landscape and heritage and acts as a provider of raw materials. Given the slow rate of soil forming processes, soil must be considered as a non-renewable resource and highly susceptible to land degradation processes. Given the life-critical, socio-economic and environmental importance of soil functions, the European Commission has adopted a Soil Thematic Strategy with the objective to protect soils across the EU.

http://ec.europa.eu/environment/soil/

The Soil Map of Europe

The Soil Map of Europe shown in the centre of this poster is derived from the 1:1,000,000 scale Soil Geographical Database of Eurasia. The database is the result of a collaborative project involving all the European Union Member States and neighbouring countries through participation in the European Commission Joint Research Centre's European Soil Bureau Network (ESBN). The map shows a simplified representation of the diversity and geographical variability of the soil cover across Europe. The underlying database has been processed to extract the most dominant soil type for a particular unit of landscape. Each colour represents a specific type of soil (i.e. WRB Reference Group), examples of which are presented on this poster.

For more information on this map and how to find our more information about the soils of your area, please visit the JRC SOIL Action web site at:

http://eusoils.jrc.ec.europa.eu/

WRB Reference Soil Groups

The World Reference Base for Soil Resources (WRB) uses objective criteria derived from field observations and laboratory analysis to systematically classify different soil types into one of thirty two Reference Group with specific characteristics denoted through the use of prefixes and suffixes. The WRB is meant to serves as a common denominator through which national soil classification systems can be compared and correlated.

http://www.fao.org/ag/agl/agll/wrb/

Jones, R., Thomasson, J., Hiltbrunner, E., Spaargaren, O. and Jones, R.J.A., 2010. Maps and topic of Europe. European Commission Joint Research Centre. Published by the European Union Publications Office, Luxembourg.

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The authors are grateful for all contributions and suggestions received in the production of the Soil Map of Europe and this poster. The cover photo of the Luvisol profile on page one is from Erika Michel-Kuehn from the Cryosol profile which was taken by Stanislav Kozlov. Poster designed and produced by Lowell Johns Ltd (UK) www.lowelljohns.com

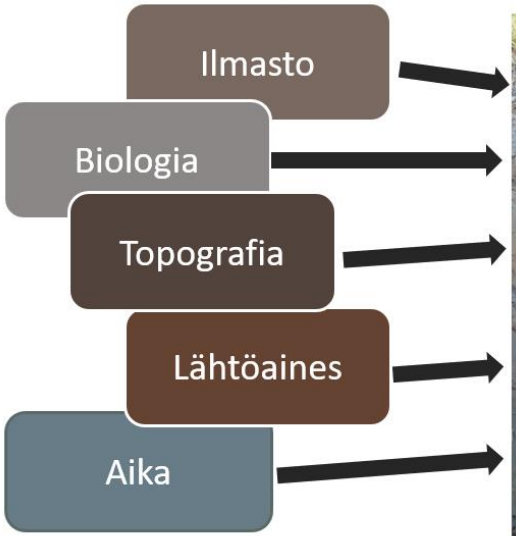
THE JOINT RESEARCH CENTRE

The mission of the JRC is to provide customer-driven scientific and technical support for the conception, development, implementation and monitoring of EU policies.

As a service of the European Commission, the JRC functions as a reference centre of science and technology for the Union. Close to the policy-making process, it serves the common interest of the Member States, while being independent of special interests, whether private or national.

SOIL Action
Land Management and Natural Hazards Unit
Institute for Environment and Sustainability
Joint Research Centre
European Commission
Via Fermi
21027 Ispra (VA)
Italy

Ympäristötekijät ja ihmisen toiminta vaikuttavat maaperän muodostumiseen



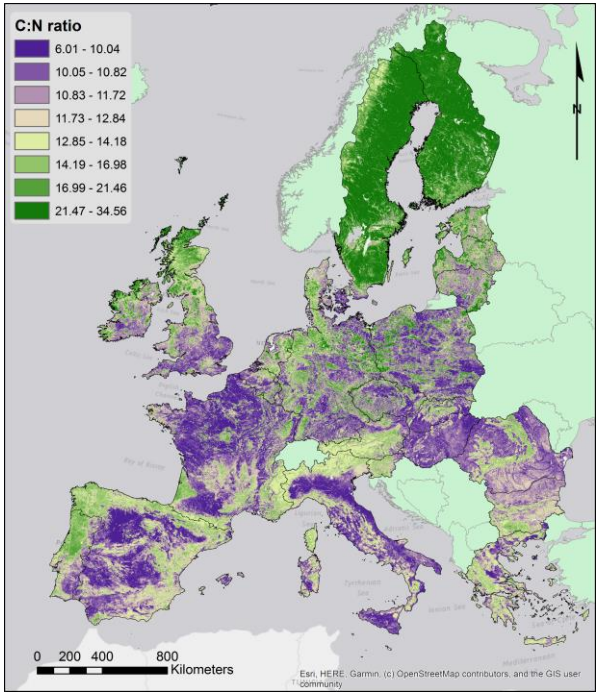






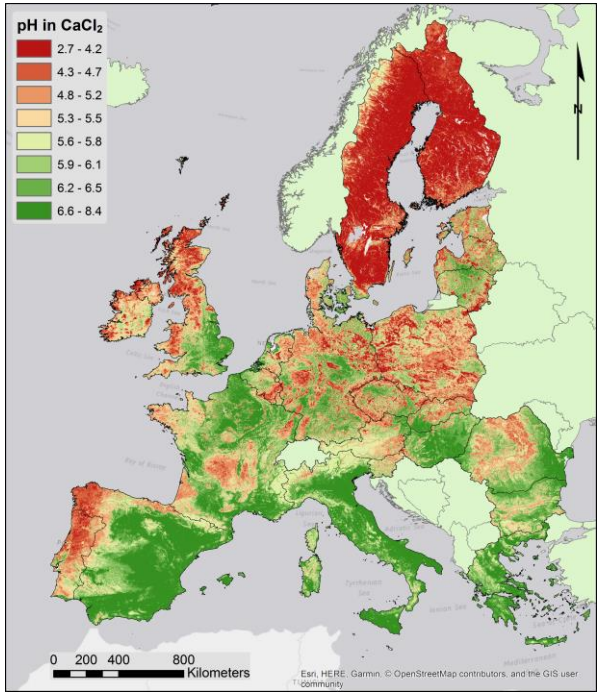
Maaperän ominaisuudet vaihtelevat Euroopassa suuresti

LUCAS: Land Use and Coverage Area frame Survey



https://esdac.jrc.ec.europa.eu/public_path/CN_v2.png

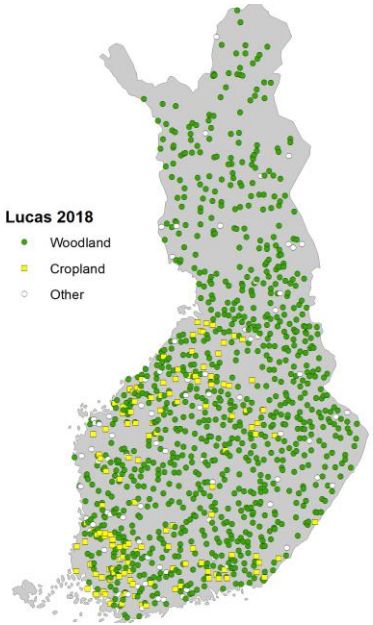
European Soil Data Centre (ESDAC), esdac.jrc.ec.europa.eu, European Commission, Joint Research Centre



https://esdac.jrc.ec.europa.eu/public_path/pH_in_CaCl2.png

Seurantojen menetelmien yhtenäistäminen:
LUCAS
Kansalliset (Valse)

Suomessa käytettävissä olevat seurannat



Kuva: Jaakko Heikkinen

LUCAS-seuranta

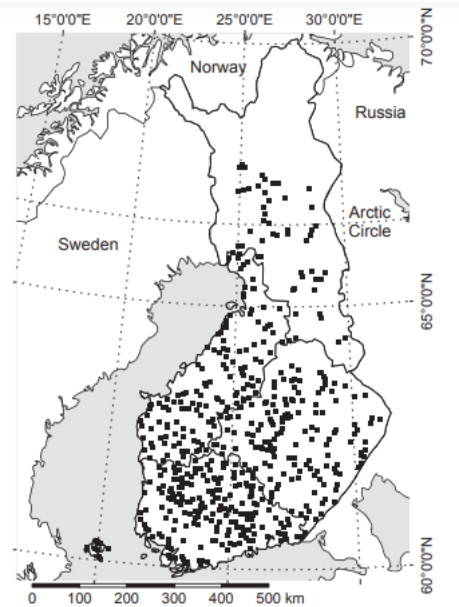
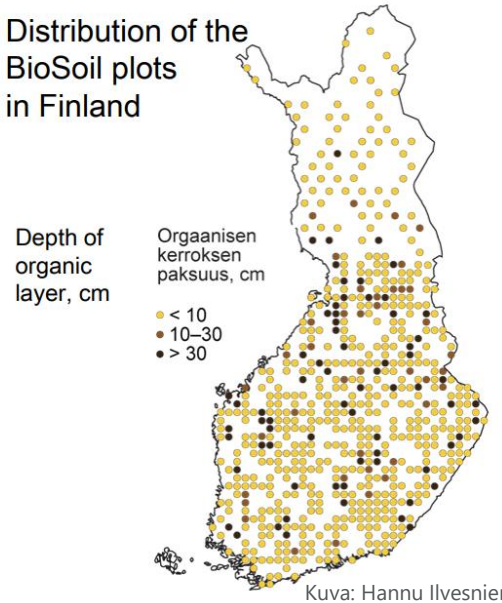


Fig. 1 Arable soil monitoring network of Finland in 2009 and the regional division (north, east, west, and south) used in this study.

VALSE-seuranta



Kuva: Hannu Ilvesniemi

Biosoil 2006-2007 (VMI-koealat)

Koko Suomelle tuotettu turvemaiden hiilivarastokartat (kuvassa) sekä ravinteisuusluokkien paikkatietoaineisto (MaaTi-hanke, GTK & Luke)

Suoallaskohtainen

maaperän hiilivarasto – **paikkatietoaineisto (2,3 milj. ha)**



Valtakunnallinen

turvemaiden maaperän hiilivarasto - **paikkatietoaineisto (8,9 milj. ha).**



Tiivistelmä

- Maaperän paikalliset ominaisuudet on huomioitava
- Luken näkemyksen mukaan maaperän terveyttä kuvaavien indikaattorien valinta on huomattava haaste johtuen luonnontilaisenkin maaperän ominaisuuksien suurista vaihteluväleistä (menetelmäerot maiden välillä)
- Monet kemialliset indikaattorit ovat olleet pitkään käytössä, mutta monimuotoisuuteen liittyvistä on vähemmän kokemusta
- Hiilen säilyttäminen sekä turve- että kivennäismaissa on tärkeää
    - CAP-ohjelman lisäksi on tarjottava lisäkeinoja parantaa maaperänhoitoa
- Suomen osalta keskeistä metsämaan suuri osuus
- Turvemaiden merkitys maa- ja metsätaloudessa.

Kiitos!

Luke
LUONNONVARAKESKUS