

Restructuration of topographic Finnish data, LC/LU

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15.11.2017

EursoSDR, Land use/land cover products:
challenges and opportunities



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Finnish topographic database today

- The most detailed and up-to-date nation wide general topographic information of Finland.
- First version of the *database* was generated by digitizing paper maps in 1990.
- Maintenance processes today are
 - 1) Periodical updating
 - Based on aerial photography and stereo collision
 - Intervals 5-10 years
 - 2) Continuous updating
 - Transportation networks and buildings only.
 - Mainly based on official information and clues from various sources from other authorities.

LU/LC in topographic database

- Land use and land cover feature classes are part of the content and maintained by periodical updating process.
- Majority of these classes represent land cover.
- Land use classes are surveyed for two reasons
 - 1) Generalization, example *park* or *cemetery*.
 - 2) Land use prohibits land cover to be seen, example *dump*.
- LU/LC classes are utilized among other data sources by Finnish Environment Institute in order to provide *Corine land cover* data of Finland.
- Together, land use and cover polygons cover less than 50 % of the area.



akumpu

Erkkilä

Luoto

Kk.talo

Järvelä

Salmela

Viikinoja

Ojala

Suomela

Urh.

Kirkonkylä

Yrjänä

HAILUOTO
KARLÖ

Kitinr

Tuulimylly
Museo

Koulu

Kirkonpaikka

Lepistö

Hahto

Kesti

816

Kirkko

Kalaja

Ayräs

Henttu

Hahdonnokka

antala

Lintutorni

Lintutorni

Kirkonkarit

Luonnonsuojelualue

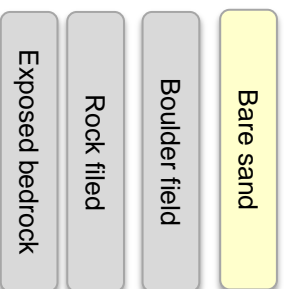
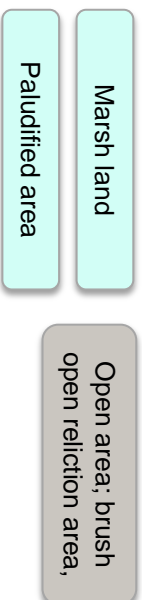
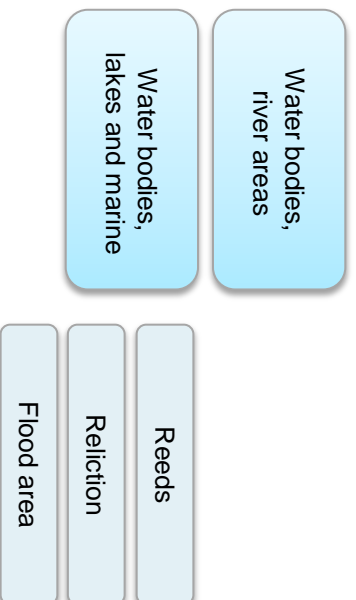
Future user requirements

- A User study in 2015
 - GIS expert interviews
 - Webropol study for customers
- Serie of workshops 2016-2017
 - Buildings and other constructions, 2 events
 - Traffic network, 2 events
 - Terrain (including LC/LU), 2 events
 - Security sector
- Serie of meetings with Finnish Environment Institute and Finnish Forest centre.

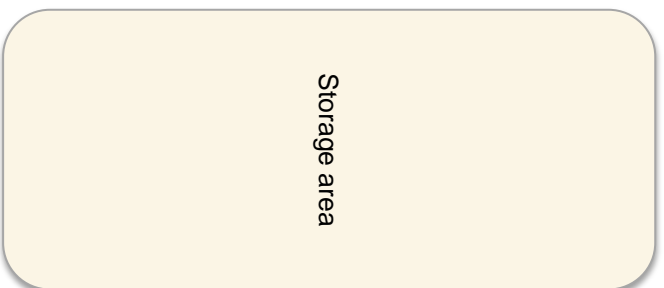
Results

- Customers would like to have 100 % LC/LU cover. No priority, which classification.
 - Forest is needed as polygon feature.
- Finnish Environment Institute would like to have as detailed and updated data as possible for production of Corine land cover and other data products.
- Subclasses were suggested for several LU and LC classes; grass lands, storage areas, traffic areas, sport- and leisure areas.
- Version control and detailed metadata.
- Digital surface model (grid)

Land cover



Land use



~ Urban area

Terrain 1

Terrain 2

Land cover

Water bodies,
river areas

Water bodies,
lakes and marine

Reliction

Open reliction area,

Open area

Brush

Marsh land

Paludified area

Bare sand

Boulder field

Rock filled

Exposed bedrock

Forested area
-Main tree specie
-Development
class

Meadow lands

Agricultural areas

Sport and leisure
facilities

Green urban areas

Cemetery

Forested area
-Main tree specie
-Development
class

Land use

Building area

Dump site

Earth fill

Open mine

Mineral extraction
site

Port area

Airport

Road and rail
networks and
associated land

Storage area

~ Urban area

Terrain

Terrain 2

Challenges

- Modelling
 - Wetlands classification \neq Corine
 - Tidal phenomena not strong in Baltic sea.
 - Post-glacial rebound is ongoing process.
- Process
 - Data is generated by several methods using several sources.
 - Nationwide field survey is no more option.
 - Marsh land \leftrightarrow Paludified area. Definition is based on thickness of the peat layer.

Thank you!

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