

GMES: European Continental Mapping & Monitoring

Core Land Monitoring Services

SCERIN-1 meeting

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European Topic Centre for Spatial information and Analysis, ETC/SIA

- CORINE initiated 1985
- 1990 – 2000 – 2006 – 2012
- **44 classes**
- changes since 2000
- MMU: 25 / 10 ha

**ARTIFICIAL SURFACES****URBAN FABRIC**

- 111 Continuous urban fabric
- 112 Discontinuous urban fabric

INDUSTRIAL, COMMERCIAL AND TRANSPORT UNITS

- 121 Industrial, commercial and public units
- 122 Road and rail networks and associated land
- 123 Port areas
- 124 Airport

MINES, DUMPS AND CONSTRUCTION SITES

- 131 Mineral extraction sites
- 132 Dump sites
- 133 Construction sites

ARTIFICIAL NON-AGRICULTURAL VEGETATED AREAS

- 141 Green urban areas
- 142 Sport and leisure facilities

AGRICULTURAL AREAS**ARABLE LAND**

- 211 Non-irrigated arable land

PERMANENT CROPS

- 221 Vineyards
- 222 Fruit trees and berries plantations

PASTURES

- 231 Pastures

HETEROGENEOUS AGRICULTURAL AREAS

- 242 Complex cultivation patterns
- 243 Land principally occupied by agriculture, with significant areas of natural vegetation

FOREST AND SEMINATURAL AREA**FORESTS**

- 311 Broad-leaved forest
- 312 Coniferous forest
- 313 Mixed forest

SCRUBS AND/OR HERBACEOUS VEGETATION

- 321 Natural grassland
- 322 Moors and heathland
- 324 Transitional woodland-scrub

OPEN SPACES WITH LITTLE OR NO VEGETATION

- 331 Beaches, dunes, sand
- 332 Bare rock
- 333 Sparsely vegetated areas
- 334 Burnt areas
- 335 Glaciers and perpetual snow

WETLANDS**INLAND WETLANDS**

- 411 Inland marshes
- 412 Peat bogs

COASTAL WETLANDS

- 421 Salt marshes
- 423 Intertidal flats

WATER BODIES**INLAND WATERS**

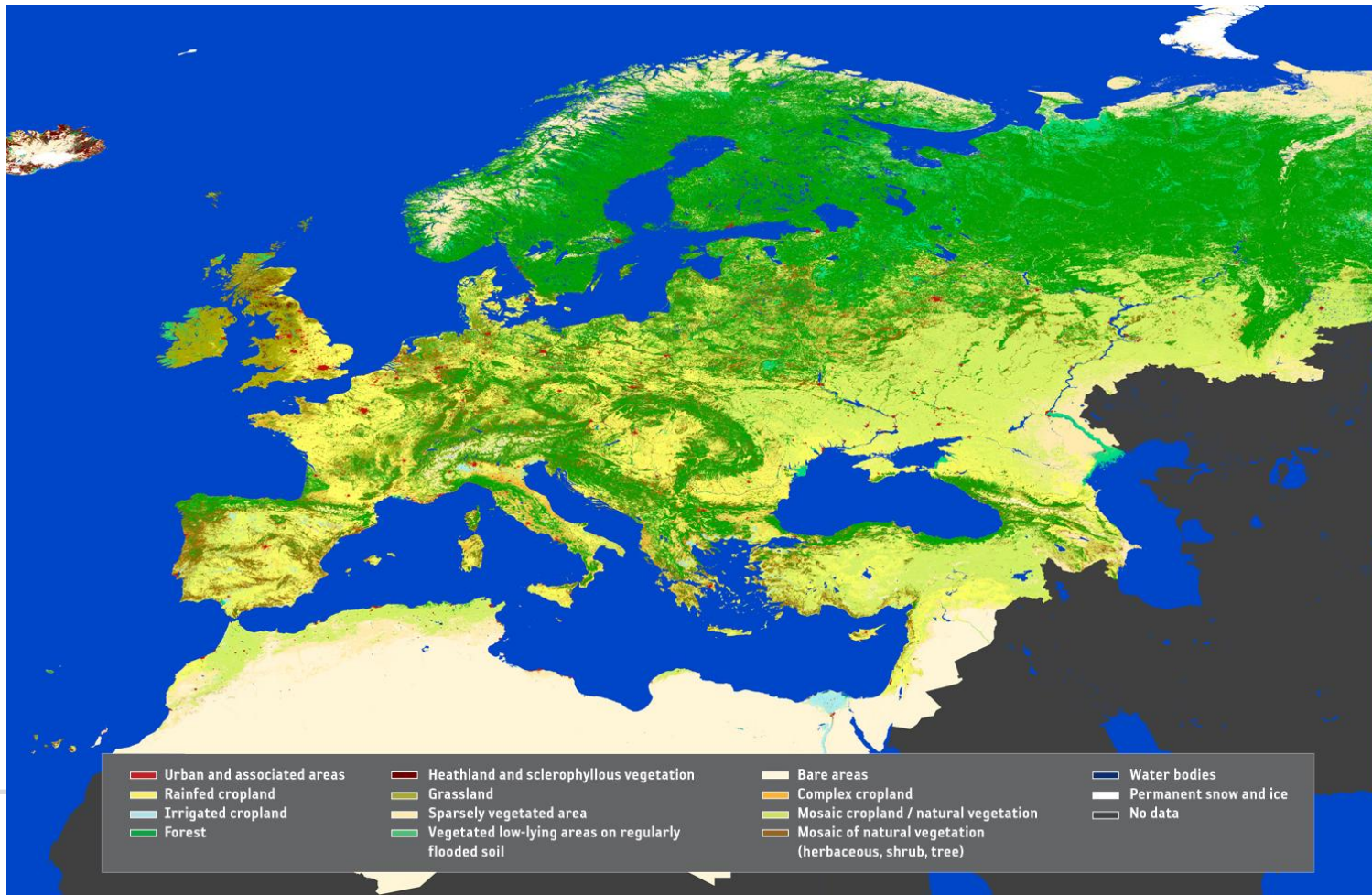
- 511 Water courses
- 512 Water bodies

MARINE WATERS

- 521 Coastal lagoons
- 522 Estuaries
- 523 Sea and ocean

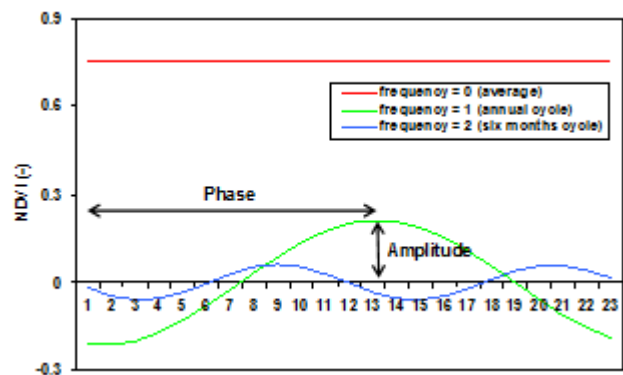
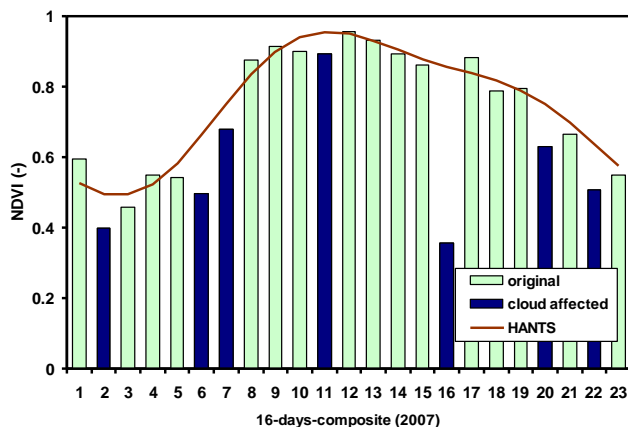
Source: EEA

- GlobCORINE = utilized ClobCover methodology
- Envisat MERIS 300 m



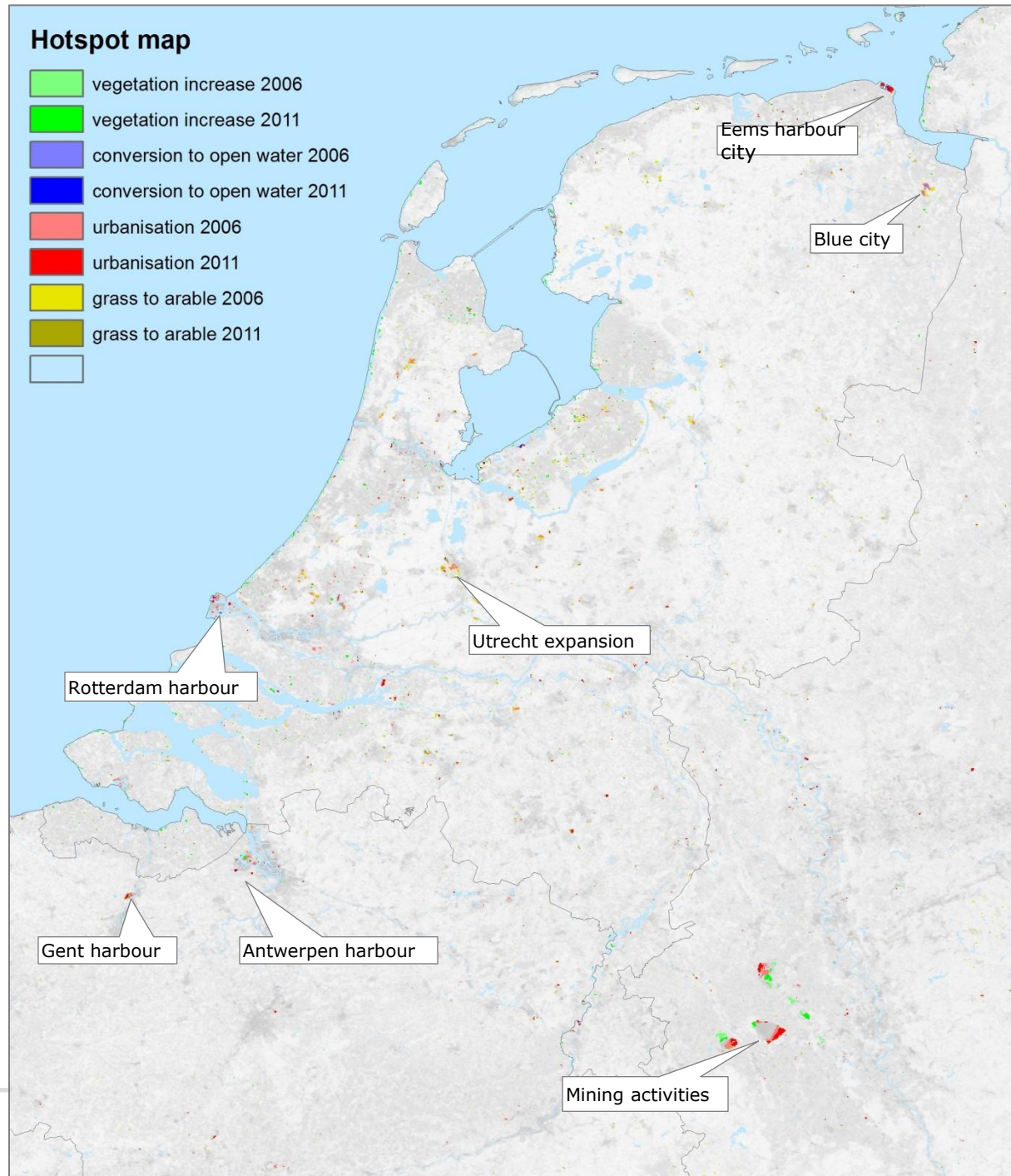
HANTS – medium spatial resolution, high temporal

- CORINE-light
- **Change detection:** need to have an annual update on land cover changes.



Source:
EEA,
ETC/SIA

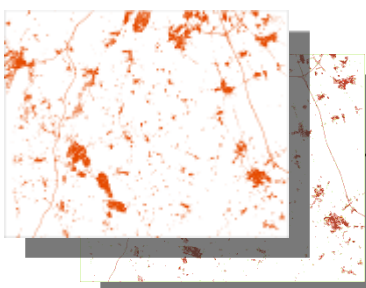
■ HANTS changes



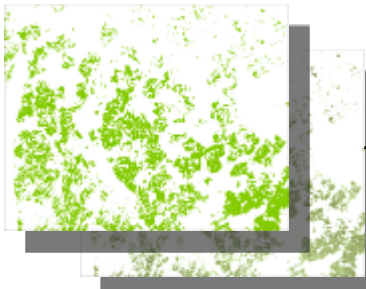
Source:
EEA,
ETC/SIA
(Alterra)

High resolution layers (HRL)

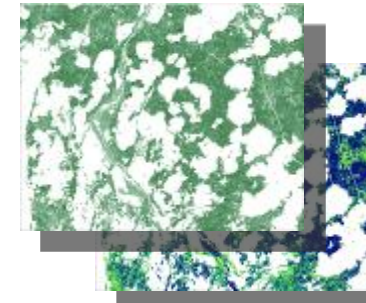
Combination of selected HR layers by a GIS model approach
(Example from Alpine test site)



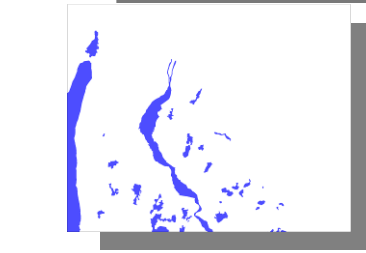
Sealed Area /
Imperviousness



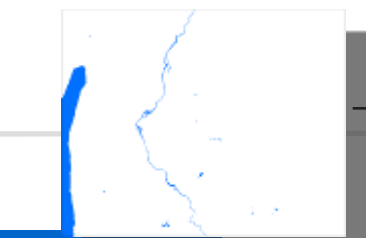
Vegetation Intensity /
Grassland Indicator



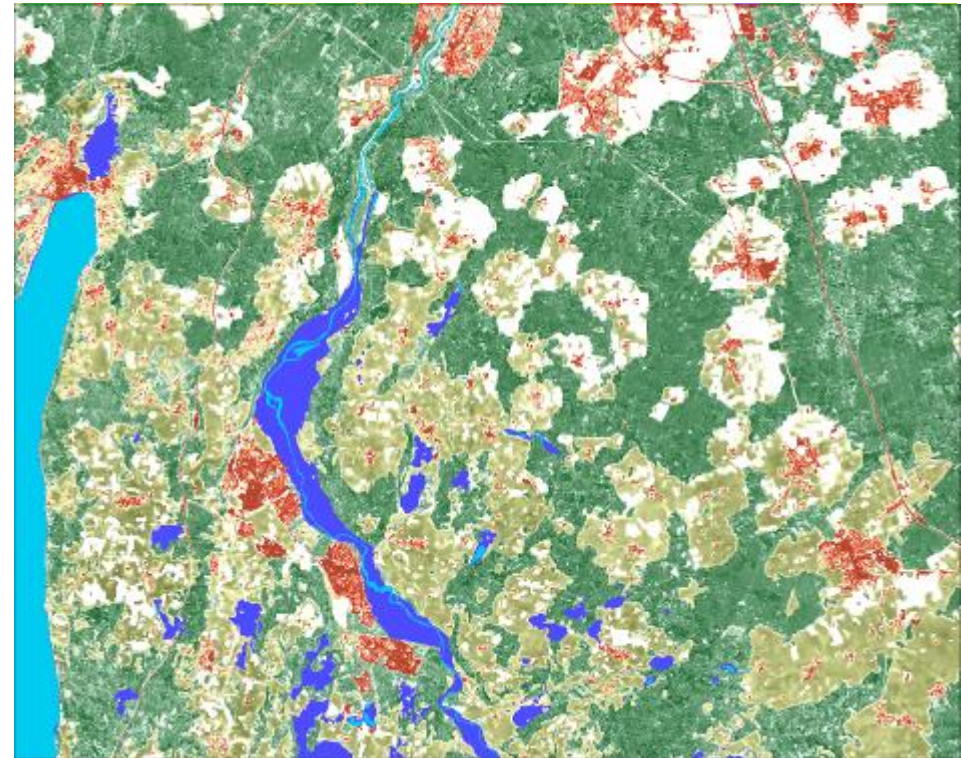
Forest Crown
Cover Density /
Forest Types



Wetlands



Water



Legend

-  Degree of Imperviousness (in %)
-  Vegetation Intensity Indicator
-  Forest Crown Cover Density (in %)
-  Wetlands
-  Water
-  Other (e.g. Agriculture)

Source: FP7 Geoland-2



Source:
ESA SLF
project

SLF characterised using following measures:

- **Primary edges** - describing general landscape heterogeneity (overall edge stock)
- **Edge typology** - thematic characterisation of spatial (contextual) and temporal (stable, change, variation) properties of the edges
- **Edge densities** - heterogeneity indices in spatial and temporal domain at aggregated level (1km grid)

gmes
observing the earth



- ESA
- GMES**
- OBSERVING THE EARTH

+ About GMES

- ESA's Sentinel satellites

- Overview
- Sentinel-1
- Sentinel-2
- Sentinel-3
- Sentinels-4/-5

+ Contributing Missions

+ Ground Segment infrastructure

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OVERVIEW



ESA is developing five new missions called Sentinels specifically for the operational needs of the GMES programme.

The Sentinel missions are based on a constellation of two satellites to fulfil revisit and coverage requirements, providing robust datasets for GMES Services.

The Sentinels will be launched from 2013. These

Data access

- [GMES Space Component Data Access](#)

More information

- [GMES Space Component schedule](#)

Related links

- [European Commission GMES site](#)
- [Eumetsat](#)

Thanks for your attention!