Copernicus
Land Monitoring Service

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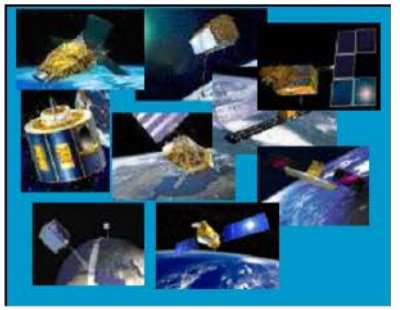
European Environment Agency

Fachworkshop: Die Herausforderung: Deutschland Monitoring
Nationales Forum fuer Fernerkundung und Copernicus 2015, 3-5 November, Berlin

European Commission | Copernicus Europe's eyes on Earth | European Environment Agency



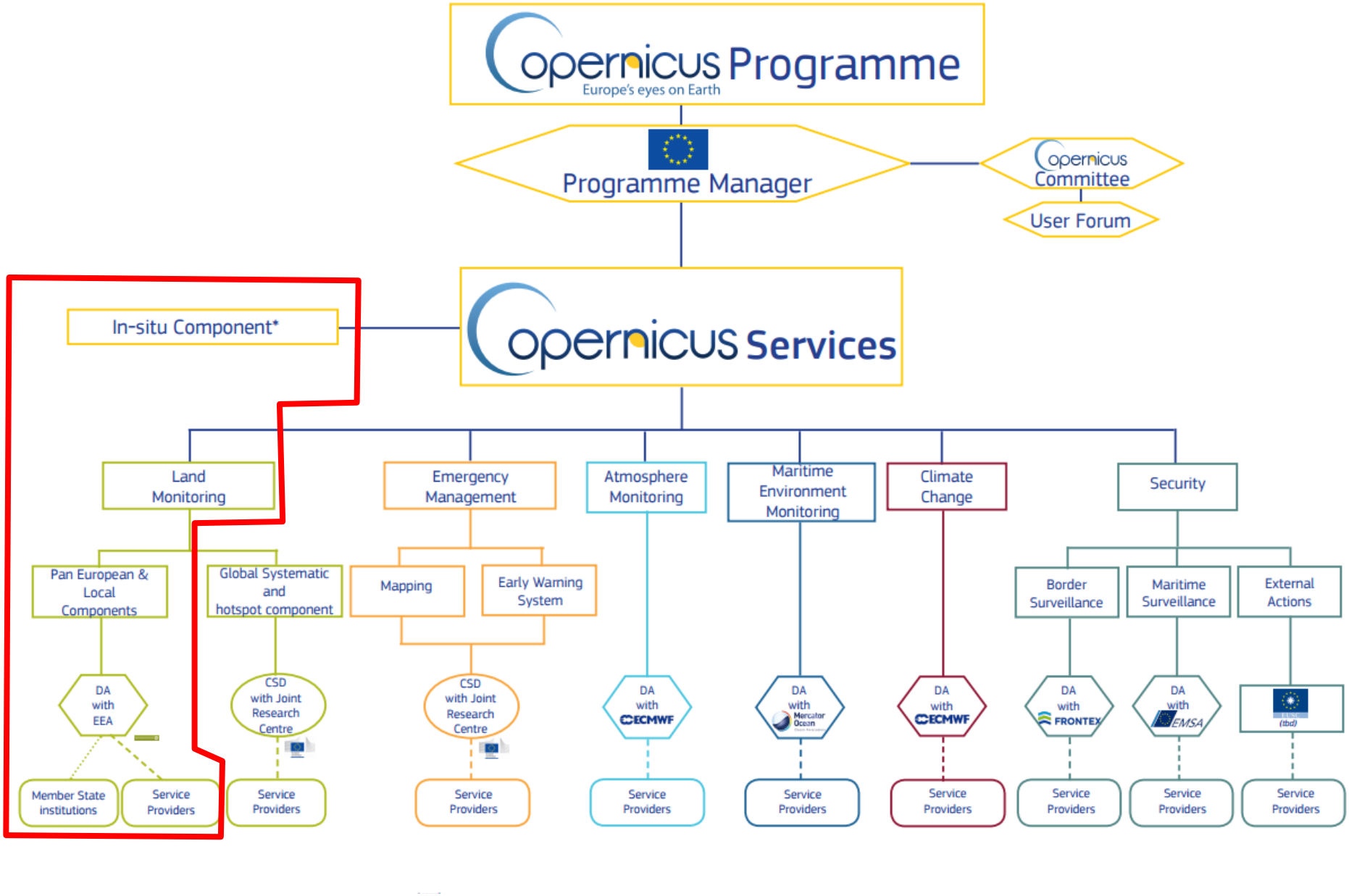
contributing missions

6 services use Earth Observation data to make…

in-situ

…added-value products

Copernicus @ EEA

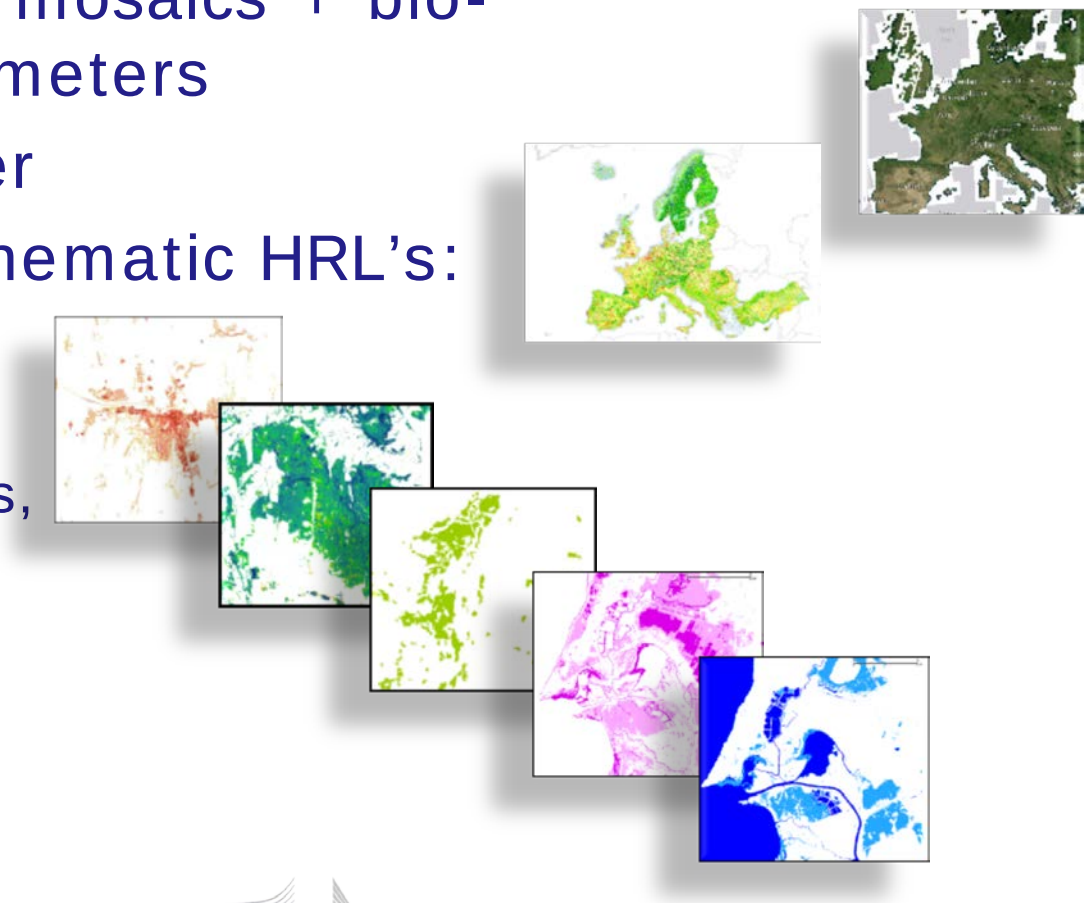


“Take-home message” aus Sicht des Landdienstes

- Chance: In Deutschland **aktiv Nutzungsmöglichkeiten** für Produkte aus dem Copernicus Landdienst **erkunden** und **dokumentieren**:
  - Neue “**hotspot” Produkte** (riparian zones, urban atlas, Natura 2000)
  - **Synergistische** und **kreative Nutzung** zusammen **mit bestehenden Nationalen Daten**: added value und downstream services
  - Nutzung von Produkten für die es **keine direkte nationale Alternative** gibt
  - Möglichkeit **Europäische Produkte** (semi-) automatisch **aus nationalen Datenbanken** zu generieren (bottom up), z.B. CLC aus LBM-DE
  - Nutzung für den internationalen **Vergleich**, oder für regionale, aber **Landesüberschreitende Projekte**
- **Chance die zukuenftige Entwicklung des Landdienstes mit zu beeinflussen**! Dazu: kritisches aber konstruktives **feedback**!!

Overview Pan-European component

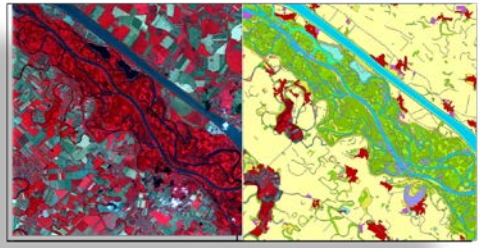
- HR + VHR image mosaics + bio-geophysical parameters
- Corine Land Cover
- Production of 5 thematic HRL's:
  - imperviousness,
  - forests,
  - Natural grasslands,
  - wet lands,
  - water bodies



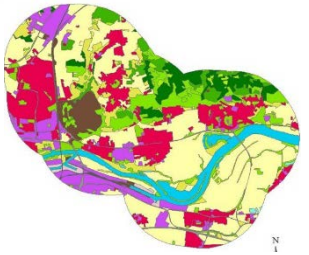
Overview Local component

- Urban Atlas (UA)

- Riparian zones (biodiversity)



- Natura2000 (grassland rich sites)

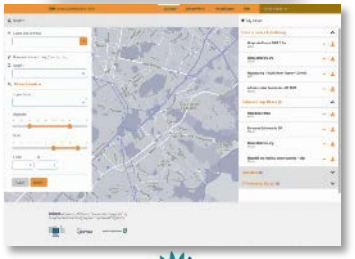


Overview cross service in-situ coordination

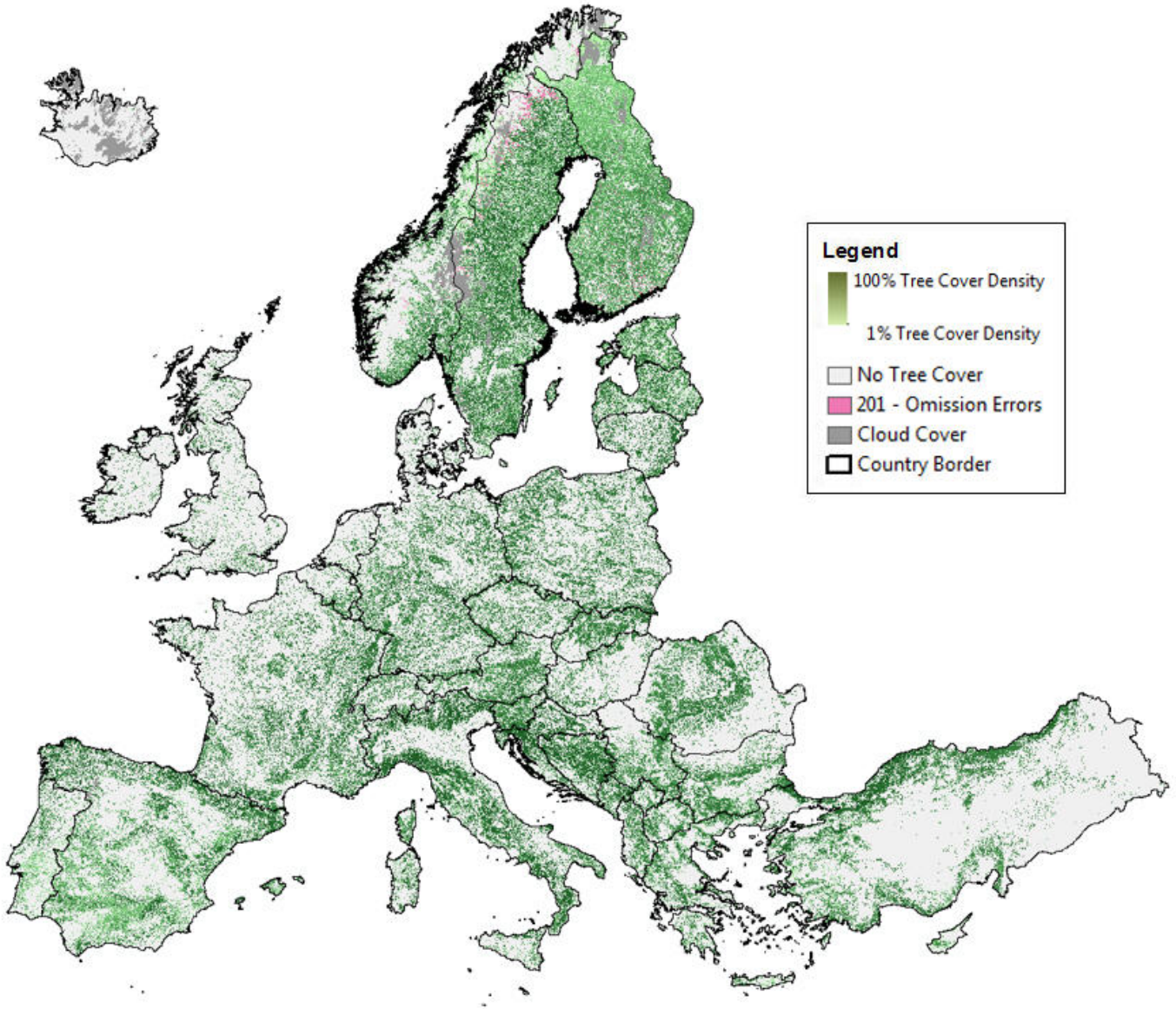
- **EU-DEM**: Digital Elevation Modell with 30 metre spatial resolution. It is a hybrid product based on SRTM and ASTER GDEM data. Upgrade ongoing

- **EU-Hydro**: river network and a drainage model with catchments and drainage lines derived from EU-DEM

- **CORDA** (Copernicus Reference Data Access): single entry-point node for Copernicus service operators to facilitate quick and easy access to geospatial reference data



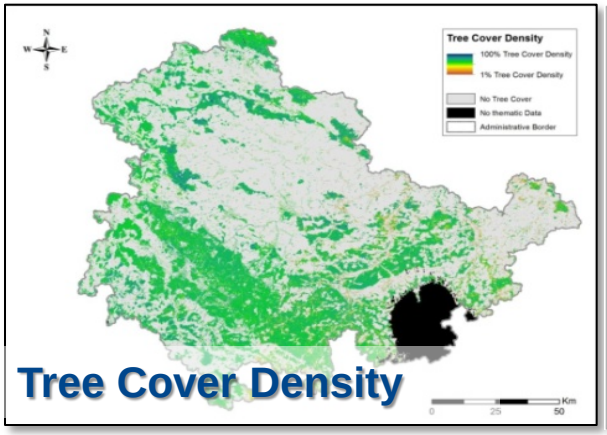
HRL Forest: pan-European result

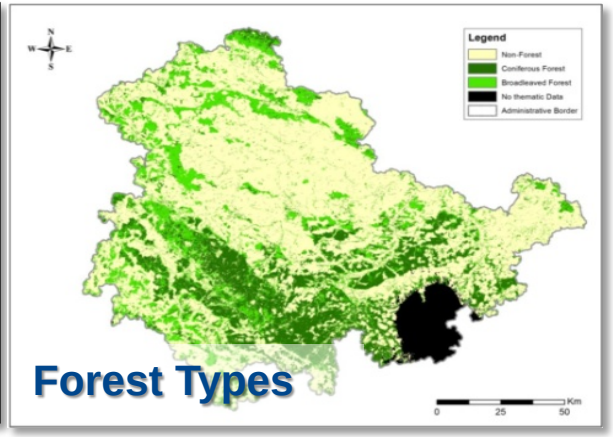


Application examples: regional refinement

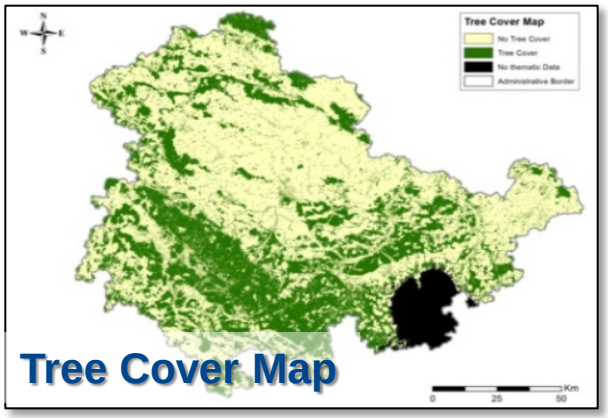
Examples: GAF AG

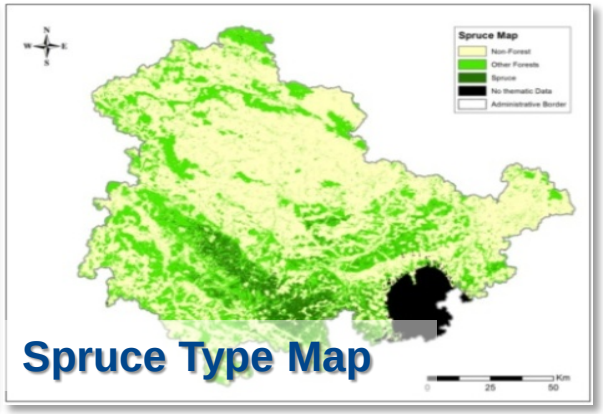
HR Forest Layer:



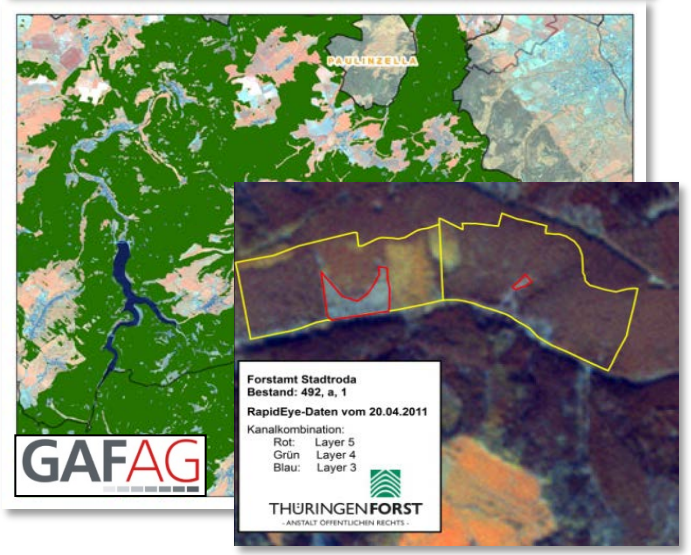


Derived layers:





Snow damages, Thuringia, Winter 2011

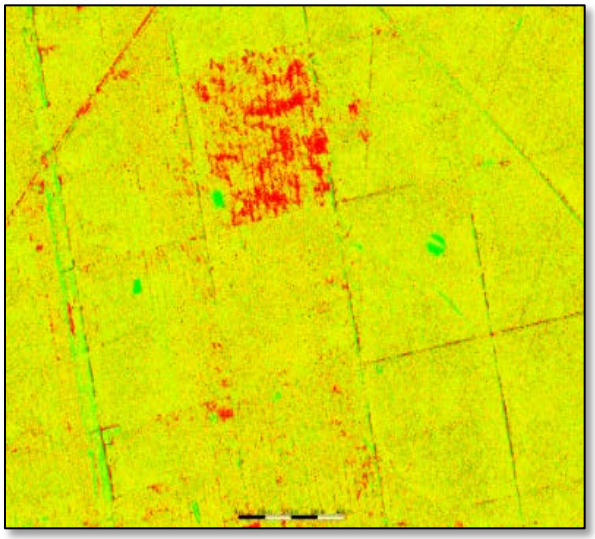


Application examples: change / damage assessment

Monitoring of Storm Damages in NRT

Monitoring of Insect Damage

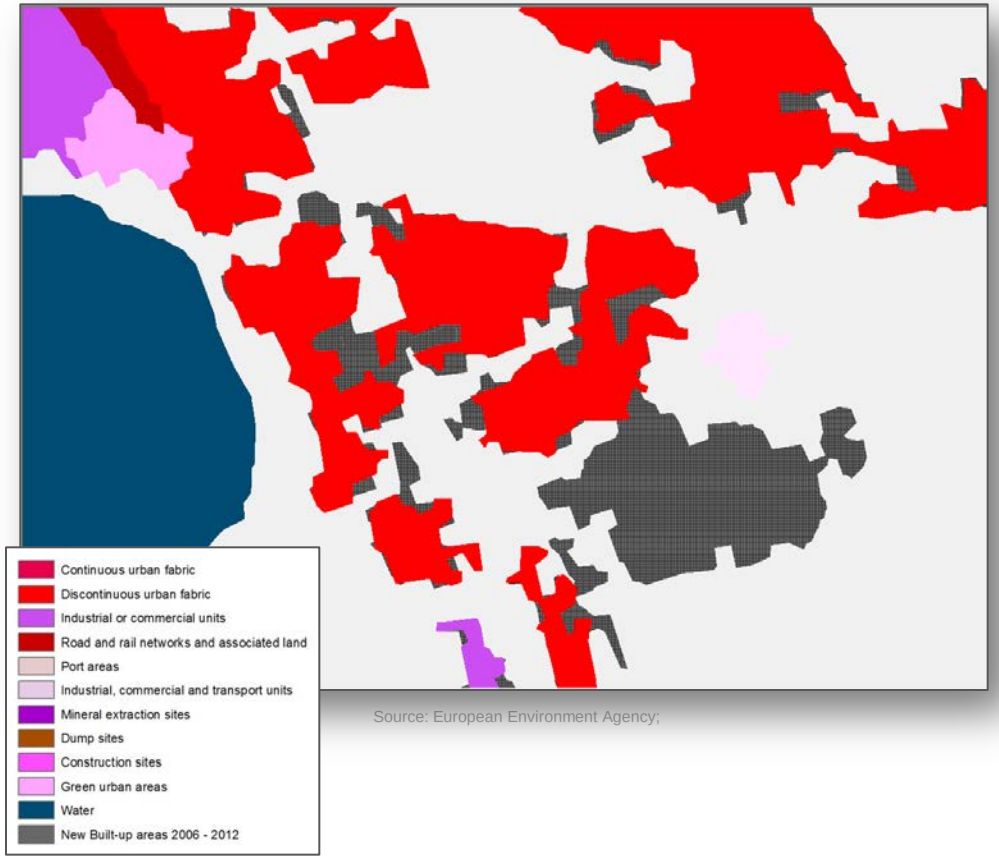
Examples: GAF AG



Imperviousness: The Copernicus solution

CORINE Land Cover

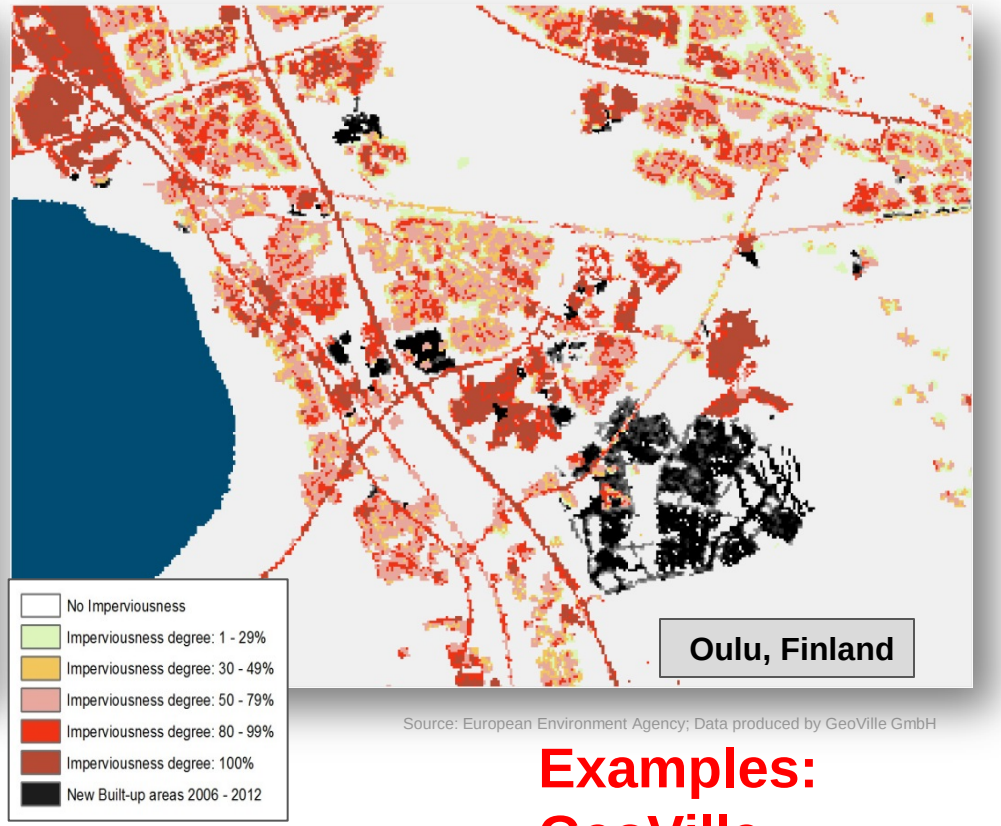
44 thematic classes
Minimum mapping unit: 25ha + 5ha change



Source: European Environment Agency;

HRL Imperviousness

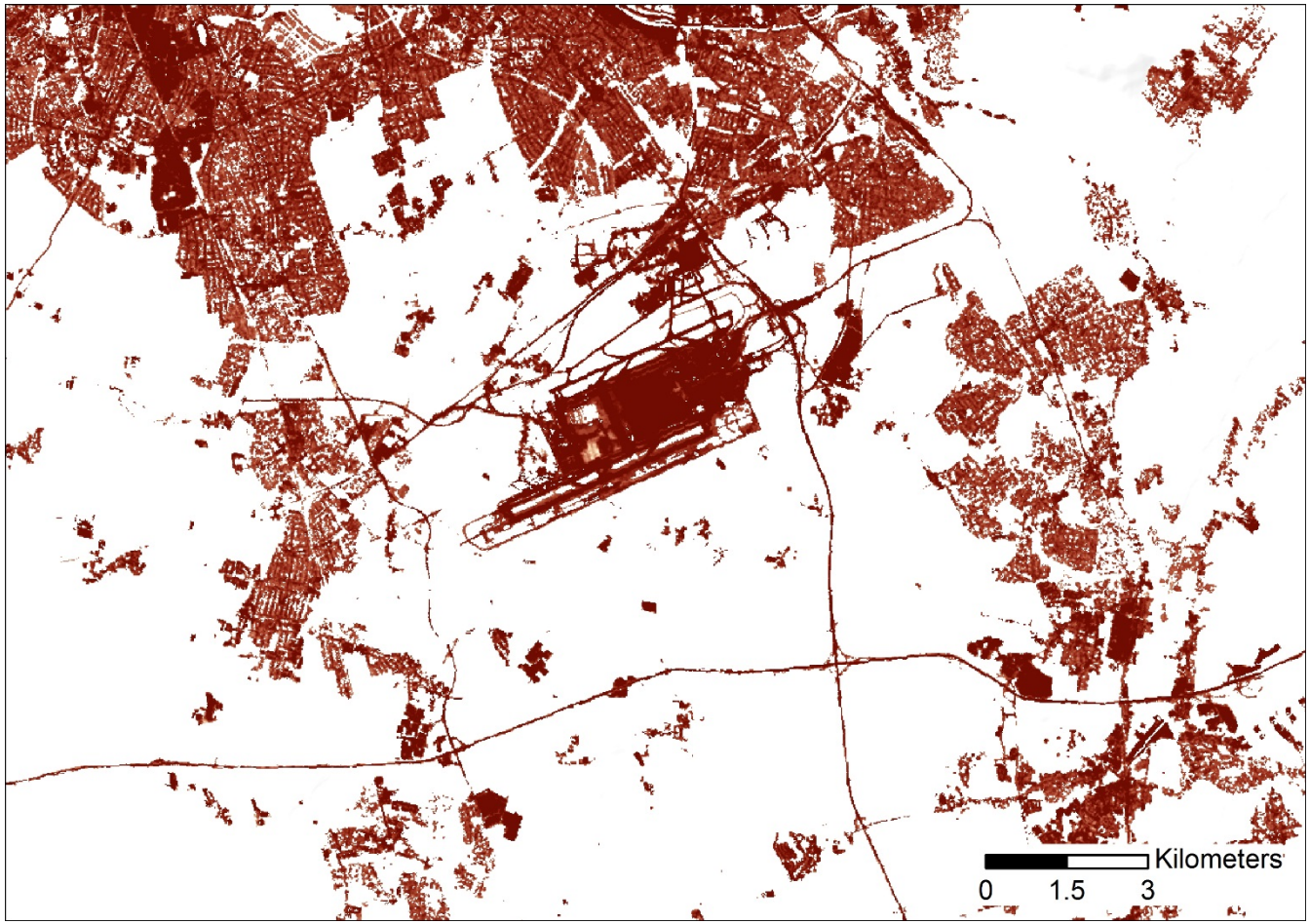
Continuous degree of imperviousness 0-100%
Resolution: 20m (intermediate) / 100m (final)



Source: European Environment Agency; Data produced by GeoVille GmbH

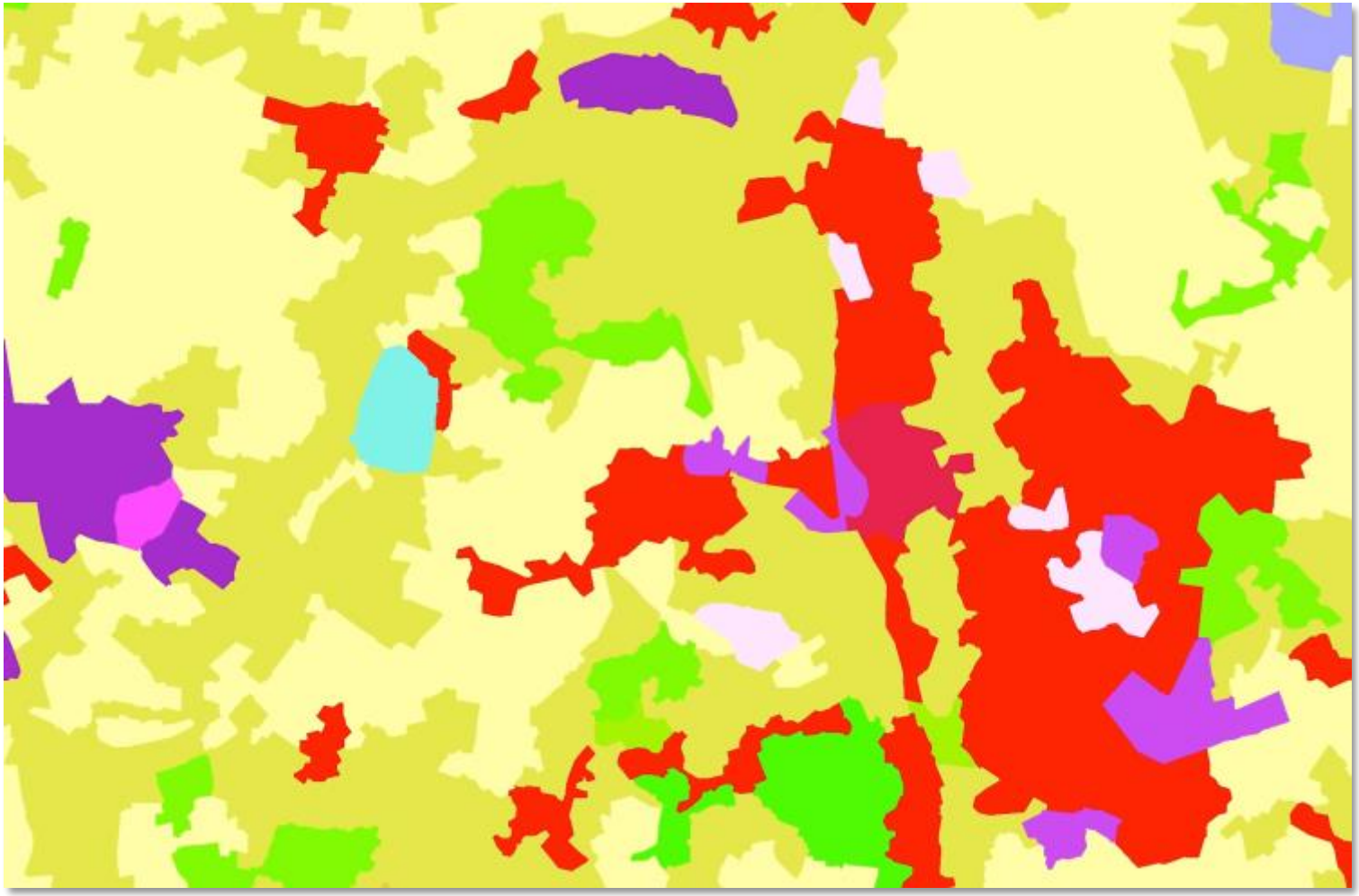
Examples: GeoVille

Imperviousness – mapping where and how cities are expanding

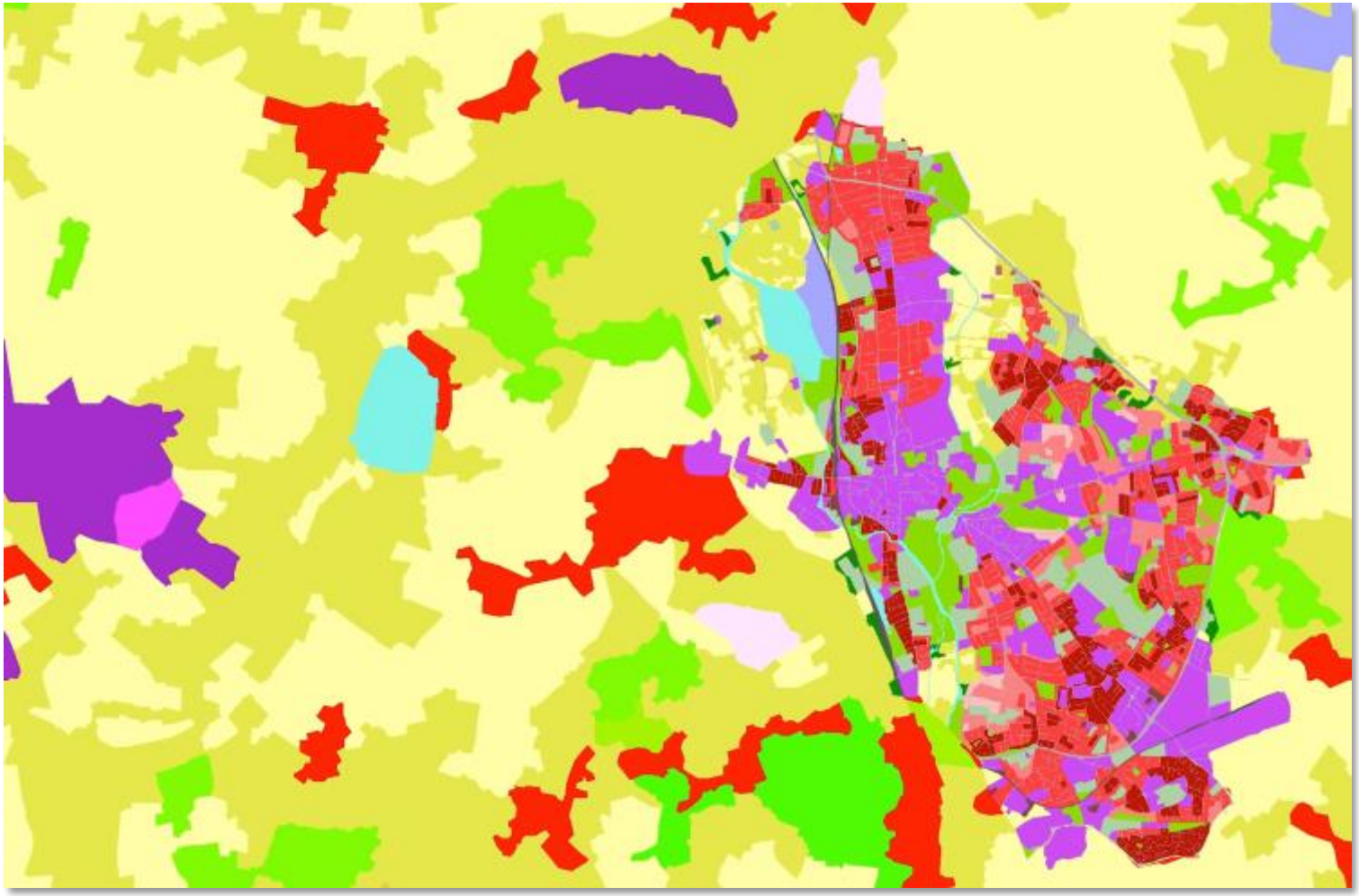


Berlin Brandenburg
Airport: 2006-2012

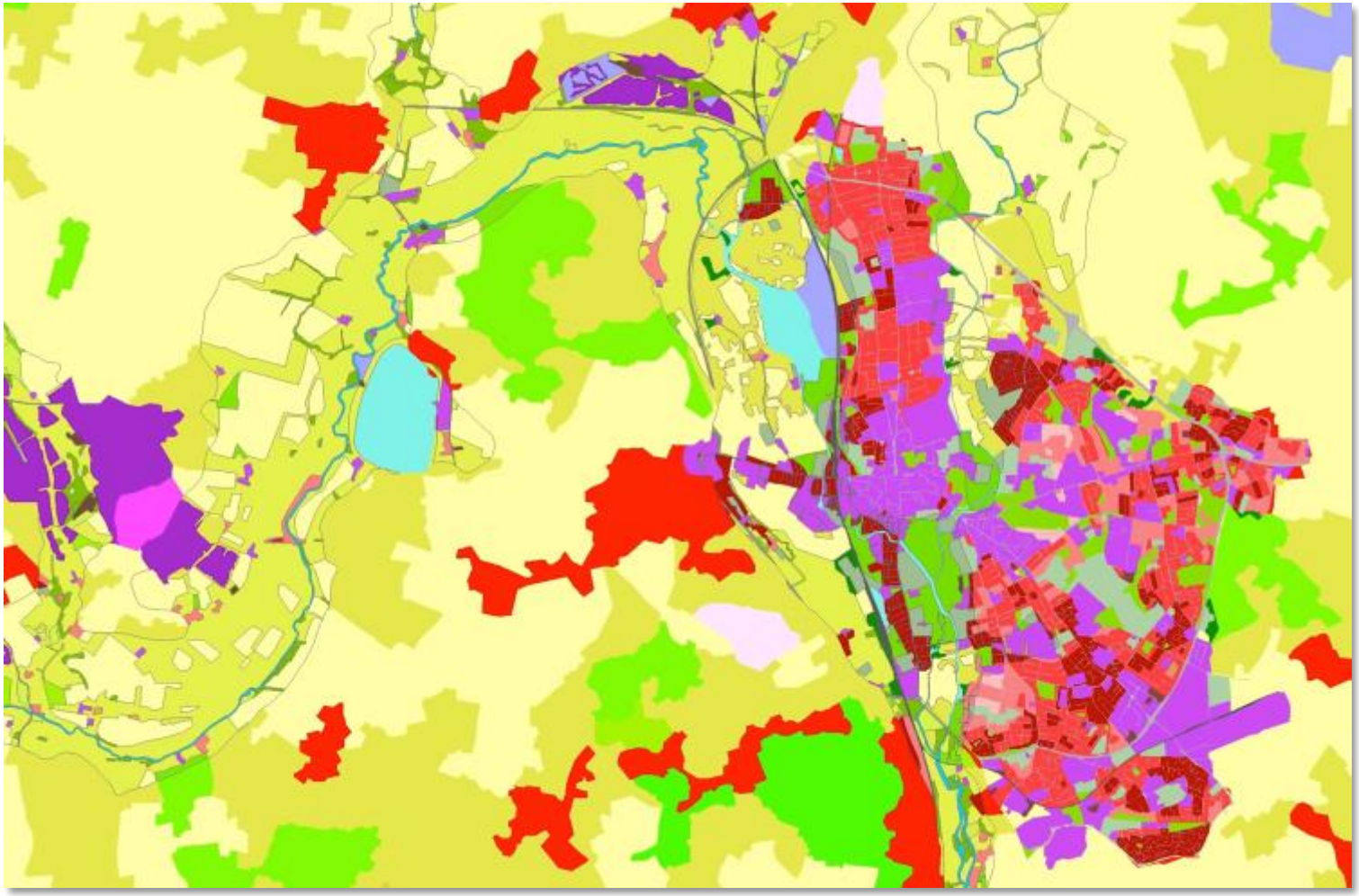
Example Oxford: Coherence in nomenclatures: CLC



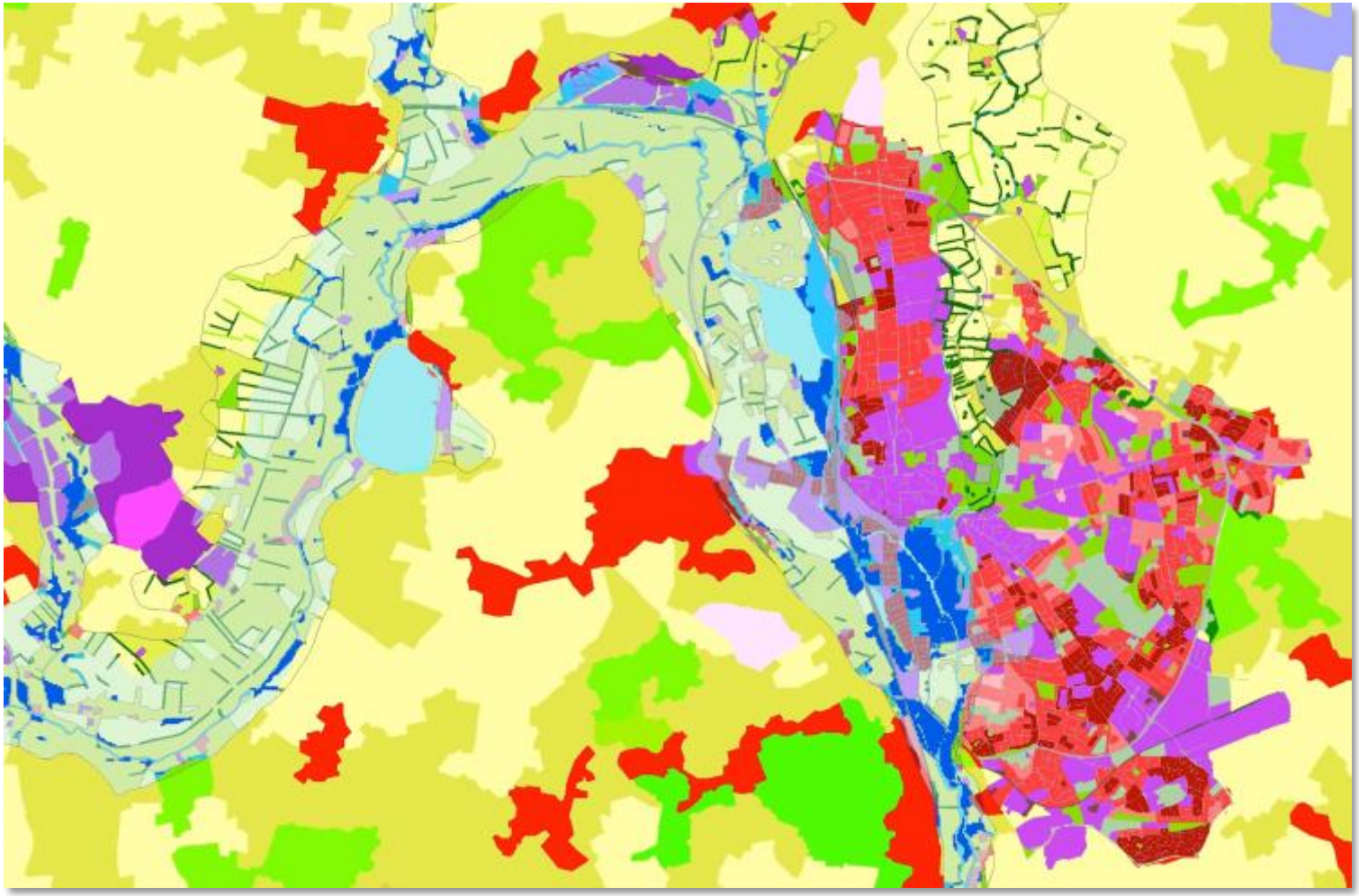
Coherence in nomenclatures: CLC + UA



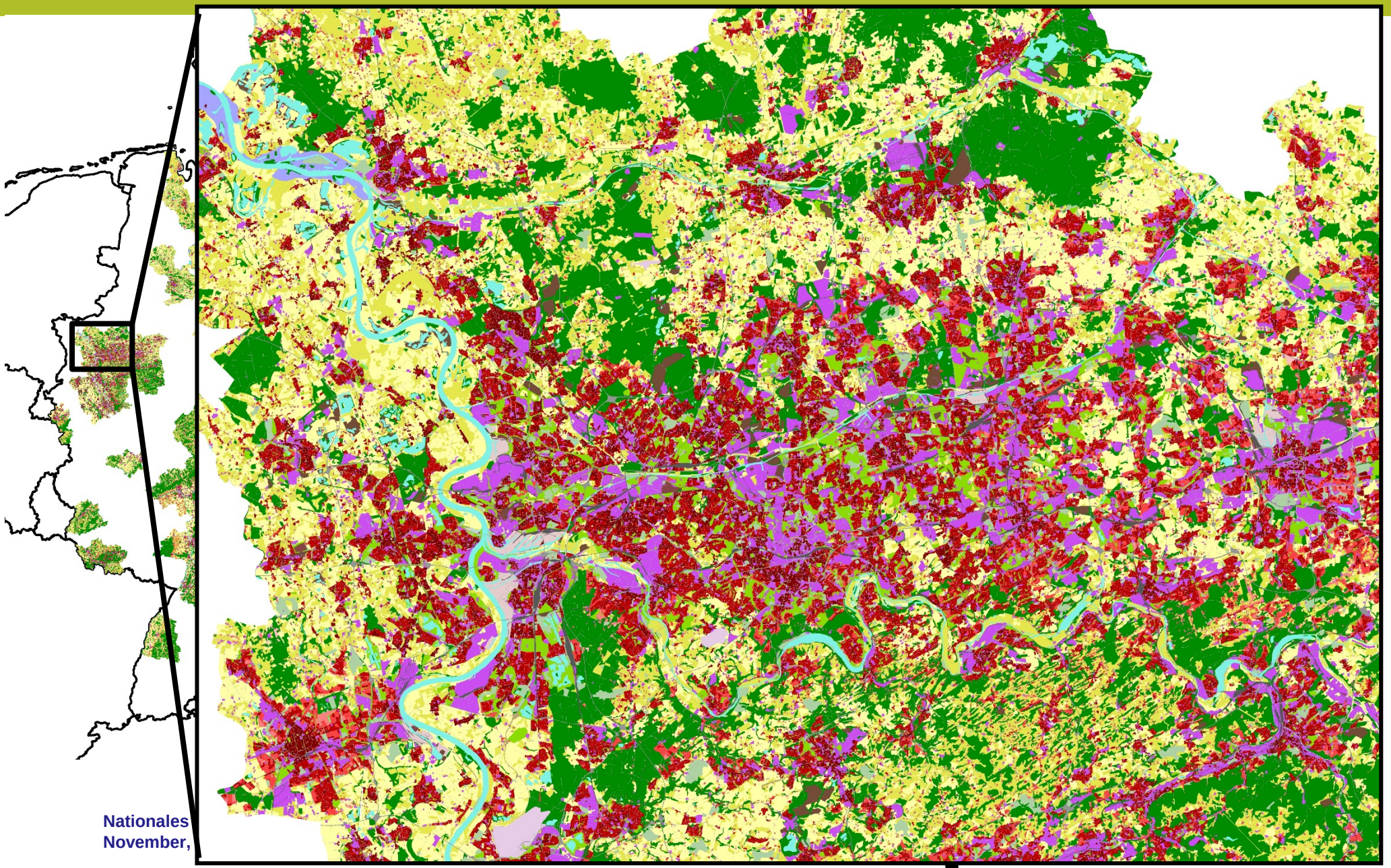
Coherence in nomenclatures: CLC + UA + RZ



Coherence in nomenclatures: CLC + UA + RZ + GLEs + RZ extents

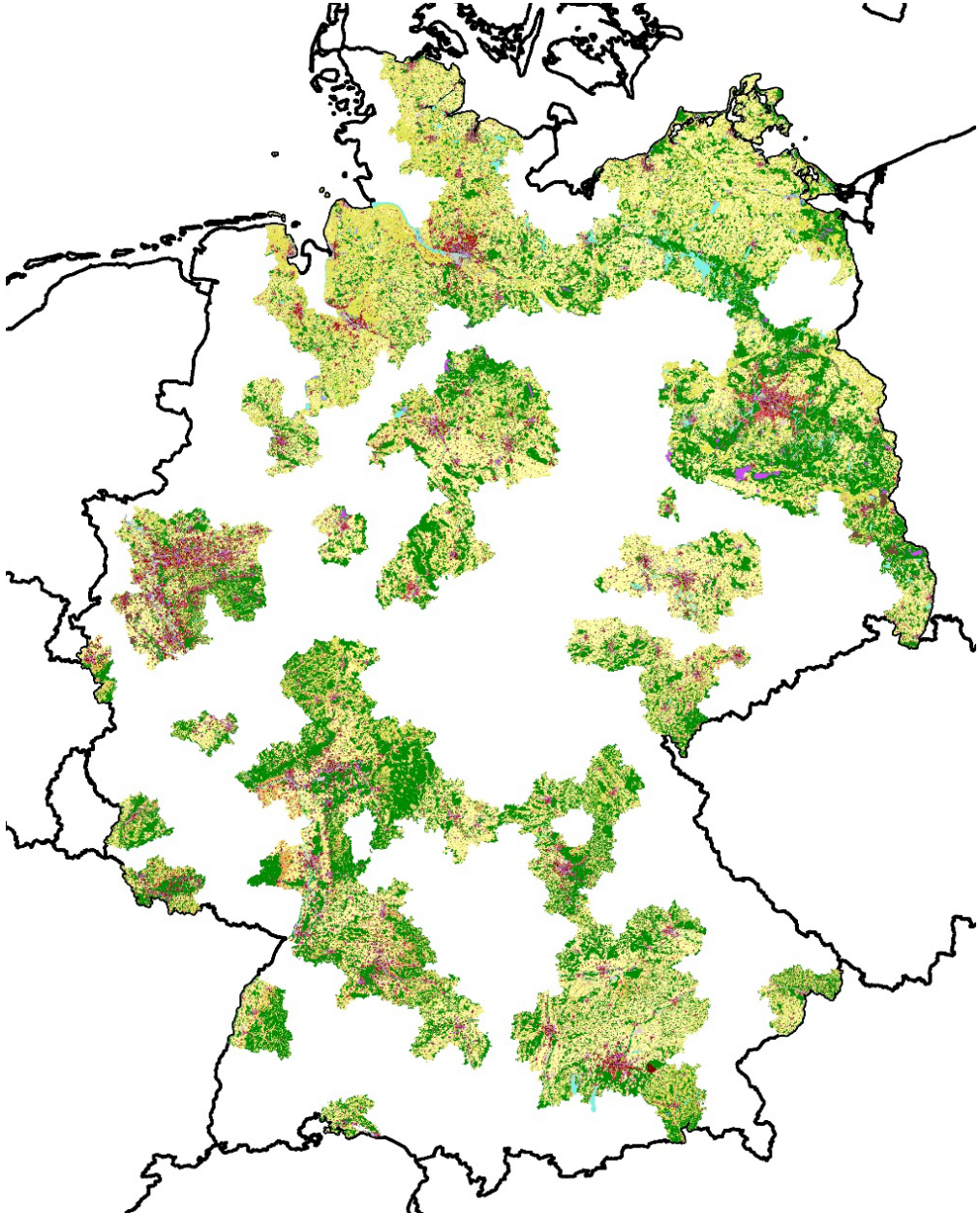


Urban Atlas 2012 – status DE

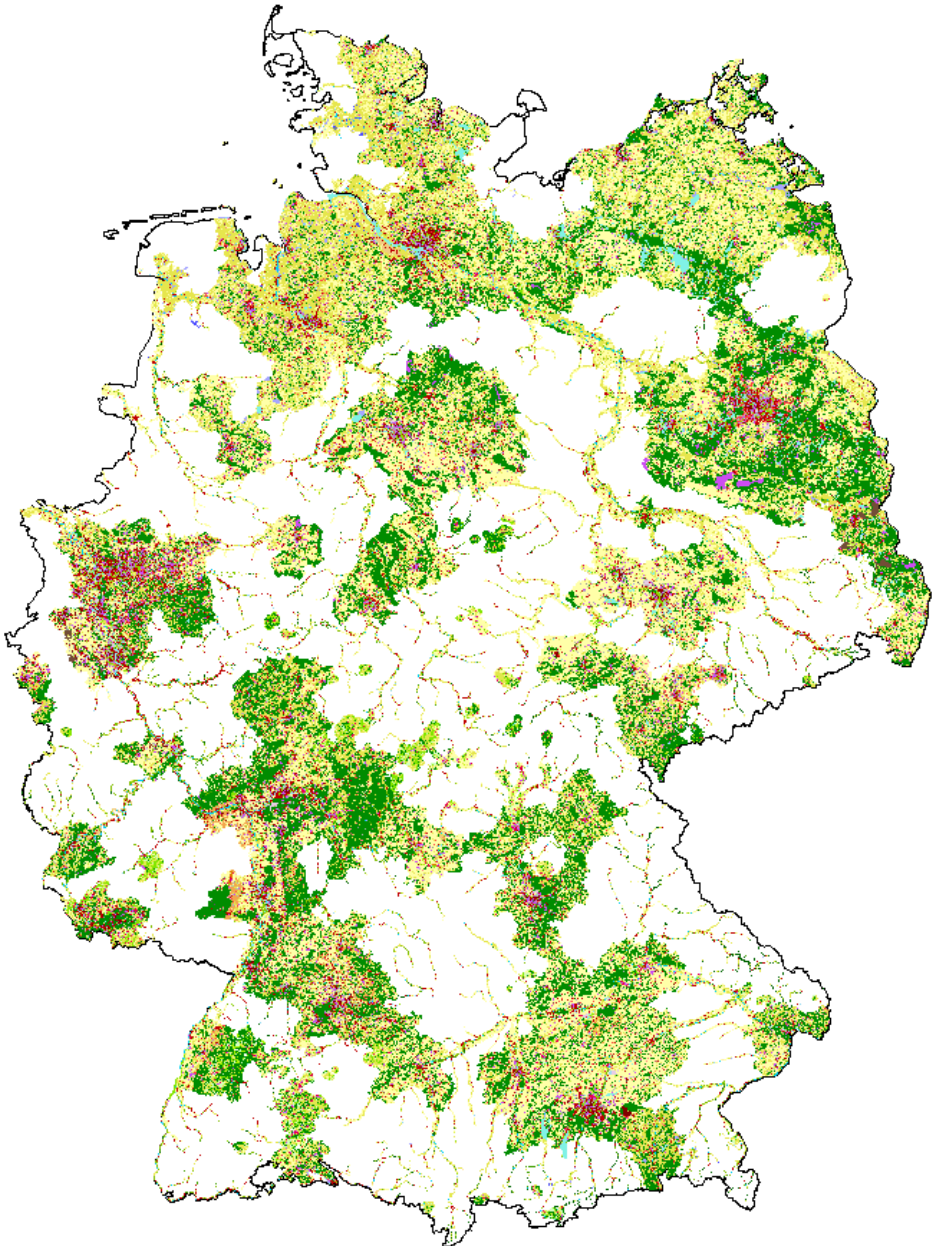


Nationales
November,

Urban Atlas 2012 (current status)

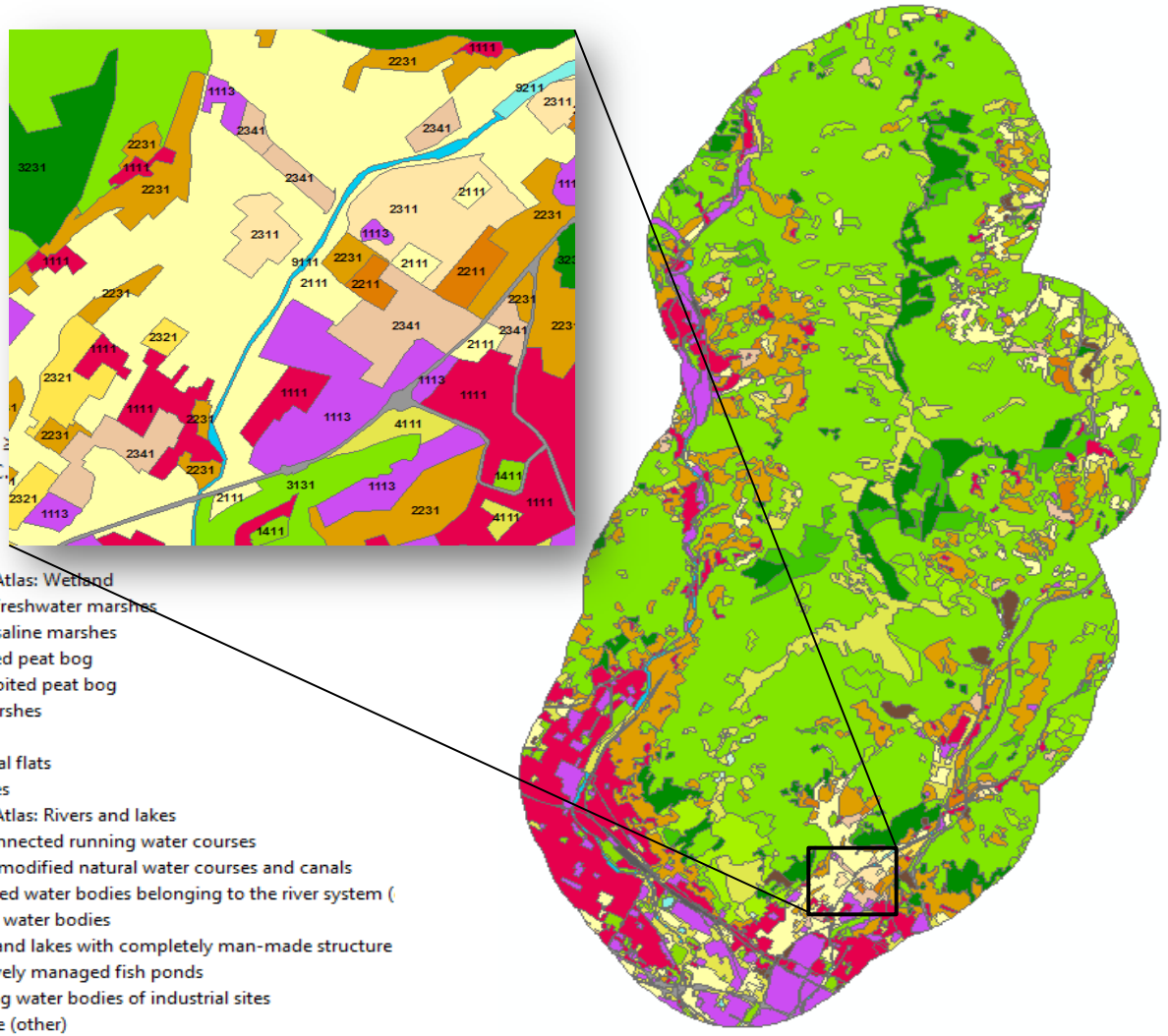


Urban Atlas 2012 + Riparian zones



Natura 2000 - Status Layer 2006/2012

N2K Site IT5150001



Italy, city of Prato (2012)

Copernicus Land: ensuring continuity

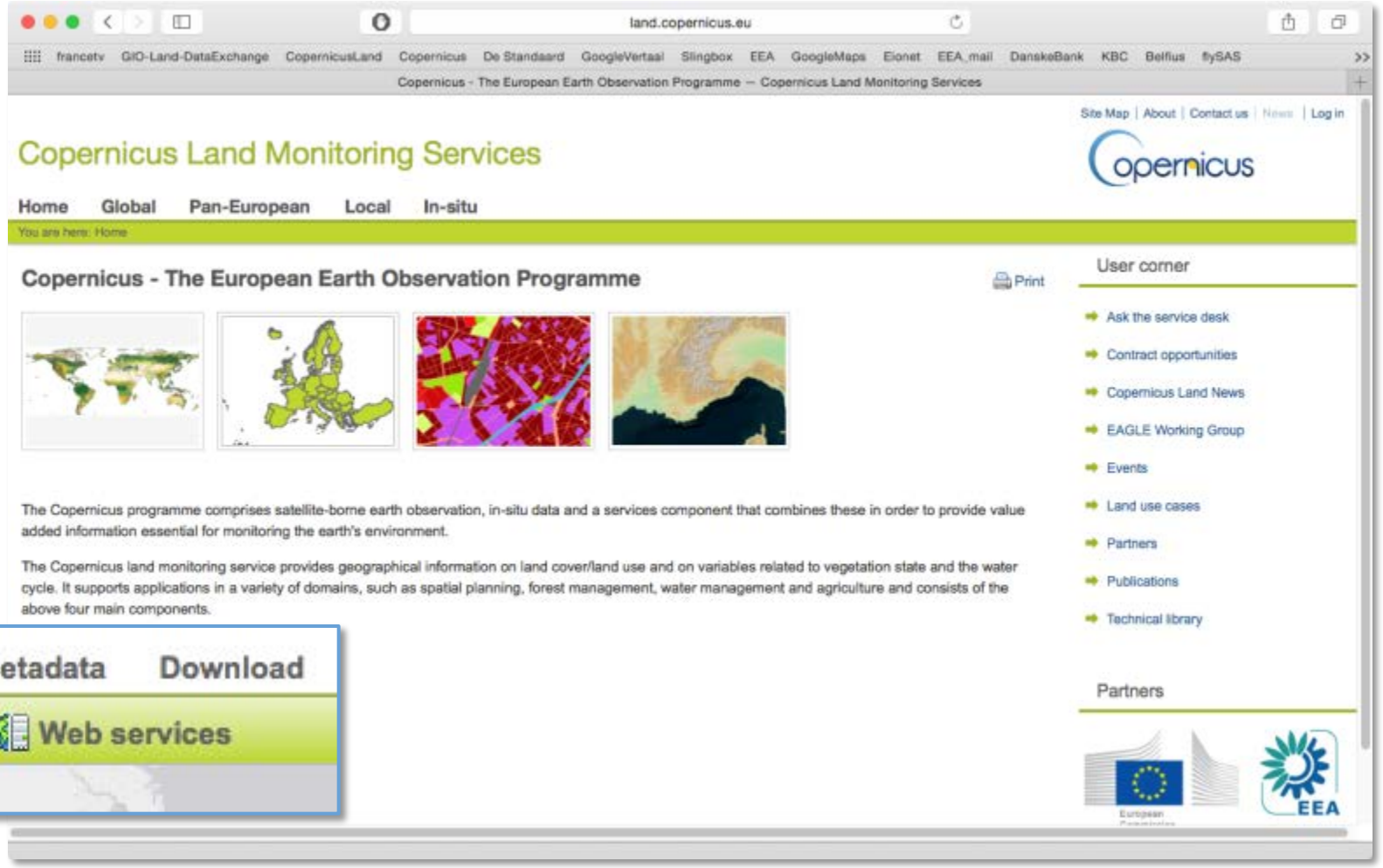
- **CLC and CLCC:**
  - continued every 6 year; next run: 2018
  - evolving methodology: bringing EAGLE matrix model to an operational status
- **HRLs:**
  - continued every 3 years, next runs: 2015, 2018
  - from 2015: exploring working with yearly incremental updates
  - content: repetition and improvement of existing 5 HRLs
  - Re-analysis imperviousness
- **Local component:**
  - continuation of Urban Atlas: 2015, 2018
  - Riparian zones: 2012, 2018

Copernicus Land: short term new & extended services

- **New HRLs:**
  - pan-European green linear elements
  - improve grassland product

- **New (elements in) local components:**
  - Urban Atlas:
    - inclusion of 3rd dimension
    - extension to EEA39
  - Riparian Zones:
    - extension upstream Strahler level 3?
  - Natura2000 monitoring
    - Second series of sites, TBD by DG ENV
  - Coastal zone monitoring
    - cooperation with Copernicus marine service
    - taking stock of existing activities in MS
  - permanent snow & ice cover monitoring

land.copernicus.eu



European Commission | Copernicus | European Environment Agency

Data download and view: land.copernicus.eu
Questions and **feedback:** tobias.langanke@eea.europa.eu

Kernthese aus Sicht des Landdienstes

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