

On the role of Copernicus products in support of LULUCF inventory complication

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GHG verification:

- Scoping study and questionnaire to MS on using inverse modelling for verification of LULUCF GHG inventories (ETC/CME)
- Support activities that support the setup of *a CO2 monitoring and verification system*
- Exploring the potential of in-situ data use for inventory support

Copernicus land monitoring service

- Performance of case studies on using Copernicus data for LULUCF sector to define the technical specification of the CLMS LULUCF instance (ETC/ULS)
- Development of CLC+ LULUCF instance (building on a large number of different input datasets)
- FPCUP project test casing Copernicus for LULUCF (CLIMA/EEA/JRC)

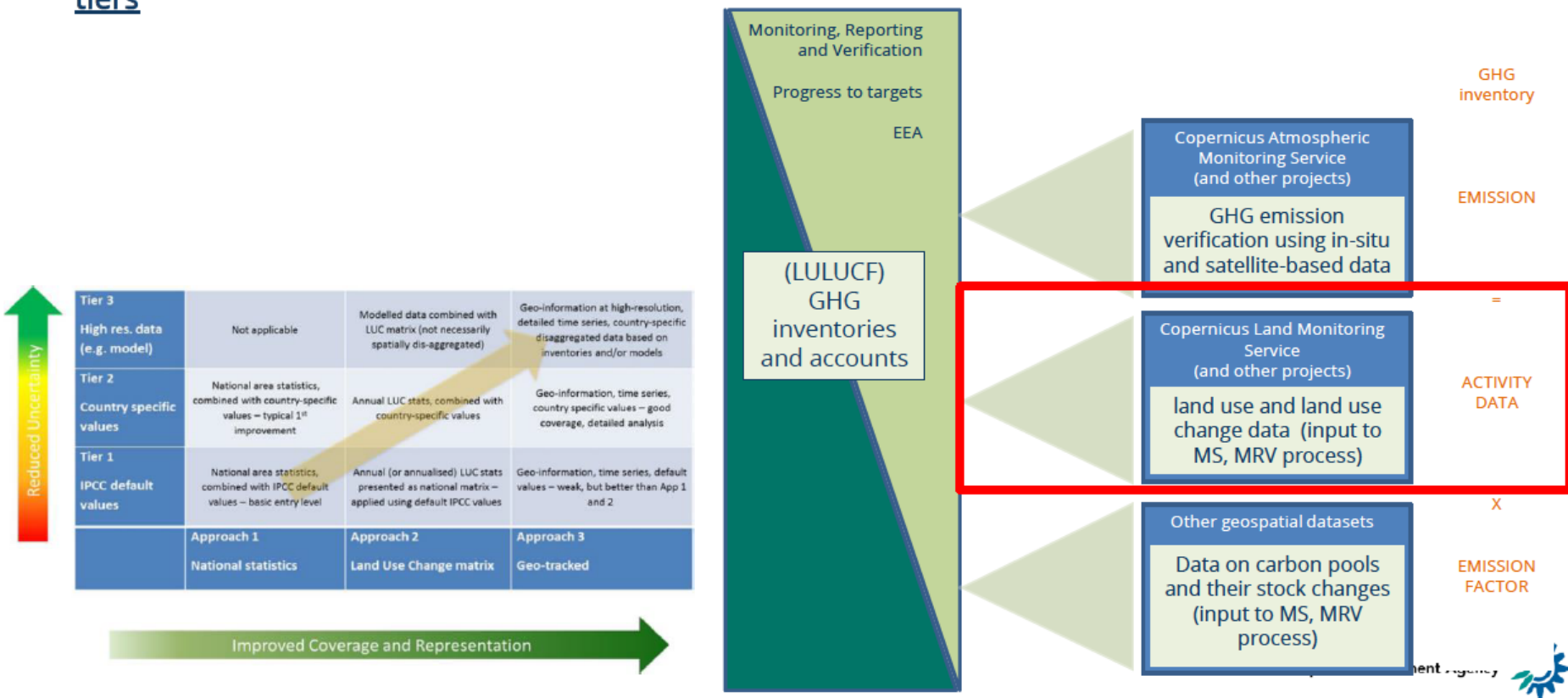
Other geospatial datasets

- Scoping out how to use soil carbon datasets and data from FISE in the MRV process
- Use of High Resolution Vegetation Phenology and Productivity data



2 main functions of Copernicus geospatial products (mainly via CLC+ Core) to support LULUCF

1. Independent datasets to support MRV/Quality checks of MS reporting
2. Include land use information and other datasets from MS, and support MS reporting and move to higher tiers

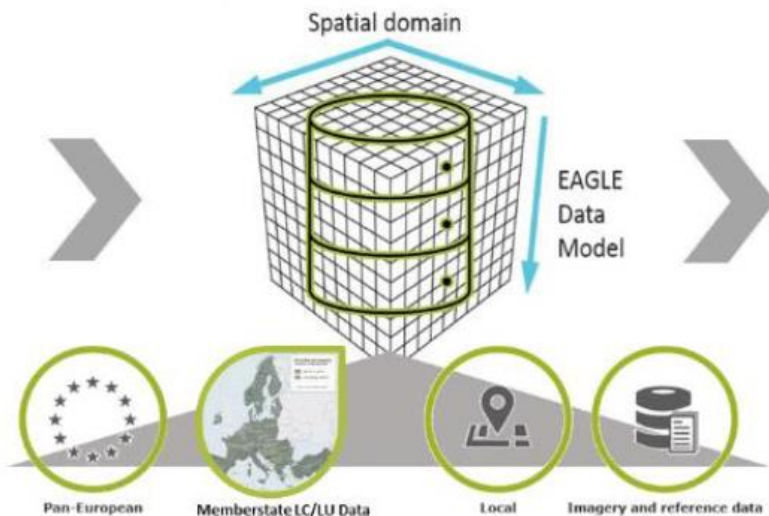


- **CLC+** is the **suite of products**, the main parts of which are
 - **CLC+ Backbone** (a set of raster and vector products) and
 - **CLC+ Core** (a grid based database solution)
- CLC+ aims to be a **generic multipurpose successor for CLC**, more agile and flexible to support multiple EU policies
- The “engine” of CLC+ is the **CLC+ Core database**. It harmonizes various input datasets with their different classifications to one flexible, grid based system that uses the EAGLE model as a common ontology
- **EAGLE** allows object oriented descriptions of land cover, land use and additional characteristics
- For LULUCF (and other policy applications), **derived datasets (“instances”)** can be extracted from the **CLC+ Core**

CLC+ Backbone



CLC+ Core



CLC+ Instance



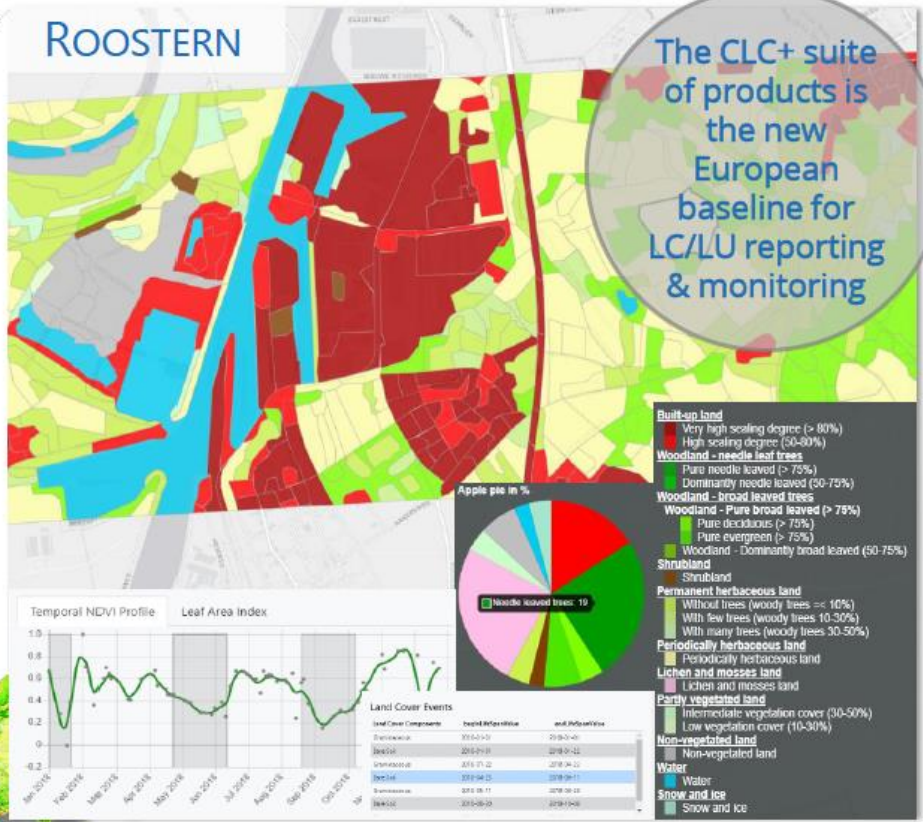
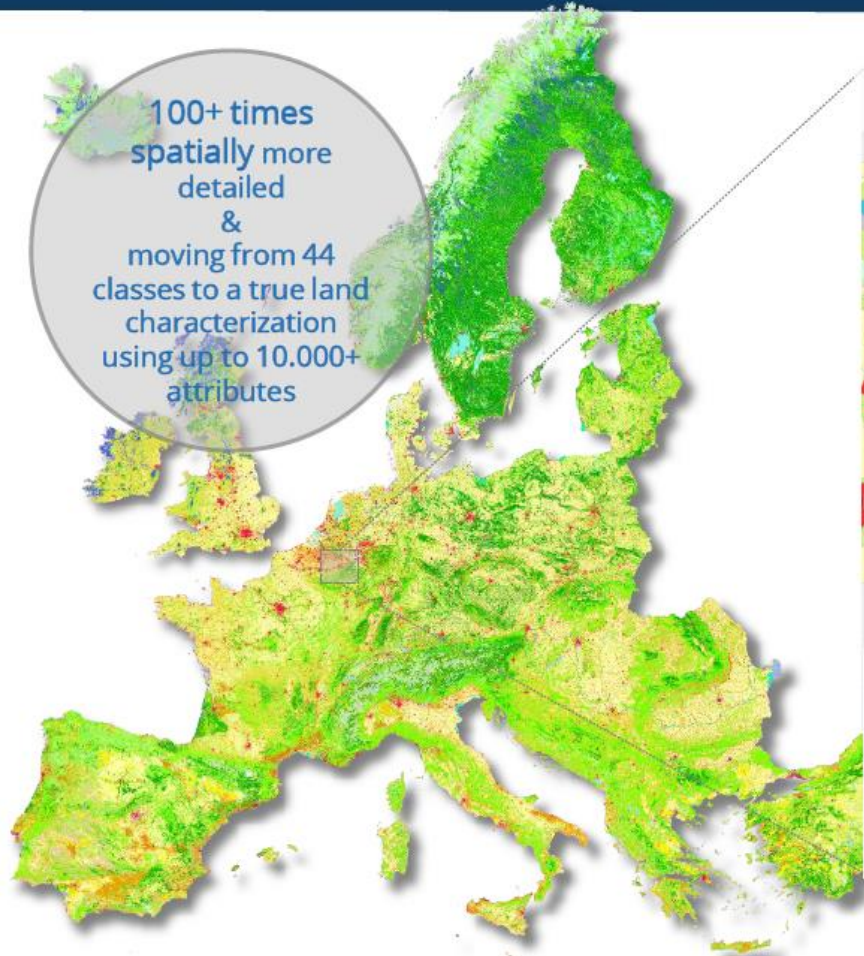
Eg. National LULUCF realisation

Figure 0-1: The CLC+ Product suite (from left to right) with the CLC+ Core database solution (middle) hosting integrated CLMS, ancillary and national LC/LU data

CLC+ - visual example of CLC+ Backbone component

European Environment Agency, Copernicus S1 & S2 data; processed by GAF & GeoVille

100+ times spatially more detailed & moving from 44 classes to a true land characterization using up to 10.000+ attributes



EEA LULUCF team 2021:

Claire Qoul: EU GHG inventory

Peter Iversen: LULUCF MRV (Forest)

Tobias Langanke: Copernicus and LULUCF

Katarzyna Kowalczywska: LULUCF MRV agriculture

John van Aardenne: coordination EEA cross-cutting activity on LULUCF

ETC/CME (Carmen Schmidt (UBA-V) and ETC/CME colleagues)

ETC/ULS (Peter Weiss (UBA-V) and ETC/ULS colleagues)

And thanks to Raul Abad Vinas (JRC) for the support on initial-checks !

