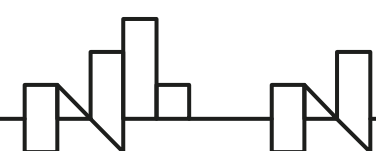
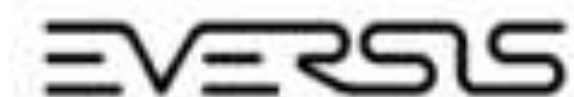


Enhancing the user uptake of Land Cover / Land Use information derived from the integration of Copernicus services and national databases „InCoNaDa”

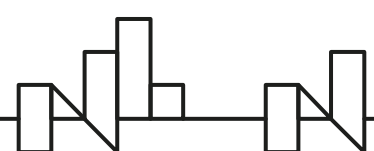
Enhancing the user uptake of Land Cover / Land Use information derived from the integration of Copernicus services and national databases „InCoNaDa”

- **Project Promoter:** Instytut of Geodesy and Carography
- **Project Partners:**
 - Norwegian Institute of Bioeconomy Research (NIBIO)
 - Institute of Environmental Protection - National Research Institute (IOS)
 - Łódź University of Technology (LUoT)
 - Eversis Sp.z o.o.
- **Duration of the project** 1.10.2020 – 30.09.2023
- **Total project cost:** 5 325 784 PLN
- **Project grant amount:** 5 984 484 PLN



Why Land cover / Land use?

- Land cover (LC), land use (LU) information is essential for a broad range of users and applications.
- It is crucial for land management, monitoring of sustainable development of agriculture, forestry, rural areas, assessment of biodiversity status and losses, urban planning and land uptake.
- LCLU is essential for various reporting obligations, e.g. for counting greenhouse gas (GHG) emissions and removal from the Land Use, Land Use Change and Forestry (LULUCF) sector, a long-term climate mitigation, greening of Common Agricultural Policy (CAP), Biodiversity Conservation, Urban Agenda and Energy Union.



Rationale

Challenges and needs:

- to integrate the data available in various databases to meet the needs of the national and European regulations,
- to assure the semantic consistency by harmonizing the data from different sources and across countries,
- there is limited knowledge on how useful are the Copernicus services and products for decision makers, reporting obligations, natural resources monitoring at the local, regional, national levels,
- there is a need for applied research linked to ongoing national programs to examine the fitness for use and demonstrate the benefits as well as the limitations of the CLMS data in this context.



Imperviousness



Forests



Grassland



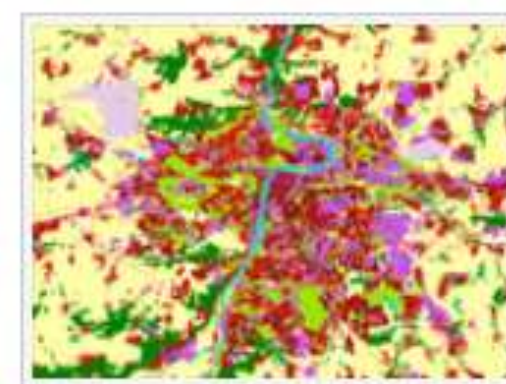
Water & Wetness



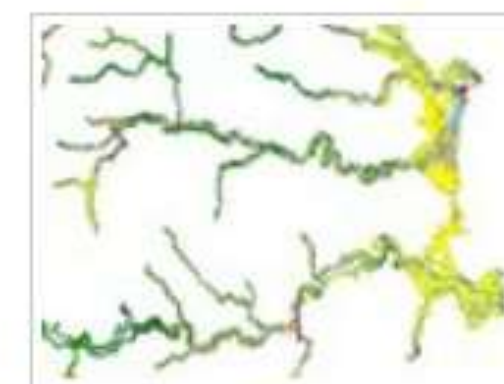
Small Woody Features



Copernicus Land Monitoring Service
<https://land.copernicus.eu/>



Urban Atlas



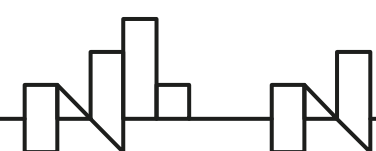
Riparian Zones



Natura 2000 (N2K)



Coastal Zones

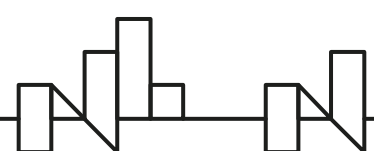


The aim and objectives of InCoNaDA

The main goal of InCoNaDa is to improve the user uptake of Land Cover / Land Use (LCLU) information derived from the integration of Copernicus Land Monitoring Service (CLMS) and national databases.

Objectives:

- to develop land cover and land change maps based on a time series of Sentinel-2 data using machine learning approaches;
- to verify the EAGLE concept based on interlinking LC and LU information and other landscape characteristics (CH) available at the country level, and delivering the enhanced LCLU database;
- to design and develop web-based application enabling to query the LCLU database, generate statistics and land use information adjusted to the user needs;
- to examine if and how the enhanced LCLU database and CLMS can be applied in:
 - urban and spatial planning;
 - agricultural management and environmental monitoring;
- to demonstrate the usefulness of the enhanced LCLU database and CLMS for reporting GHG emissions and removals from LULUCF.



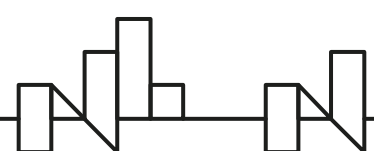
Research approach

WP1: Enrichment of the land cover, land use databases, developing the best possible automated land cover map based on a time series of Sentinel-2 data and verification of the EAGLE concept by interlinking satellite-based land cover (LC) with land use (LU) information and other landscape characteristics (CH) derived from national databases and CLMS products.

WP2: Developing the web-based application enabling the integration of enriched LCLU database and CLMS products.

WP3: LCLU for urban and spatial planning, dealing with the assessment of the requirements of the urban and spatial planning towards geospatial land use and land use change information (mapping and monitoring land cover and land use changes, public access to green urban areas, biologically active surfaces)

WP4: LCLU for the agricultural sector, dealing with the assessment of the potential of the CLMS products and the enhanced LCLU database, for supporting agricultural policy in Poland (under the CAP- Ecological Focus Areas) and national agricultural policy in Norway



Research approach

WP5: LCLU for environmental monitoring, dealing with evaluation of suitability of CLMS and enhanced LCLU as a data source for biodiversity mapping and monitoring, to assess the potential for increased use of CLMS, and to discuss and demonstrate how the CLMS data can be integrated with existing national monitoring activities.

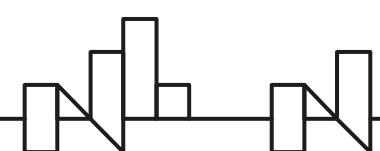
HRL Water and wetness (HRL-WAW)

Vegetation along streams and waterways

High nature value grassland

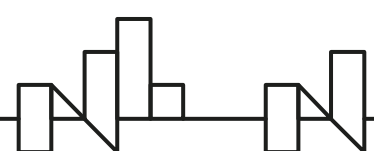
Preparation of landscape audits

WP6: LCLU for reporting GHG emissions and removals from LULUCF sector, focus on firstly conducting a comprehensive analysis of spatial and thematic content of the CLMS products in respect to current and future obligations towards national accounting and reporting of GHG emissions and removals from LULUCF.



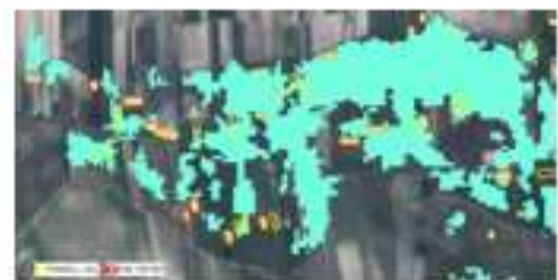
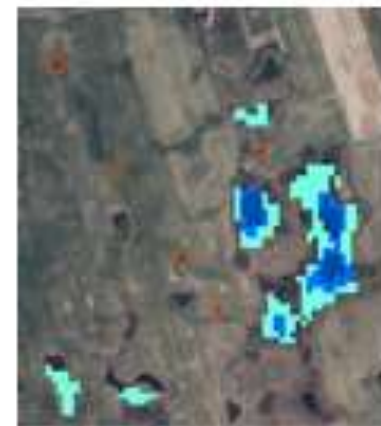
Planned project outcomes *(long and short term)*

- a) understanding how useful the CLMS services and products for decision makers, reporting obligations, natural resources monitoring at the local, regional and national levels
- b) to enhance the user uptake of LCLU information derived from the Copernicus Land Monitoring Services (CLMS) through examining the usage of CLMS and LULC data in various domains, i.e. urban and spatial planning, agricultural management and reporting GHG emissions and removals from LULUCF in Poland and Norway.
- c) to derive the enhanced database on Land Cover (CL), Land Use (LU) and LCLU-changes based on interlinking LC and Land Use (LU) information and other landscape characteristics (CH) available at the country level.
- d) practical verification of the EAGLE concept will decrease the uncertainties of this concept, in particularly related to the methods for retrieval and population of the land use information from the national databases and existing CLMS,
- e) close collaboration among partners, exchanging knowledge and experiences, learning from each other.

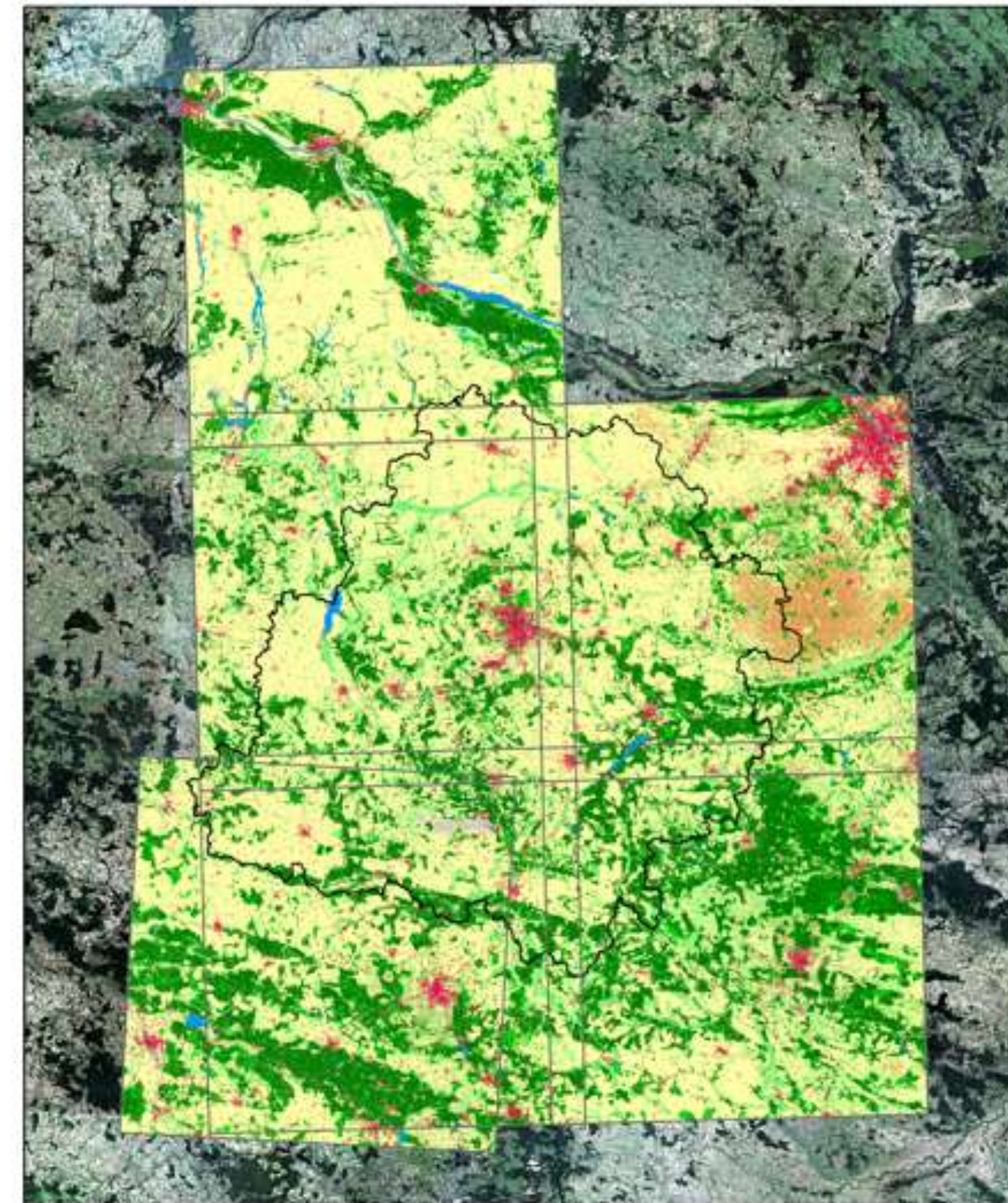


Implemented tasks and research results achieved so far...

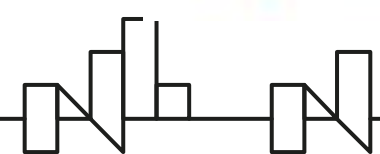
Poland - Łódź Province



Norway - Viken county



- sealed surfaces
- woodland broadleaved
- woodland coniferous
- shrubs
- permanent herbaceous
- periodically herbaceous
- mosses
- non-vegetated
- permanent water



Thank you!

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<https://www.inconada.eu/>



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