The new CLMS layer focused on endangered species and habitats

Natura 2000 Protected Areas

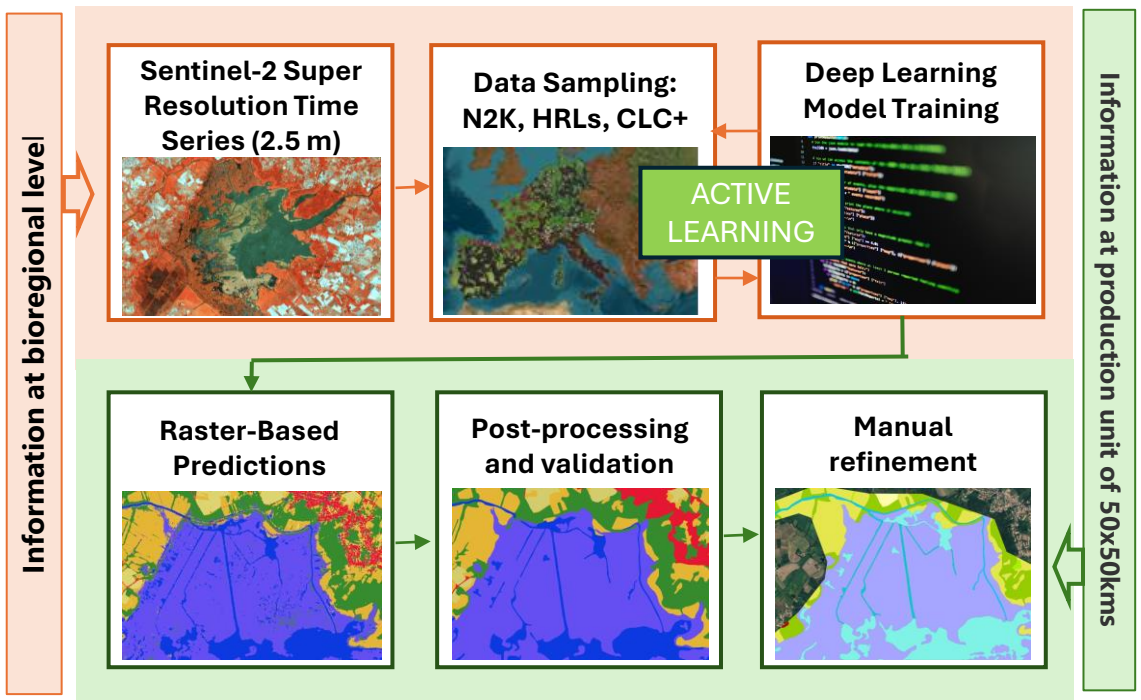
OBJECTIVES

- More than 700000 km²
- 24298 Natura 2000 terrestrial sites

Create LULC status layers for Protected Areas for the reference years 2021 and 2024, as well as a LULC change layer for the period 2021–2024, using an automated remote sensing and AI-based workflow.

WORKFLOW

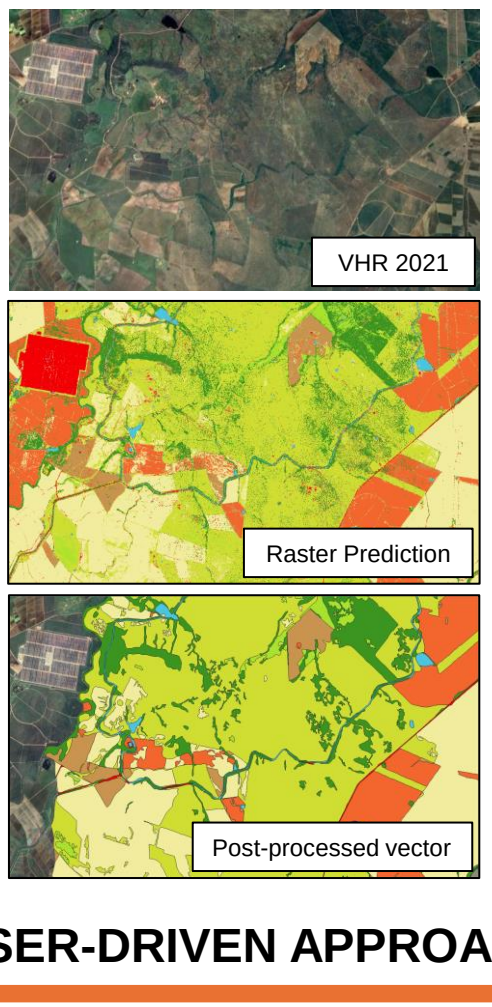
NEW!



RESULTS

- LULC L4 59 classes vector file
- 2,5m spatial resolution raster

Examples



Nomenclature

INNOVATION HIGHLIGHTS

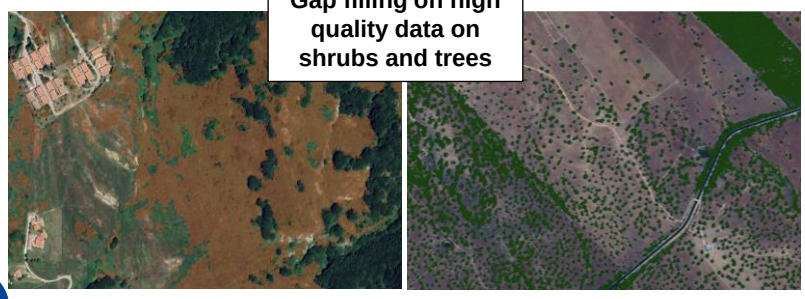
Semiautomatic approach:

- **Advanced data sampling on CLMS** relevant layers coupled with **Active Learning** techniques to refine training data.
- Deep Learning models fed with temporal series (monthly mosaics) of **Sentinel-2 super-resolved imagery** (S2SR).
- Enhanced accuracy of complex LULC classes (e.g. shrublands)
- **Regionalization modeling** at European scale.

Added-value **post-processing steps:**

- **Confidence layer** retrieval: use of probabilities for assessing uncertainties within automatic results using expert criteria.
- Automatic **editing of linear elements** (EU-Hydro, OSM, etc.).
- **LULC-like vector** product via advanced generalization of vector features using FME.

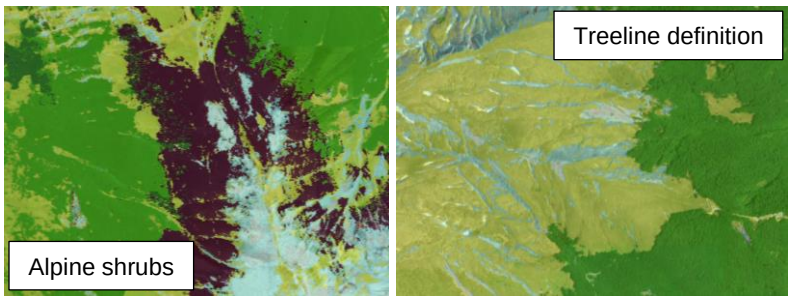
Check out super-resolved S2 time series!



USER-DRIVEN APPROACH

Protected Areas is a **versatile, multi-source service, adaptable to end-user needs** through of 4 key points:

- **Reproducibilty** across spacio-temporal scales.
- Fast and direct **updates** based on S2SR time series.
- **Adaptable** to different legends and data models
- **Comparability and complementarity** with CLMS and national-regional LULC and vegetation products.



Protected Areas will serve as a **backbone of applications** development related, among others, to new protocols for **biodiversity sampling**, **habitat mapping and monitoring for Habitats Directive** (Natura 2000) and other European policies (e.g. LULUCF, Nature Restoration Law) following homogeneous approaches across Europe, and fostering **collaboration with scientific research and management**.

PROGRAMME OF THE EUROPEAN UNION

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Implemented by European Environment Agency