PARTNERS

- **Finnish Environment Institute (SYKE)**
  Department of Nature Solutions
- **University of Twente (UTWENTE)**
  Department of Natural Resources
- **Lund University (LUND)**
  Department of Physical Geography and Ecosystem Science
- **Flemish Institute for Technological Research (VITO)** Department of Remote Sensing
- **Wageningen Research (WR)**
  Wageningen Environmental Research
- **French National Centre for Scientific Research (CNRS)**
  Laboratoire d'Écologie Alpine (LECA)
- **Pensoft Publishers (PENSOFT)**
- **Brockmann Geomatics Sweden (BG)**
- **Brockmann Consult (BC)**
- **University of Zurich (UZH)**
  Department of Geography
- **The UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC)**

PROJECT WEBSITE

OBSGESSION

DURATION

January 2024 – December 2027

PROJECT COORDINATOR

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OBSGESSION

Observation of Ecosystem Changes for Action

obsgession.eu

VISION

Facilitating action to prevent and reverse biodiversity decline by integrating Earth Observation methods, in-situ data, ecological models, and uncertainty estimations while delivering solutions for the monitoring and management of terrestrial and freshwater ecosystems.

MISSION

To pioneer a transformative approach, combining diverse data sources and ecological models, to predict, and address biodiversity changes in terrestrial and freshwater ecosystems and implement robust Essential Biodiversity Variables (EBVs) for biodiversity monitoring. Through strong science-policy links we aim to support EU and international biodiversity directives, goals, and policy.

GOAL

To advance the understanding of direct and indirect drivers of biodiversity change through cutting-edge data integration and modeling, addressing science-policy gaps, supporting conservation planning, and sharing knowledge with international and EU stakeholders in ecosystem and biodiversity management.

WORK PACKAGES

WP1 Policy and science needs

WP2 Earth Observation networks for biodiversity and ecosystems

WP3 Detection, attribution, and modelling biodiversity and ecosystem changes

WP4 Science-based solutions

WP5 Biodiversity pilots

WP6 Dissemination, multi-stakeholder outreach, and synergies

WP7 Coordination and project management

PILOTS

Investigating and predicting biodiversity change in the European Alps through multi-scale, multi-modal, and multi-temporal remote-sensed and in-situ data.

Improving habitat classification models by going beyond the state-of-the-art in terms of accurate high-resolution mapping of Europe's habitats, powered by machine learning.

Forecasting ecosystem productivity under disturbances and climate change by incorporating EBVs based on remote sensing to assess metrics of ecosystem structure and health.

Supporting temperate and boreal forest protection and restoration through assessing ecosystem conditions via eDNA and image spectroscopy.

Monitoring freshwater ecosystems under disturbances and climate change by utilising novel Thematic Ecosystem Change Indices (TECIs).

Assessing the ecosystem functioning of the Kokemäenjoki (Finland) estuary and measuring water quality incorporating both in-situ and Earth Observation data.