

BIODIVERSITY SHIFT

Scalable ecosystem indicators on the Baltic GTIF Dashboard

Emma Seneschal¹, Gerhard Triebnig¹, Anne Gruboeck¹, Daniel Santillan¹, Tyna Dolezalova¹, Lubo Dolezal¹,
Sylvester Pari¹, Joachim Ungar¹, Tomas Orlickas², Edvinas Aglinskas², Bernadett Csonka¹

¹EOX IT Services GmbH, Austria; ²National Paying Agency Lithuania (NPA)

The Baltic Green Transition Information Factory Dashboard, bridges the gap between complex Earth Observation (EO) data and actionable environmental policy. By integrating traceable, repeatable data into an interactive dashboard, this geospatial analytics dashboard provides decision-ready indicators, specifically guiding sustainable land-use changes and CAP strategic planning across Lithuania as a pilot use case for the Baltic region.

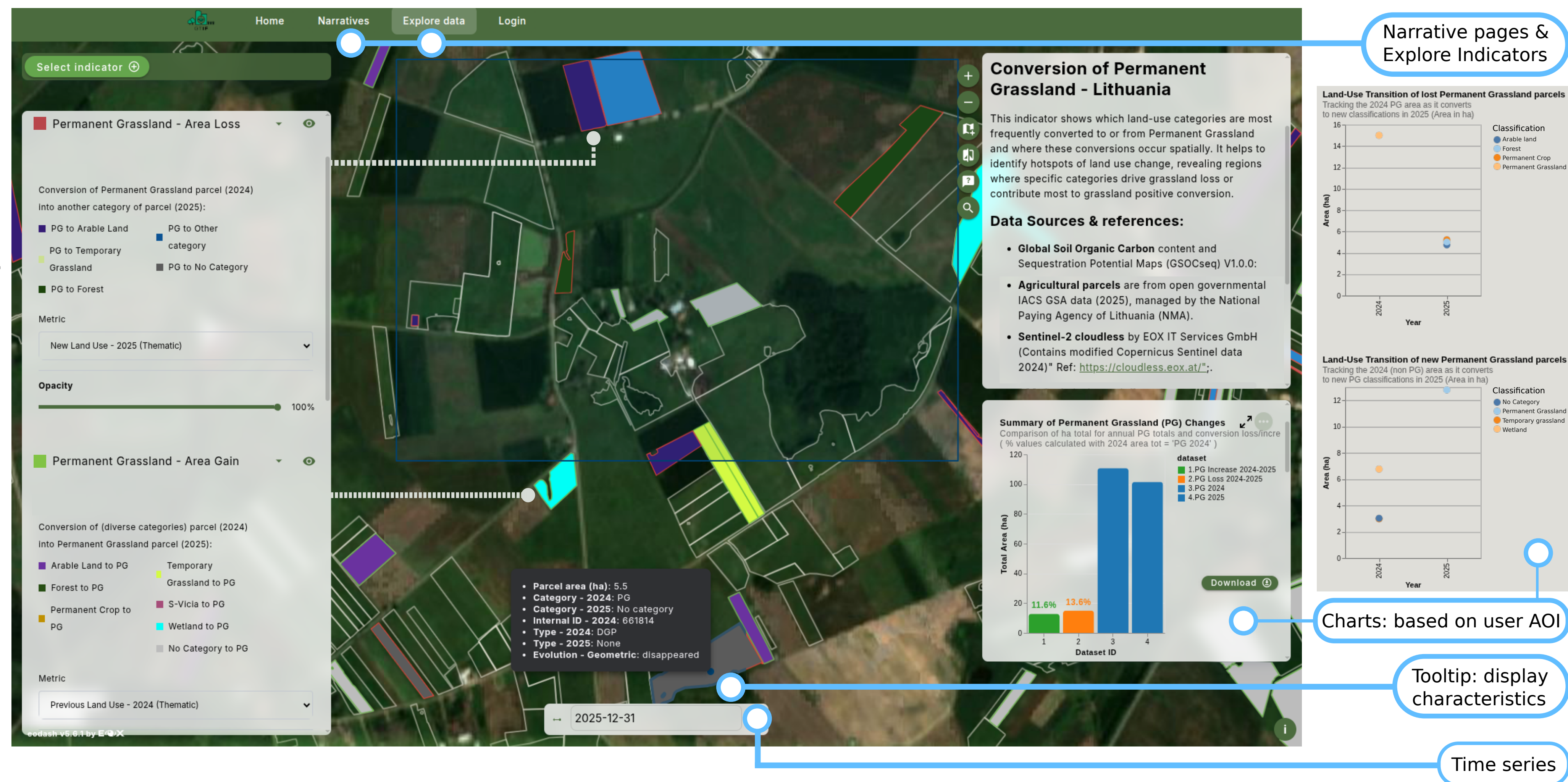
Land use change

Mapping the conversion of permanent grassland and their impacts: a growing concern in Lithuania. The analysis of individual converted parcels, geometrical and ecosystem service changes, scaling environmental impacts enables a deeper understanding of the drivers.

Impact of a land-use change

The conversion of permanent grassland to arable land releases stored organic carbon, reshapes ecosystem connectivity and leads to significant biodiversity loss.

The derived indicators support and guide spatial planning processes comparing areas by relative classes and combined indexes. By applying thresholds, categories are derived to delineate policy target areas on a country-wide scale.



Biodiversity Degradation

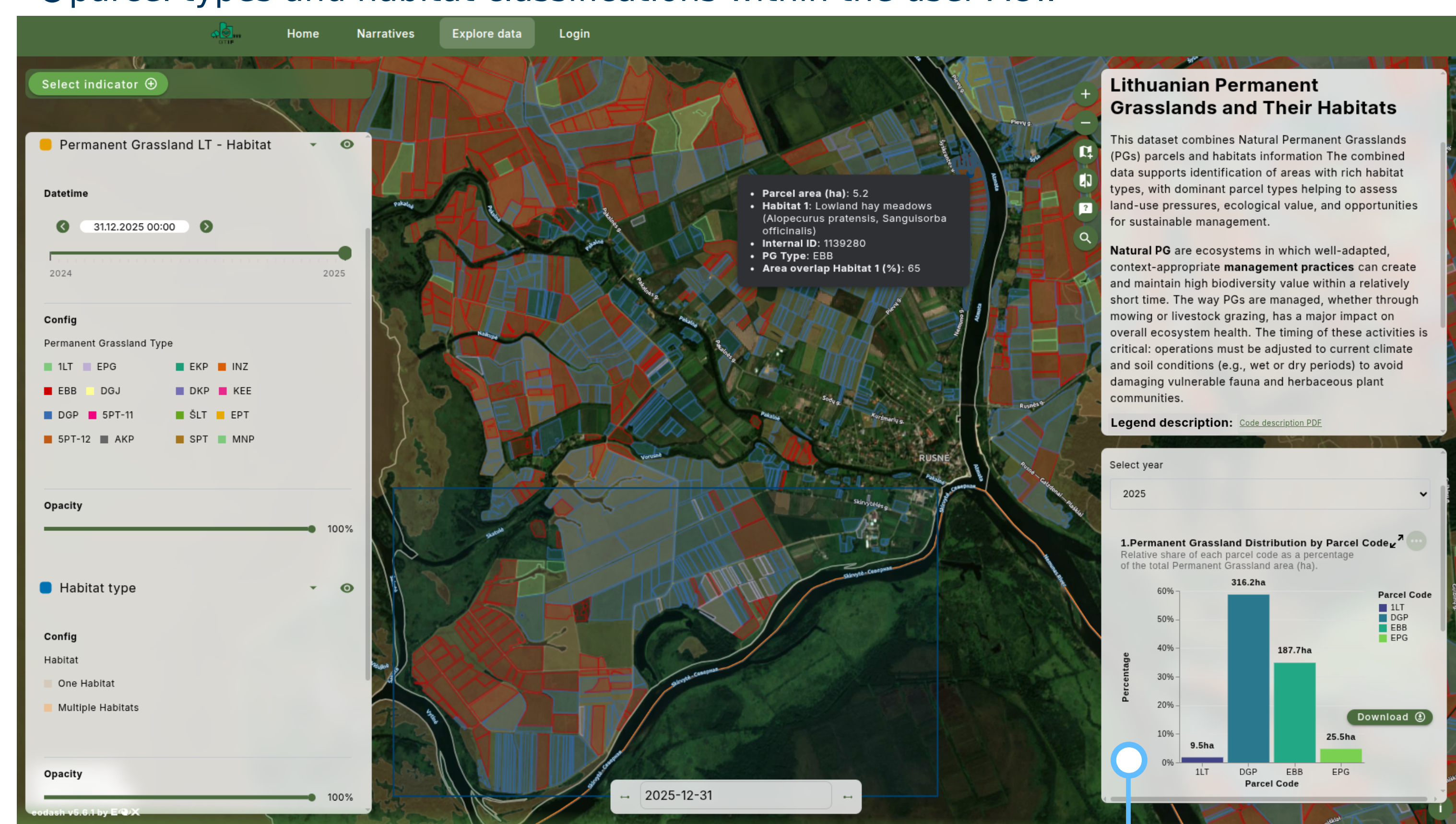
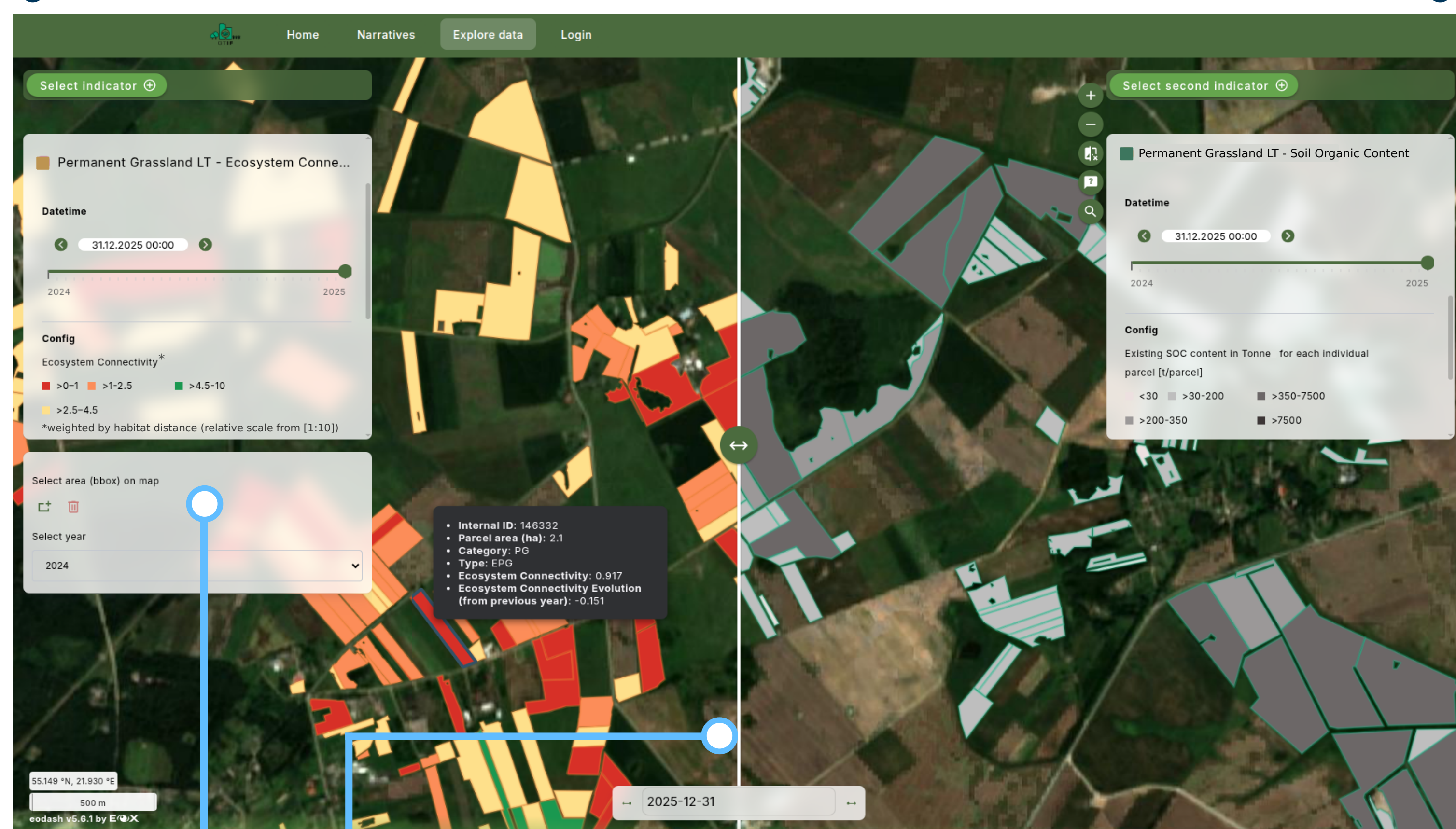
Scaling ecosystem connectivity and loss to identify high-priority conservation areas.

Soil Organic Carbon

Quantifying sequestration potential and carbon-loss associated with ploughing of converted grassland to arable.

Habitat diversity

By monitoring the thematic evolution of grassland parcels, the framework tracks specific habitat diversity changes to quantify direct biodiversity loss and ecosystem degradation. Integrated distribution charts visualize the balance of parcel types and habitat classifications within the user AOI.



Who is this tool for?

By identifying areas at risk of conversion from permanent grassland to arable land, the project provides a traceable and reproducible framework for assessing environmental impacts and managing nature-related risks across large spatio-temporal scales.

Key Stakeholders and Objectives

- **Public Authorities & NGOs:** Provides evidence-based data for supporting CAP Strategic Plan, Nature Restoration Law and national interventions for effective while at the same time sustainable management of conflicting land use.

- **Private Market Actors** (Food Corporates & Risk Management): Delivers "decision-ready" information for land and biodiversity accounting and for management of climate-related financial risks.

- **Scientific Community:** EOxHUB offers a robust platform to process complex EO & GIS data and publish results on an interactive Dashboard.

EOxHub Workspaces Architecture & Dashboard

