



Newsletter 02\_2025

connect with stakeholders  
share information  
gain insights

## Welcome to the second edition of the Europe-LAND newsletter!

As the Europe-LAND project continues to grow into our third year, we are reaching important milestones and building momentum across all work packages. This second issue of our newsletter offers a closer look at some of the most exciting recent developments in our project.

Published every six months, this newsletter series keeps partners and stakeholders informed, connected, and inspired by the collective progress toward more sustainable land use across Europe.



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## From Data to Decisions: How the Europe-LAND Toolbox Empowers Stakeholders

By Konstantinos Plataridis and Yiannis N. Kontos (Aristotle University of Thessaloniki, Greece)

The Europe-LAND Toolbox is a key output of the Horizon Europe-funded Europe-LAND project, designed to support evidence-based land use decisions that account for both climate and biodiversity considerations across Europe. Developed under Work Package 6 (WP6) by the Aristotle University of Thessaloniki (AUTH), this Toolbox is a web-based GIS platform that links past, current and planned land use actions to their spatial and temporal impacts, supporting users in a better understanding of past to present conditions as well as future scenarios.

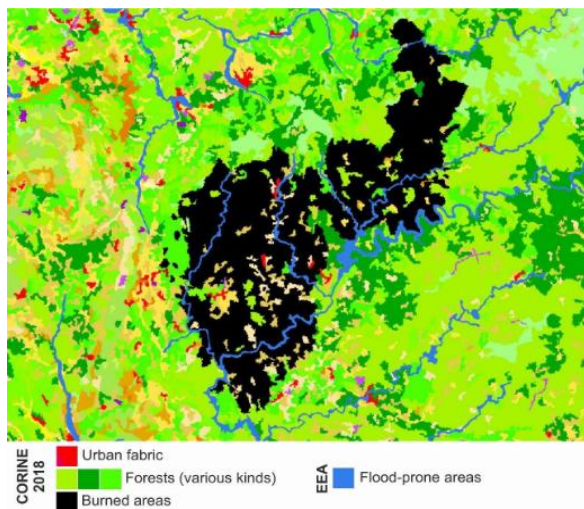


Figure 1: Burnt areas in Coimbra, Portugal, based on CORINE Land Cover 2018, combined with flood-prone areas from the European Environment Agency (EEA).

What makes the Toolbox truly novel is its role as a one-stop shop for integrated spatial analysis and stakeholder engagement. It offers policymakers, researchers, land users and planners the ability to interact with a broad range of datasets and analytical tools tailored to their needs. Its participatory design—

featuring first and foremost the integration of the project's key outputs but going beyond by through active exploration of external individual demands—ensures that the platform continuously evolves through internal and external stakeholder input and feedback, reflecting real-world priorities and challenges. As a scenario-driven tool, it will allow users to explore and actively experiment with how different policy choices and land management strategies might shape future landscapes. Furthermore, the Toolbox will serve as the central platform for visualizing and hosting outputs from all other Europe-LAND work packages, supporting both high-level policy formulation and local decision-making processes. Ultimately, it functions not just as a data viewer, but as an integrated decision-support system for sustainable land use planning.

### Technical Backbone

Technically, the Europe-LAND Toolbox is an interactive Web-GIS application built with JavaScript and the Leaflet library, enabling lightweight yet powerful geospatial analysis. Based on OpenStreetMap, it allows users to visualize, explore, and export results in multiple formats, including maps, statistical summaries, charts, and reports. The platform integrates diverse geospatial datasets related to land use, environmental conditions, and socio-economic indicators, sourced from trusted national and European institutions such as Corine Land Cover, the European Environmental Agency (EEA), Copernicus, and Eurostat. The platform will also embed outputs from other work packages, e.g. the novel database of harmonized European land-use data. Connections to external data services are established via Web Map Service (WMS), ensuring real-time updates of geospatial layers. Users will be able to upload their own data (in

KML or Shapefile formats) to enhance analysis and comparison. The organization of information into thematic layers enables focused exploration of land use pressures, conflicts, and opportunities for sustainable development.

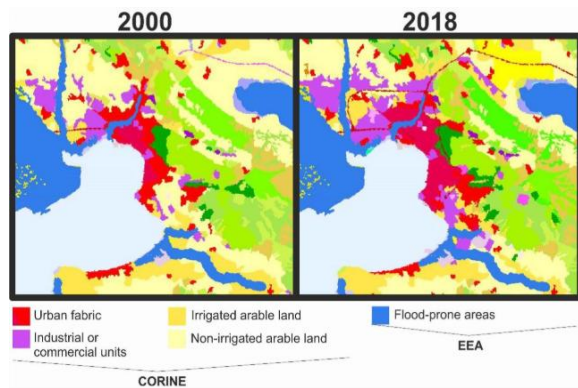


Figure 2: Urban-industrial sprawl of Thessaloniki from 2000 to 2018 (based on CORINE Land Cover 2000 and 2018), combined with flood-prone areas from the European Environment Agency (EEA).

### Key user groups

The Europe-LAND Toolbox is being developed to serve the needs of a wide range of stakeholders engaged in land use planning and management across Europe. Policymakers and planning authorities can use the Toolbox to develop and assess strategic land use policies that align with climate and biodiversity goals, benefiting from integrated, scenario-based spatial analysis capabilities. Researchers and academics will have the opportunity to interact with diverse datasets from multiple official sources. Local authorities, NGOs, and citizen groups will benefit from intuitive visualizations that support public engagement, awareness-raising, and participatory decision-making. Importantly, farmers and agricultural organizations gain unique insights through the integration of high-resolution agricultural data (IACS data), enabling them to evaluate policy effects and adapt management practices for sustainability. By combining open access, user-friendly tools, and participatory features, the

Toolbox provides an innovative, inclusive platform that bridges data, science, and practical land management across Europe.

### Key innovations of the Europe-LAND Toolbox:

- **Social Science Integration:** Reflects real-world decision-making by incorporating behavioral, awareness, and policy factors.
- **Customizable GIS Platform:** Offers user-friendly access to preloaded spatial datasets (e.g., Copernicus, CORINE) with upload and visualization features.
- **Serious Gaming (SES):** Allows stakeholders to explore future scenarios through role-play, fostering systemic thinking.
- **Data-friendly for Machine Learning:** Can support enhancement of prediction and gap-filling in land-use modeling, providing historical and scenario-based data for machine learning applications.
- **Participatory Design:** Ongoing development and testing with stakeholders across Europe, and users, supported by seminars, MOOC, and summer school.
- **Holistic Approach:** Enables exploration of synergies and trade-offs across land uses under climate and biodiversity

These features make the Toolbox more interactive, inclusive, and forward-looking than conventional land-use models.

Future platform development will focus on the integration of additional open-access datasets from reliable European and national sources, expanding thematic coverage and increasing the analytical capabilities. Moreover, the enhancement of the platform's appearance is one of the key priorities to help users navigate

smoothly and unlock its full potential. To strengthen user engagement, new interactive tools will be introduced based on ongoing stakeholder feedback. Finally, training modules and capacity-building

resources will be developed to support users, whether in research, planning, or policy making, in adopting and applying the Toolbox most effectively in their line of work.



Figure 3: The Natura 2000 KML file uploaded in the Europe-LAND Toolbox, overlaid with the CORINE Land Cover 2018 data.

## Moving From Silos to Synergy with a new IACS Community of Practice

By Minami Tsuchikura (HAW Hamburg, Germany)

On 21 February 2025, the “IACS Data Community of Practice (CoP)” was officially launched! This initiative emerged from a Europe-LAND technical workshop, “Leveraging data from the Integrated Administration and Control System (IACS) for research” which took place in Hamburg, Germany, from 19-21 February 2025. Scientists from all over Europe who actively work with IACS data joined the event, including representatives from the Directorate-General for Agriculture and Rural Development (DG Agri) and the Joint Research Centre (JRC) who joined to share their practical experiences.

### What did we discuss during the workshop?

During the workshop, participants presented their own IACS-related research findings and discussed challenges including possibilities in accessing the latest data. The main agenda included the following key questions:

- How can the IACS repository be improved?
- What is the ideal data unification framework?
- How can the members of this new CoP support data collection and integration?

These conversations emphasized the importance of and need for continuous exchange and cooperation, which is exactly what this new network is designed to for.

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The IACS Data CoP seeks to facilitate ongoing cooperation and knowledge exchange between researchers, policy makers and practitioners working with IACS data. While many experts have been conducting research on IACS data, previous opportunities for systematic inter- and transdisciplinary collaboration are still limited.

The creation of this group marks a shift toward more structured, long-term collaboration across disciplines. Rather than working in isolation, IACS data users have now created a dedicated space to collectively explore solutions and drive innovation. This new framework will encourage cooperation and deliverables that will inform a wide range of stakeholders, ranging from policymakers to land users.

## What does the Community do?

During the workshop, participants identified 10 area of action the CoP wants to engage in:

1. Develop user guides and publications addressing challenges and solutions
2. Produce policy briefs and expert opinions
3. Compile a list of interventions (in IACS or AEMS)
4. Compare 'optimal' vs. real-world implementation of measures
5. Utilize EU-wide IACS data for insights on crop diversity and rotation
6. Explore new proposals (e.g., on nitrogen use and land-use intensity)

7. Establish a strong network of IACS data experts
8. Expand and enhance the IACS database
9. Integrate and enrich datasets through harmonization
10. Identify and respond to relevant funding opportunities

HAW Hamburg is coordinating this activity and maintains regular communications for networking purposes, including event promotion.

## Join the community!

Anyone involved in research, policy or practice related to IACS data is welcome to join! Stay informed about the latest developments in IACS data research, connect with experts across Europe and actively participate in discussions and knowledge sharing initiatives.

Send your expression of interest by email to [minami.tsuchikura@haw-hamburg.de](mailto:minami.tsuchikura@haw-hamburg.de) or click here for the application form: <https://forms.office.com/e/xn2084UV8Q>



*Photo 1: A small group exchanges ideas at the February IACS Community of Practice meeting.*

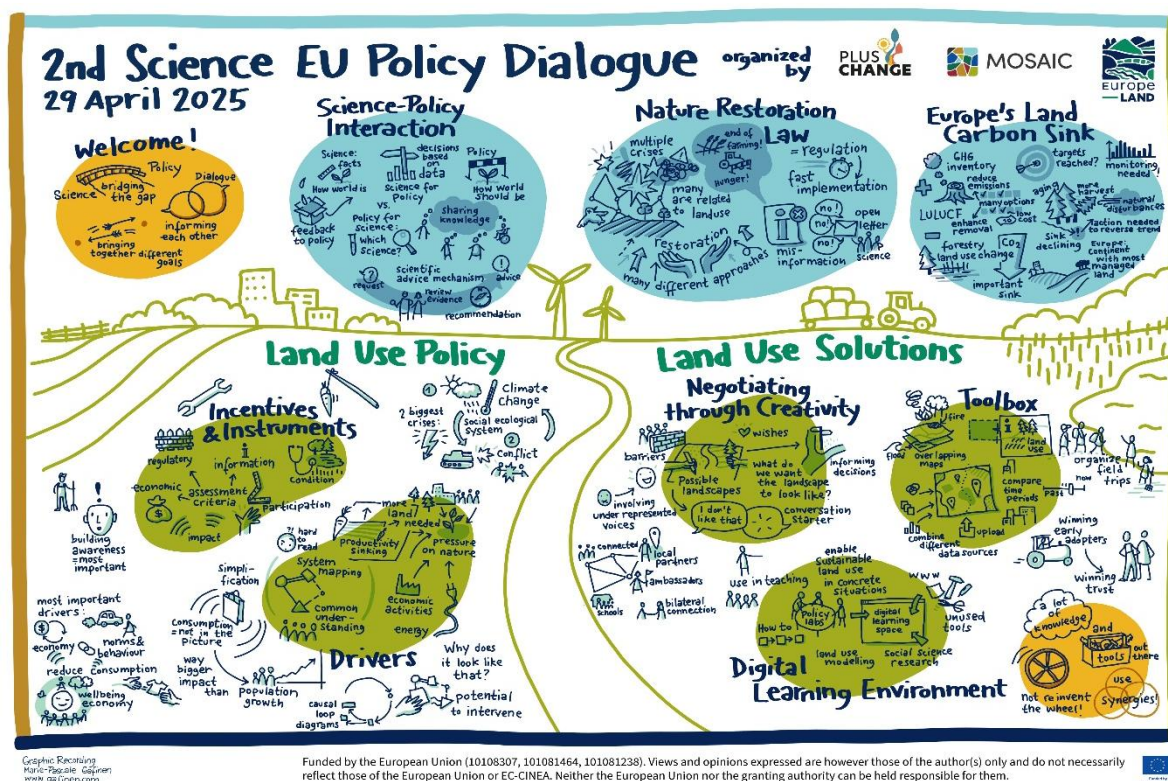


Figure 1: An illustrated summary of key topics discussed at the annual event, created by Marie-Pascale Gafinen.

## Momentum Builds in Year Two of EU Science Policy Dialogue

By Jasmin Röseler (HAW Hamburg, Germany)

Europe-LAND, in close collaboration with its two sister projects PLUS Change and MOSAIC, is organizing a yearly Science EU Policy Dialogue to connect EU policy makers and EU projects on land-use. The second annual occurrence of this event was held on 29 April 2025.

Changes in land use are a driving force behind climate change, biodiversity loss, and food security challenges. To address these complex issues, this dialogue is designed to provide a unique cross-sectoral opportunity for EU policy officers, land-use researchers, and Horizon Europe project leaders alike to connect, exchange ideas, and co-create approaches to sustainable land-use across Europe. In hopes to build pathways to beneficial outcomes, the dialogue showcases research contributions aligned with EU policy objectives, examining how current

research can shape future policy, encourage interactive discussion, and strengthen synergies between stakeholders.

In this second dialogue, the aim was to highlight, in more depth, potential contributions in support of the new EU Nature Restoration Regulation and related EU land-use legislation and present how land use-related EU research projects are engaging with this new policy.

The event opened with an introduction to the event by all three sister projects, followed by three keynote speeches. The first keynote delivered by Dr. Karen Fabbri, DG RTD, Deputy Head of Science for Policy Advice, Advice and Ethics Unit, focused on the relevance of science policy interaction for EU policy making, and what mechanisms already exist at EU level.

The second keynote speaker, Dr. Guy Pe'er (Group lead on "Agriculture and Ecosystems," Dept. Biodiversity and People at: German Centre for Integrative Biodiversity Research (iDiv) Halle-Jena-

Leipzig and Helmholtz Centre for Environmental Research (UFZ)) discussed the new nature restoration regulation, clearing up some common myths and misconceptions around the new regulations and what they might mean for farmers and agriculture in Europe. He especially emphasized the importance of science in this, mentioning an open letter by scientists in favor of the new regulation, which greatly helped support the implementation on a national level in several countries.

Finally, the third keynote delivered by Linde Zuidema (Expert for Climate Neutrality and LULUCF, European Environment Agency (EEA)), introduced the EEA's GHG reporting and verification unit. The land use change and forestry sectors play a major role in climate change mitigation as a carbon sink and are expected to provide a large share of the carbon removal necessary to reach climate neutrality by 2050. She further presented barriers and enabling factors for landowners to adopt new practices.

The opening session was followed by two interactive sessions involving the audience. Each interactive session was opened by flashlight presentations by the three organizing sister projects on their current and planned project work, to spark discussion amongst the participants. Session A on land use policy was opened by two sister projects presenting their current project work: PLUS Change explored drivers of land use decisions using causal-link diagrams; Europe-LAND presented assessment criteria for policy incentives and otherer instruments to shape land use decisions.

A lively discussion ensued with all participants on the importance of raising awareness amongst stakeholders and identifying climate change and violent conflicts as the two biggest crises in land

use. Participants also discussed factors that have the biggest impact on land use decisions, with many varying opinions.

Interactive session B focused on land use solutions. Here, all three sister projects presented their approaches: PLUS Change shared their "Possible landscapes" as a tool to start discussions with stakeholders about possible future land use scenarios, Europe-LAND showcased the Toolbox and potential use cases for different stakeholders with various information needs, and MOSAIC elaborated the plan for a digital learning environment, its envisioned features, and their use of policy labs as a testing ground to ensure better user acceptance.

The interactive discussion with all participants in this session focused on how to build synergies and utilize existing knowledge and tools amongst project teams and experts, instead of "re-inventing the wheel" each time. The discussion also focused on the importance of including underrepresented voices and finding early adopters to build trust amongst land users and other stakeholders. After the second interactive session concluded, the event was wrapped up with a conclusion from Prof. Julia Leventon (PLUS Change).

Overall, the second Science EU Policy Dialogue was a great success. 67 participants attended, 51 of whom were representatives of EU projects while 16 were EU officials. The lively discussions reaffirmed the need for a platform for exchange on land use and policy topics, and many connections between different projects and individual experts could be made. The next installment of the yearly series will be organized in Q1 of 2026. Stay connected with us to not miss your chance to join!

**The full agenda as well as the slides from the event can be found [here](#).**

## Uniting Sustainable Land Use Modelling

By Megan Curling (HAW Hamburg, Germany)

In April, the leaders of Europe-LAND's WP4 team hosted a technical workshop focused on approaches and tools for high-quality land use and land cover change (LUCC) modelling. This capacity-building event offered stakeholders a first look at two major project outputs: a comprehensive LUCC modelling tool database and a newly developed set of open-access educational modelling cards designed to assist users in navigating the complex landscape of existing modelling tools. These are complemented by hands-on success stories, providing insights into how the tools have been successfully applied in research practice.

The session opened with a welcome from Maris Klavins (University of Latvia, Latvia), who provided context for discussions on modelling's role in informing land use decisions. Following this introduction, Lucie Kupkova (Charles University, Czech

Republic) presented the tool database and provided participants with examples of real-world implementation. Janis Krumins (University of Latvia, Latvia) continued sharing these success stories, focused on a scenario-based modelling case in Latvia's North Vidzeme Biosphere Reserve while Gheorghe Kucsicsa and Mihaela Sima (Institute of Geography of the Romanian Academy, Romania) presented similar insights from their country. The event concluded with a discussion led by Maris Nartiss (University of Latvia, Latvia).

To support increased use of modelling tools, this team has developed a set of modular "modelling cards", simplifying key information about various tools into comparable profiles. These cards guide users, ranging from researchers to policy makers, toward choosing appropriate models for different contexts, encouraging more informed, effective land use strategies.

**Explore the full database, modelling cards, and success stories on our [Zenodo page](#).**

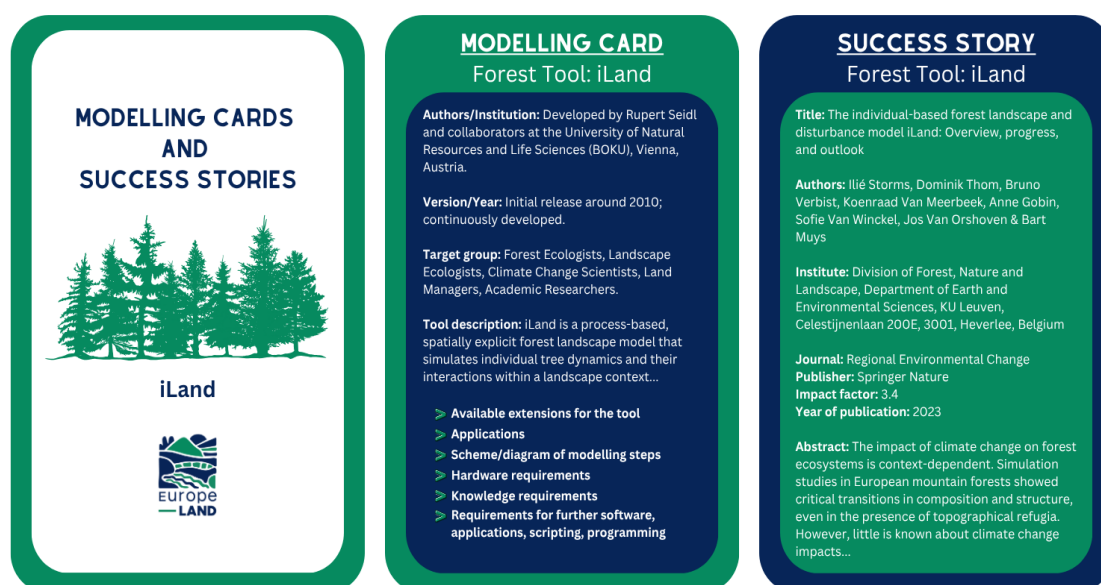


Figure 1: A stylized example of a paired modelling card and subsequent success story, as shown through the iLand forest modelling tool.

Thank you for reading. We hope that you have enjoyed our second edition of the newsletter and that you will stay in touch with us. Please follow us on [LinkedIn](#), subscribe to our [newsletter](#), and visit our [Zenodo repository](#)!

Sincerely yours,

The Europe-LAND Project Team

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