



MAMBO newsletter 2025 Supplement

October brings a special supplement to the MAMBO yearly newsletter, packed with updates after an eventful period for the project. Discover below the latest news, recent scientific outputs, and key highlights from MAMBO!

MAMBO publications corner

[Adapting a global plant identification model to detect invasive alien plant species in high-resolution road side images](#)

[Extracting secondary data from citizen science images reveals host flower preferences of the Mexican grass-carrying wasp *Isodontia mexicana* in its native and introduced ranges](#)

[Cooperative learning of Pl@ntNet's Artificial Intelligence algorithm: How does it work and how can we improve it?](#)

[MALPOLON: A Framework for Deep Species Distribution Modeling](#)

Visit MAMBO's website to access the complete list of

MAMBO outcomes

MAMBO updates

Annual General Meeting

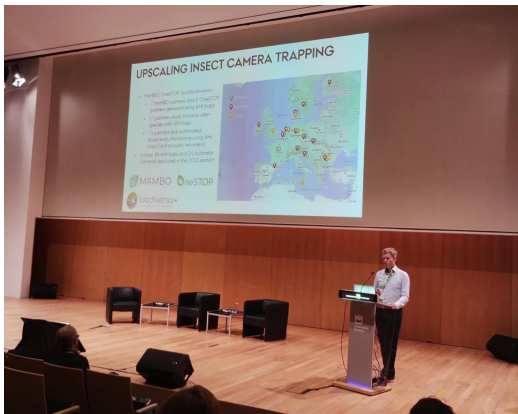


The third AGM of MAMBO took place on 10-12 September 2025 in Leiden, the Netherlands. The meeting provided a platform to exchange knowledge, showcase technological progress, and reflect on the project's actions.

Unlike previous AGMs, which focused on work package updates, this year's programme adopted a new approach. Presentations centered on the products and technologies developed within MAMBO, with each session addressing not only technical aspects but also ethical considerations, connections with other initiatives, among others.

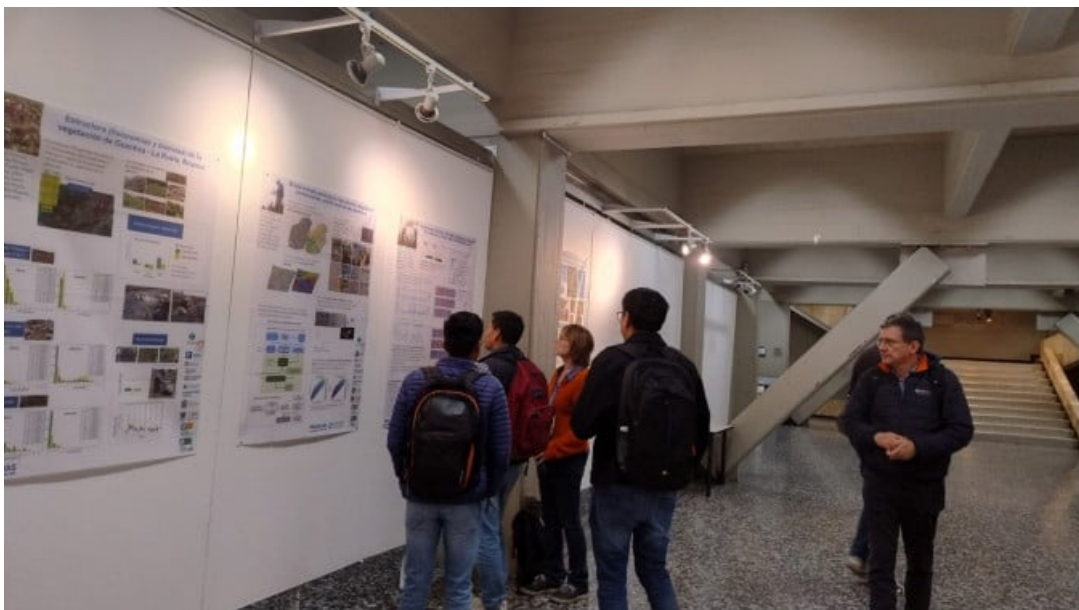
[Read about the AGM here](#)

Alternet Conference



During the 2025 Alternet Conference, MAMBO coordinator presented on automated biodiversity monitoring. His talk introduced the technologies used within MAMBO such as deep learning models and the AMI system and demonstrated how they enable continuous, non-invasive species monitoring across diverse ecosystems. Emphasising both practical applications and future directions, the keynote underlined MAMBO's contribution to advancing scalable, data-driven approaches to biodiversity observation.

MAMBO presents drone and allometry workflow in Colombia



In June 2025, the MAMBO drone and allometry workflow was presented at a focused workshop held in Bogotá, Colombia. The event, titled "Prioritising Research Agenda for the Paramos in Response to Global Environmental Change", was organised by Penn State University and funded by the U.S. National Science Foundation. The MAMBO drone processing workflow gained the attention of Colombian scientists keen to find a way of monitoring target plant species, such as their iconic Frailejon.

[Read the article here](#)

International Symposium: Future for Butterflies & Moths



At the Future for Butterflies & Moths symposium in Wageningen, MAMBO coordinator presented on the use of insect camera traps for long-term moth monitoring. His talk underscored MAMBO's role in advancing scalable, technology-driven approaches to insect biodiversity tracking. The presentation also echoed insights from a recent MAMBO publication on modern tools ranging from AI to molecular methods reshaping how we observe pollinators and other insects across Europe.

[Read the article here](#)

Synergies

MAMBO and GUARDEN develop a collaborative policy brief on plant community identification

The brief introduces an innovative service integrated into the Pl@ntNet platform, enabling the identification of plant communities directly from field images. By using advanced image recognition models, this approach supports consistent, protocol-based data collection and helps address persistent gaps in current biodiversity monitoring frameworks.

This contribution aligns with the goals of the EU Biodiversity Strategy for 2030 by providing scalable, accessible solutions for plant monitoring that can enhance

conservation planning and policy development. The tool is designed to support scientists, policymakers, and citizen scientists alike, fostering more timely and informed biodiversity assessments.

[Read the policy brief here](#)

MAMBO and GUARDEN co-fund the PlantCLEF 2025 challenge for AI-Driven plant community identification

This year's PlantCLEF challenge, launched earlier this year and co-funded by MAMBO and GUARDEN, took a major step forward in automated biodiversity assessment. Focused on multi-species plant identification from single vegetation plot images, the challenge drew on extensive training data from PI@ntNet and GBIF, as well as cutting-edge machine learning methods like self-supervised learning and transfer learning. Participants were tasked with predicting entire plant communities from complex, high-resolution imagery, a key capability for scalable ecosystem monitoring.

Final results will be presented at CLEF 2025 in Madrid this September, with outcomes expected to inform future conservation tools and research applications.

[Find out more](#)

Relevant news

The EU economy's dependency on nature: New science for policy brief

A new study by the EC Knowledge Centre for Biodiversity (KCBD) estimates that between 19% and 36% of the EU's gross value added (GVA) is highly dependent on ecosystem services. This research, commissioned by DG ENV, highlights the critical role of nature in supporting economic sectors across Europe.

Conducted by JRC.B1 and JRC.D6, the study follows a methodology similar to the 2020 PricewaterhouseCoopers (PwC) & World Economic Forum analysis, using the ENCORE (Exploring Natural Capital Opportunities, Risks, and

Exposure) framework combined with an input-output model. The findings underscore that the entire EU economy is susceptible to nature degradation due to the interconnectedness of supply chains.

[Read the full policy brief here](#)

GUARDEN released a policy brief on AI-driven plant distribution maps

GUARDEN's second policy brief highlights **GeoPI@ntNet**, an AI-powered platform designed to deliver detailed plant distribution maps and biodiversity indicators. Built to support both local and EU-level biodiversity governance, the platform allows users to access high-resolution data on species richness, threatened plants, and habitat predictions. With an intuitive interface, GeoPI@ntNet is tailored for use by planners, environmental authorities, and community stakeholders, providing a practical, scalable tool for restoration planning and environmental reporting in line with European policy goals

[Read the policy brief here](#)

MAMBO webinars

Habitat monitoring using drone technology: Are we nearly there yet?



Whether you work in biodiversity consulting, land-use planning, reserve management, research, or simply interested in habitat data collection and monitoring, this video offers a useful example on how to approach drone-based monitoring.

Our 1-hour webinar introduces:

- What is involved in achieving quality drone data collection
- A case study mapping individual hawthorn shrubs in a rewilding site
- The concept and power of U-nets (Deep learning) for habitat feature mapping
- How drone-derived data can support shrub biomass estimations through allometry

[Watch here](#)

Upcoming webinars

[GeoPI@nNET](#)

Date: Thursday, October 9th, 2025

Time: 2:00 PM (UTC+2)

Duration: 1 hour

Location: Online via Zoom (free, registration required)

The lack of systematic monitoring of

[Measuring vegetation structure with airborne LiDAR](#)

Date: Thursday, October 16th, 2025

Time: 13:00 CEST

Duration: 1 hour

Location: Online via Zoom (free, registration required)

habitats and plant communities at high spatial resolution for Europe remains a major barrier to effective land-use planning and conservation strategies. We are pleased to present GeoPI@nNET, a new web application designed to support both biodiversity stakeholders and scientists.

GeoPI@nNET was notably developed within the MAMBO project, and provides high-resolution (50 m) predictive maps for European habitats (EUNIS level 1 to 3), the potential presence of nearly 5,000 plant species, and a range of biodiversity indicators.

[Read more and register](#)

This webinar explores how airborne LiDAR can be used to measure and map vegetation structure in ecological and biodiversity research. The session will begin with briefly introducing airborne laser scanning technology and its potential for ecology, and then showcase three practical applications from European countries and nature reserves:

- Measuring trail networks of large herbivores
- Mapping the spatial distribution of 3D vegetation structures
- Identifying and mapping individual trees

[Read more and register](#)

MAMBO collection in RIO

This collection presents significant findings and outcomes from the project.

As the MAMBO project progresses, the RIO Collection will continue to expand, providing a valuable resource for researchers, policymakers, and practitioners.

[View here](#)

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