SDGs-EYES User Uptake Webinar Report

Forest Cover Change and Soil Erosion: Advancing SDGs Indicators Monitoring, Reporting, and Accounting

28 May 2025

EARSC

On Tuesday, 28 May, EARSC hosted the fifth and final webinar of the user uptake series under the SDGs-EYES project, to engage stakeholders, foster collaboration, and promote Copernicus-based services across five pilot areas. This session focused on Forest Cover Change and Soil Erosion: Advancing SDGs Indicators Monitoring, Reporting, and Accounting. SDGs-EYES aims to enhance Europe's capacity to monitor SDGs using Copernicus data, aligning with the EU Green Deal. By integrating data from six core services, the project develops accurate SDG indicators and decision-making tools. Continuous user engagement is key, ensuring co-design, adaptability, and successful service uptake adoption throughout the project's duration.

The webinar was attended by **45 online participants** from across Europe and beyond, representing a diverse community of users, including forest and soil erosion researchers, Earth Observation (EO) service providers, forest managers, certification bodies, and policymakers involved in environmental monitoring.

The session featured presentations of two complementary tools developed within the SDGs-EYES project, using Romania as a pilot case study:

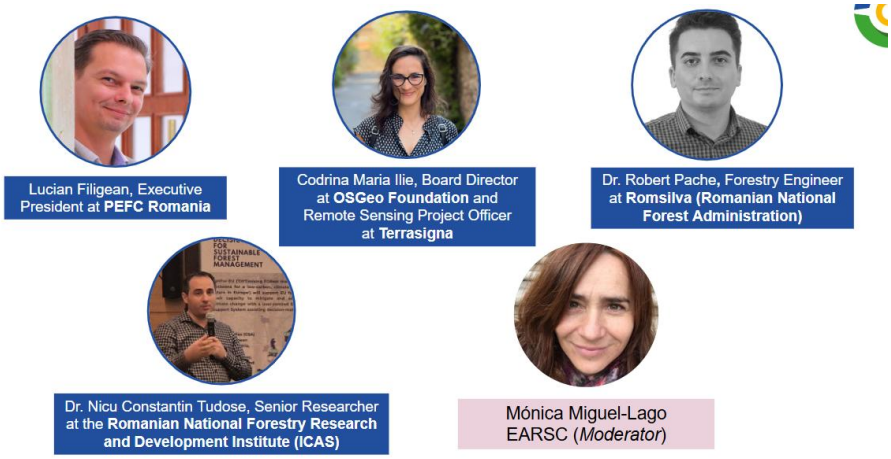
- A **forest monitoring tool** presented by **Mihai Daniel Nita from Forest Design**, which uses high-resolution Sentinel-2 satellite imagery to quantify and track changes in forest cover. The tool supports both the EUROSTAT indicator "Share of forest area" and the UN SDG 15.1.1 "Forest area as a proportion of total land area". Participants learned about its advanced change detection workflow, validation processes, and monitoring capabilities, as well as the integration of ancillary data to enhance accuracy and map interpretation.
- A **soil erosion assessment tool**, developed by **Melissa Latella from CMCC Foundation**, demonstrated across the Olt River Basin. This tool delivers insights into potential rainfall-induced soil erosion and its drivers, such as land use, land cover, and nearby infrastructure. Given soil erosion's role in land degradation and its wider impacts on food security and human well-being, the tool aims to inform both local and EU-level policies and contribute to progress tracking for the UN SDG 15.3.1 "Proportion of land that is degraded over total land area".

The session continued with **two panel discussions and breakout rooms**, each focused on one of the tools. These interactive segments provided a **forum for expert dialogue**, refining the tools, identifying synergies with ongoing initiatives, and exploring opportunities for broader application beyond the Romanian pilot area.

Panel Forest Cover Change

The first panel discussion, moderated by Mónica Miguel-Lago from EARSC, brought together a **broad range of experts in the forest monitoring domain:**

- Dr. Robert Pache, **Forestry Engineer** at Romsilva
- Lucian Filigean, **Executive President** at PEFC Romania
- Codrina Maria Ilie, **Remote Sensing Project Officer** at TERRASIGNA
- Dr. Nicu Constantin Tudose, **Researcher** at the Romanian National Forestry Research and Development Institute (ICAS)



Key Highlights

Using EO to strengthen forest certification and regulatory compliance. Satellite data provides reliable, timestamped information that can be used to support forest certification and demonstrate compliance with regulations such as the EU Deforestation-Free Regulation (EUDR). Panellists highlighted that certification schemes are ready to embrace EO, provided the outputs are auditable and aligned with regulatory requirements. This builds credibility with both authorities and civil society while reducing costs and improving the efficiency of certification processes.

Enabling collaboration and transparency through open-source platforms. Open-source EO tools are crucial in making forest monitoring more transparent, flexible and widely adopted. They enable users to process, compare and validate data independently of proprietary systems. Panellists also emphasised that open platforms strongly support cross-sector collaboration by bridging the gap between software developers and forestry practitioners. This kind of collaboration fosters trust and allows users to adapt tools to their specific workflows. The result is tools that are more inclusive and adaptable, and that can be reused, improved and scaled over time.

Improving digital capacity within forest administrations. Despite the long-standing use of GIS in forest management, many public forestry bodies still struggle to operationalise EO tools. Barriers include limited internal expertise, a lack of easy access to platforms and the requirement for licences and training. Panelists pointed to the need for clarity in data standards and integration with existing systems to ensure that EO outputs are actionable. Simplifying interfaces, providing web-based systems and offering targeted capacity-building are essential steps to making EO tools more usable and supporting everyday decision-making and service uptake.

Panel Soil Erosion

The second panel discussion, also chaired by Mónica Miguel-Lago from EARSC, gathered **leading experts in soil erosion:**

- Dr. Panos Panagos, **Project Leader of the EU Soil Observatory** at the Joint Research Center, European Commission
- Dr. Francis Matthews, **Postdoctoral researcher** at Roma Tre University
- Dr. Anisoara Irimescu, **Senior Researcher** at the Romanian National Meteorological Administration
- Dr. Pedro Batista, **Postdoctoral researcher, Water and Soil Resources Research Group** at University of Augsburg

Key Highlights

Aligning soil erosion indicators with EU policy and monitoring needs. 'Soil erosion by water' is an increasingly important policy indicator, particularly within the Common Agricultural Policy, for assessing the impact of land management practices on soil quality across EU Member States. As the panellists highlighted, this indicator is crucial for tracking the environmental impact of subsidy schemes and informing future reforms. With new legislation such as the EU Soil Monitoring Law, there is a growing emphasis on improving the robustness, comparability and usability of these indicators for national reporting purposes..

Monitoring erosion risk combining EO and environmental data. Monitoring soil degradation requires combining satellite data with rainfall, hydrology, and vegetation information. Case studies of flooding and drought showed how EO, paired with knowledge of infiltration and land cover, helps explain regional differences. Panellists noted that rainfall intensity and frequency are key to model accuracy, though integrating meteorological data into EO workflows remains a challenge. Models that incorporate both climate extremes and land use offer more targeted insights for planning and adaptation.

Making erosion models both transparent and adaptable. To support land management and policy, erosion models must be both understandable and flexible. Panellists emphasised the need for clear communication of model capabilities and limitations, along with better documentation, user-friendly interfaces, and transparency around uncertainty. They also called for a balanced approach - using common datasets like rainfall, vegetation cover, and soil properties - while allowing for methodological variation to reflect national or regional needs. This ensures erosion indicators remain both scientifically sound and practically applicable.

Breakout Rooms

Following the panel discussions, participants attended two breakout rooms, each focused on one of the tools:

- In the **first BO, Mihai (ForestDesign)** led a discussion on ensuring the long-term use of forest monitoring tools. The group highlighted the need to transfer ownership of services to users who can apply them in practice. Participants discussed different user types and agreed that focusing on those willing to delegate monitoring tasks offers the most realistic path to sustained uptake.
- The **second BO, Melissa Latella (CMCC)** facilitated a discussion on improving the scalability and usability of the soil erosion tool. Participants emphasised the need for clear deliverables, including metadata, methodological notes, and limitations. Suggestions included enhancing the user interface with help features to support non-expert users. Several attendees expressed interest in testing the tool and providing feedback as validation users.

Key Takeaways and Next Steps

The webinar highlighted the **value of Copernicus-based EO tools for monitoring SDG indicators** on forest cover change (SDG 15.1.1) and soil erosion (SDG 15.3.1). Both tools demonstrated strong potential to support EU and international reporting requirements and inform evidence-based policy and land management.

Long-term service uptake depends on **tools being user-friendly, well-documented, and adaptable to varying user needs**. Discussions emphasised the importance of transferring ownership to stakeholders, simplifying interfaces, and offering targeted training.

Several participants expressed **interest in becoming validation or exploitation users** to test the tools and support further development. They will support the project by testing functionalities, providing feedback on usability, and assessing the tools' relevance for operational use in national forest management and soil degradation reporting. The project team will follow up with these users to co-develop improvements and explore integration into existing workflows.

If you missed the live session, you can review the webinar recording here.

Save the date for two upcoming SDGs-EYES webinars, which will showcase the full suite of services developed under the project to support a better understanding of the **environmental and social impacts of climate change:**

- *The impact of climate change on people" on Thursday, 10 July 15:00 – 16:00*
- *"Impact of Climate change on Ecosystem" on Tuesday, 15 July 15:00 – 16:00*

To learn more about the SDGs-EYES pilots and future webinars, visit www.sdgs-eyes.eu

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