

Project Title

Assessment of the Regeneration Capacity and Resilience of Ukrainian Polissia Forests After Fire and War Disturbances

Project Data

Duration	Funding	Project location/ Region
1 March 2026 – 28 February 2027 (12 months)	DBU fellowship: €500/month for 12 months; additional project funds: 6 840 €	Drevlianskyi Nature Reserve and Zhytomyr Region, Ukrainian Polissia, Ukraine

Project Partners

Who are the project partners?

- Zhytomyr Polytechnic State University (ZPSU), Ukraine
- Eberswalde University for Sustainable Development (HNEE), Centre for Econs and Ecosystem Management, Germany

What does each partner specifically contribute to the project?

- Coordinates implementation; field monitoring; vegetation/regeneration surveys; GIS and remote-sensing analysis; data synthesis.
- Provides methodological consultation on ecosystem resilience, spatial indicators and interpretation, and supports landscape and green-moist-cool approaches.

About the Project

What is the problem – and what do you want to change about it? What are you doing specifically to achieve this goal?	Forests of Ukrainian Polissia are increasingly exposed to severe wildfire, climate-related fire risk and war-related disturbance, while some areas also carry a legacy of radioactive contamination. The key challenge is not only forest loss, but understanding whether affected stands are genuinely recovering, how repeated disturbances alter resilience, and where natural regeneration may be insufficient. The project develops an integrated evidence base for Drevlianskyi Nature Reserve by combining forestry-botanical field surveys, continuous temperature/humidity monitoring and multi-year GIS/remote-sensing analysis. Crown-fire, surface-fire, reburned, war-disturbance and control conditions are compared to determine how disturbance history, microclimate and landscape context influence regeneration. The goal is to identify recovery trajectories, vulnerable areas and priorities for monitoring and ecosystem-based restoration.
What is special or new about your approach?	The project does not use satellite greening alone as proof of recovery. It links plot-level vegetation and microclimate data with landscape-scale disturbance and recovery mapping, separates single-fire from repeated-fire histories, and validates spectral recovery with field evidence. This cross-scale design allows resilience to be assessed as a process through time. Cooperation with HNEE/ECONICS adds expertise in ecosystem resilience and supports adaptation of landscape and green-moist-cool concepts to Ukrainian Polissia.
The figure: What does the project actually do?	17 temperature/humidity loggers are installed at 14 georeferenced monitoring positions. GIS analysis already covers approximately 25,123.65 ha of pre-fire forest and identifies about 1,799.81 ha affected only in 2020, 1,133.86 ha only in 2022 and 130.86 ha reburned — approximately 3,064.53 ha in total. Long-term analysis also quantifies about 4,751.57 ha of tree-cover loss during 2001–2025 and reconstructs fire exposure over the same 25-year period.

What remains? What concrete results are achieved, and who can use them in the future?

By project end, field inventories and logger time series will be integrated with GIS products to produce a validated spatial database, evidence on how repeated fire and war-related disturbance interact with microclimate and landscape connectivity, maps of contrasting recovery trajectories and vulnerable areas, and management-oriented recommendations for monitoring and ecosystem-based restoration. The results will support scientific publications and a GEE-based visualisation and can be used by Drevlianskyi Nature Reserve, protected-area and forestry managers, environmental authorities, restoration planners and researchers.

See the project images
on the following pages



Project images

Image 1 of 4



Post-crown-fire forest condition.

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Post-fire forest site.

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Temperature and humidity logger at the site.

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Image 4 of 4



Temperature and humidity logger at the site.