



Acronym	FORBEECH
Full Title	Enhancing Forest monitoring of beech forests in South-East Europe
Grant Theme	Pilots of long-term climate impact forest monitoring sites: Providing temporally resolved ecosystem-level information on the effects of climatic drivers on forest structure and function in near real-time
Participants	Slovenian Forestry Institute, Slovenia (<i>coordinator</i>) Croatian Forest Research Institute, Croatia Institute of Lowland Forestry and Environment, Serbia
Start Date	February 2026
Duration	18 months
Description	Climate change is increasingly impacting forest ecosystems across Europe, highlighting the urgent need for improved forest monitoring that integrates both terrestrial and airborne techniques. This priority is reflected in the European Union's Proposal for a new regulation establishing a monitoring framework for resilient European forests, which envisions a comprehensive, high-quality system to address emerging pressures and hazards. Existing schemes like UNECE ICP Forests, with its harmonised methodology, offer a strong foundation for such a system, especially when enhanced with modern technologies. European beech (<i>Fagus sylvatica</i> L.) forests in hilly and mountainous regions of South-East Europe - once considered stable and resilient—are now showing signs of declining vitality and increased mortality. To address this, we aim to: • Strengthen intensive monitoring on ICP Forests beech plots in Slovenia, Croatia, and Serbia - covering the Alpine, Continental, and Pannonian biogeographical regions - by linking water availability to tree growth. • Conduct parallel terrestrial and airborne measurements in beech tree crowns to correlate physiological data with vegetation indices from hyperspectral imagery. • Supply FORWARDS with near-real-time data on tree growth, weather conditions, and soil water status throughout the project for additional three years and beyond (as a part or regular intensive monitoring activities in each country). FORBEECH project will take advantage of the existing longitudinal (i.e. west east) climatic and altitudinal gradients covered by the three ICP Forests plots, enabling a robust analysis of climate impacts on beech forests physiological status and resilience.



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