

PROJECT INFORMATION

Project title: Innovative forest Management Strategies for a resilient bioeconomy under climate change and disturbances (I-MAESTRO)

Project ID: 215

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PROJECT DESCRIPTION

A key objective for the EU bioeconomy is to ensure that forests provide sustainable resources while preserving the provision of other ecosystem services. However, climate change and intensification of disturbances may seriously jeopardize this objective. In this context, forest resilience can play a major role for the bioeconomy in limiting negative impacts. The aim of I-Maestro is to improve the scientific basis of management strategies that increase forest resilience while preserving biodiversity conservation and carbon storage. I-Maestro will especially assess the value of management strategies fostering forest structural complexity, an important attribute usually considered as beneficial to several ecosystem services. It will meet this aim by (i) documenting and analyzing past disturbances to build future disturbance scenarios, (ii) using evidence-based studies of disturbance impacts and recovery processes, and (iii) simulating wood production and other ecosystem services (carbon storage, biodiversity) under scenarios of disturbance, management and climate change in temperate forests across Europe (Slovenia, Poland, Germany, France) with complementary forest dynamics models (4C, LandClim, Samsara2, Salem). The project will deliver key products to develop a sustainable bioeconomy: an open access disturbance database, deeper understanding of disturbance impacts and management effects on ecosystem services at multiple scales (stand, landscape and European country), and simulations evaluating innovative complexity-based management strategies. By investigating interactions between disturbances, forest management, climate change and structural complexity, I-Maestro will also create opportunities to build new adaptive management practices. Finally, it will synthesize its main results to develop recommendations for stakeholders and policy makers on how to enhance or preserve the forest bioeconomy under environmental changes.