

G-03-2024

Project	Beneficiary	Activity	Duration
AForMan	1. Forestry and Game Management Research Institute, Czech Republic 2. Competence Center for Wood and Forestry, State Enterprise Sachsenforst, Czech Republic	The AForMan project aims to establish field trials in the Czech Republic and Saxony for testing adaptive forest management and restoration practices. Field trial sites will cover a gradient of forest vulnerability to drought and disturbances and will serve as a basis for developing effective measures to support climate change mitigation, adaptation and biodiversity. The project will test various adaptive interventions, such as different systems of thinning, underplanting with drought-resistant species, supporting measures for natural regeneration under the parent stand or in gaps. These interventions will be systematically documented and evaluated against control plots to assess their impact on forest health, productivity, carbon sequestration, and biodiversity. Data collection will focus on key indicators like stand structure, crown condition, tree growth, carbon stock, soil properties, vegetation diversity, and the presence of deadwood utilizing standardized forest inventory and ICP Forests methodologies. Baseline assessments will be conducted before implementing adaptive interventions, with repeat measurements planned for future years. Ground assessment of stand structure will be complemented by terrestrial laser scanning. Monitoring equipment on ICP Level II plots, including soil sensors and weather stations, will provide near real-time environmental data. The project also includes a dissemination plan, with interim and final reports, workshops, and publications targeting forest managers and policymakers. By engaging stakeholders and securing long-term funding, AForMan aims to ensure the continuation of field trials and monitoring beyond the project's 18-month duration. The outcomes will provide valuable insights into best	Start: 4/ 2025 18 Months

		practices for climate-smart forestry, contributing to forest resilience and sustainable management across Europe	
ALPFOR-CSF	Eurac Research, Italy	Direct and indirect effects of climate change are dramatically impacting European forests. Climate smart forestry (CSF) aims at integrating mitigation with measures of adapting forests to future conditions, and at the same time enhancing forest resilience and maintain key ecosystem services. The objective of ALPFOR-CSF is to establish new field trials for long-term forest monitoring to assess the impact of CSF practices in forests of the Italian Alps. Our trials within three study areas cover several aspects of CSF in the Alps, such as the implementation of adaptations to management interventions in Norway spruce stands for composition enrichment and structure diversification to promote ecosystem functioning and improving the trade-off among timber production, carbon sequestration, and biodiversity conservation. In both control and CSF treatments, important variables will be collected pre- and post-treatment execution at both stand- and tree-level, such as diameter, tree locations, canopy structure, soil carbon, microclimate, deadwood amount, tree microhabitats, and regeneration. Ground- and UAV-based imagery techniques will be used to depict forest structure at stand-level, while dendrometers and inventory-based methods will be used to monitor forest growth at the tree-level. These variables will be used to derive CSF indicators and to quantify the potential for carbon mitigation and the provision other ecosystem service of such practices. Simulation modelling will also be applied to predict future stand development under climate change. Finally, we will survey forest managers regarding their perception on CSF and maintain an open data repository that will feed into the FORWARDS database.	Start:4/2025 18 Months
NATMIXFOR	University of Sarajevo, Faculty of Forestry, Bosnia	Bosnia and Herzegovina is characterized by forests which are biodiversity hotspots, consisting of a rich variety of tree species, shrubs, and ground vegetation. A factor that distinguishes Bosnia and Herzegovina within Europe, alongside its high biodiversity, is the presence of large areas of untouched	Start: 4/2025 18 Months

		forest ecosystems, which serve as crucial reservoirs for endangered and rare species, carbon storage, and climate resilience, offering unique opportunities for conservation and sustainable development efforts. Due to the inaccessibility and limited forest road networks, these areas have remained largely unmanaged and preserved in their natural state, offering invaluable opportunities for research and knowledge generation within the Central European context, especially in light of future climate change developments. The main activity of this project is to establish new field trials consisting of 12 experimental plots, each 1 ha in size, within uneven aged mixed beech, fir and spruce forests across different ecoregions in Bosnia and Herzegovina. The study will include 6 plots in forests managed using a selection system and 6 in untouched primeval forests of the same type, serving as reference sites. The main goal is to analyze the data collected from these plots, using methods from the ICP Forests Manual, through Climate-Smart Forestry indicators. This evaluation will determine the management system's potential to mitigate climate change and enhance resilience against natural disturbances and drought. The experiment is expected to offer valuable insights into the impacts of climate change on both unmanaged and managed mixed forests, as well as strategies to mitigate these effects. It will likely reveal differences in resilience, biodiversity, and ecosystem health, with unmanaged forests potentially showing greater natural resilience due to their complexity. The results could highlight how forest management practices influence vulnerability or adaptability to climate change, offering guidance for refining those practices. Additionally, the study will assess the effectiveness of Climate-Smart Forestry indicators, contributing to more targeted adaptation strategies for different	
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		forest types and climatic regions. This will contribute to the creation of an integrated adaptation roadmap, offering recommendations for Climate-Smart Forestry practices across Europe.	
RECLAIM	TUD Dresden University of Technology, Germany	Climate change and disturbance regimes increasingly pose a threat to climate regulating services of forest ecosystems. Climate-smart forestry has the potential to counterbalance the decrease in climate regulating services through adaptive management actions. While numerous guidelines have been developed with a focus on species and structural conversion of vulnerable forest ecosystems, research addressing pioneer forests (German: “Vorwald”) – forests dominated by early-successional tree species communities established after large-scale disturbances – remains very limited. Yet, pioneer forests will greatly gain importance in the future as disturbances increase in size, severity, and frequency. Pioneer forests may withstand weather extremes and improve soil conditions, thereby enhancing forest resilience after disturbances, including the recovery of carbon stocks. Additionally, they may improve environmental conditions for target tree species planted beneath their canopy. The proposed project “RECLAIM” aims to investigate the potential of pioneer forests as an adaptive management strategy following large-scale disturbances in Central Europe. Specifically, the project objectives are to (i) establish a network of permanent sample plots in pioneer forests with varying stand and site conditions, (ii) plant target tree species beneath intact and manipulated pioneer forest canopies, and (iii) investigate stand development pathways and their link to the recovery of carbon stocks after stand-replacing disturbances. While the project will provide initial insights into the contribution of pioneer tree species to forest resilience after stand-replacing disturbances, subsequent projects will, for instance, quantify their microclimatic buffering capacity	Start: 4/2025 13 Months

		against weather extremes as well as the growth and mortality of planted target tree species.	
SMART-OAK	1. University of Granada, Spain 2. Università degli Studi dell'Insubria, Italy	SMART-OAK will build upon a collaborative European network of restoration sites with native oak species, in which experimental plots with seeded individuals intermingled with plots planted with nursery-grown plants are being monitored for seedling survival and growth (1). Through SMART-OAK, we will measure diverse indicators of restoration outcomes after the induced loss of aboveground biomass to assess and compare the effectiveness of revegetation treatments in the face of natural disturbances. This will provide insights into the resilience of restored vegetation throughout the network, i.e., at dozens of sites sampled by voluntary participants across Europe with 12 oak species. In-depth sampling by SMART-OAK members at 8 selected Core Sites in Southern Europe will assess the response to revegetation treatment of one major deciduous (<i>Quercus cerris</i>) and one evergreen (<i>Q. ilex</i>) oak in terms of cover, total above- and belowground biomass, C content, and root architecture –with functional implications for resistance to mechanical disturbance– plus associated soil C content and fungal and bacterial diversity –with functional implications at the community level and for the contamination of soils through restoration practices. To achieve this, the team at UGR will manage the project and coordinate the network by producing and communicating protocols, managing the resulting datasets, and coordinating the production of scientific outputs. The team at UNINS will sample the Core Sites to obtain plants –including complete root systems– and soil samples. The plants will be sent to UNINS, where they will be analysed, whereas the soils will be analysed at UGR.	Start:4/2025 18 Months