



Acronym	RECLAIM
Full Title	The potential of pioneer forests for climate adaptation and mitigation
Partner(s)	TUD Dresden University of Technology, Germany
Grant Theme	Establishing Climate-Smart Forestry and forest restoration pilots in Europe
Start Date	April 2025
Duration	13 months
Description	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 RECLAIM project investigates the potential of pioneer forests as an adaptive management strategy following large-scale disturbances in Central Europe. Specifically, the project objectives are to: • establish a network of permanent sample plots in pioneer forests with varying stand and site conditions, • plant target tree species beneath intact and manipulated pioneer forest canopies, • 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 against weather extremes as well as the growth and mortality of planted target tree species.



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