Innovative forest management strategies for a resilient bioeconomy under climate change and disturbances

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Context

🌿 Climate change will affect wood production and other ecosystem services (ES).

🌳 Disturbances could intensify in the future and interact with climate change in modulating ES.

🌲 Forest resilience can play a major role in limiting degradation of the forest and associated ES.
Is fostering structural complexity a relevant strategy to sustain ES provisioning and on what scale?
Objectives

Synthesize and improve knowledge on resistance to disturbances and recovery dynamics.

Update a disturbance database and produce disturbance scenarios over Europe.

Analyse the impacts of disturbances, management and climate change scenarios on ES at different scales.

Assess the effect of structural complexity on ES and the value of complexity-based management strategies.

Provide recommendations for enhancing forest resilience through adaptive management strategies.
3 landscapes

**Snežnik, Slovenia**

**Bauges, France**

**Milicz, Poland**

**Disturbances**
windstorms, bark beetle damages, severe droughts, ice storms, snow avalanches...

**Ecosystem services**
wood production, carbon storage, protection against snow avalanches and rockfalls, biodiversity conservation
Temperate forest ecosystems dominated by fir, spruce, beech, Scots pine
stand, landscape, country

- Climate scenarios
- Management scenarios
- Disturbance scenarios
- Disturbance data base
- 100-year forest dynamics simulations with models
- ES dynamics Complexity
- Empirical studies on recovery
- Analysis of ES provisioning
- Reviews
- Synthesis and recommendations

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