A decision support system for sustainable forest management and ecosystem service provisioning at the enterprise scale

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Background and aim of the project:
• Changes in climatic conditions and societal demands for ecosystem services (ES) make the planning of sustainable forest management highly challenging
→ Within the research project SessFor, a decision support system (DSS) for strategic planning at the forest enterprise level is developed

Material and methods:
• DSS based on climate sensitive forest model (Zell et al., 2020)
• Various indicators for biodiversity and ES considered (Fig. 2)
• First DSS application at case study ‘Wagenrain’ in plateau region of Switzerland
• Further case studies in other regions ongoing

Preliminary results:
• Evaluation of 4 management strategies under present climate investigated for years 2010 to 2060
→ Trade-offs between carbon sequestration, timber production and biodiversity (Fig. 3)
• Decrease of recreation value over time under ‘less intensive management’ strategy (Fig. 4)

Outlook:
• Evaluation of different management strategies under climate change scenarios, using multi-criteria decision analysis
• Inclusion of further case study enterprises in mountainous regions

References: