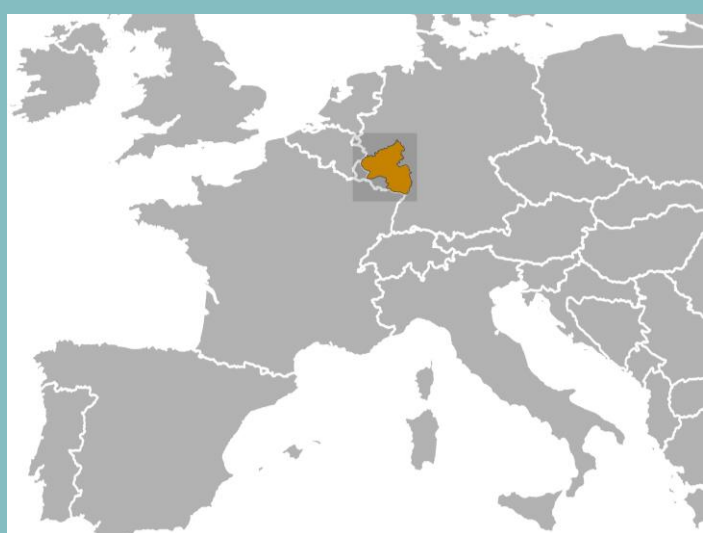


Adaptation of Forests to Climate Change in Rhineland-Palatinate

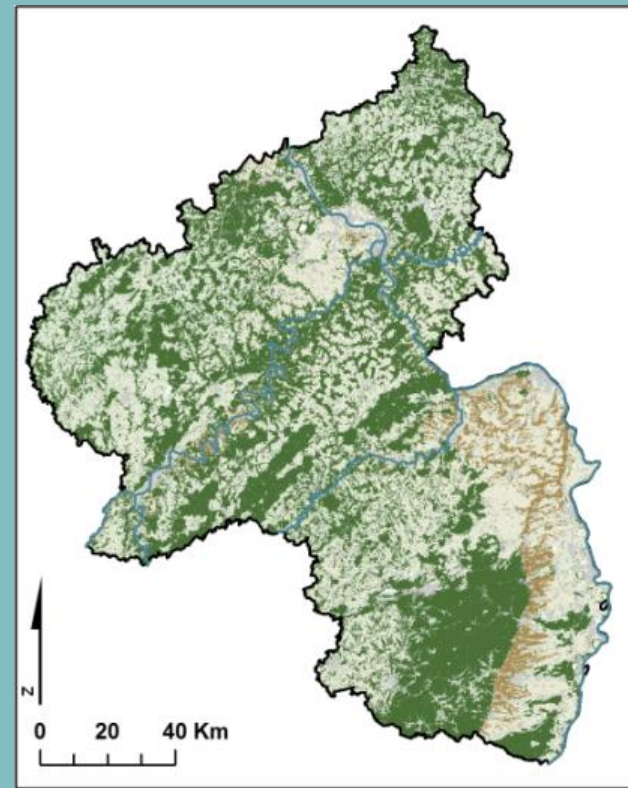
Background

Region



southwest Germany
west-european-atlantic climate

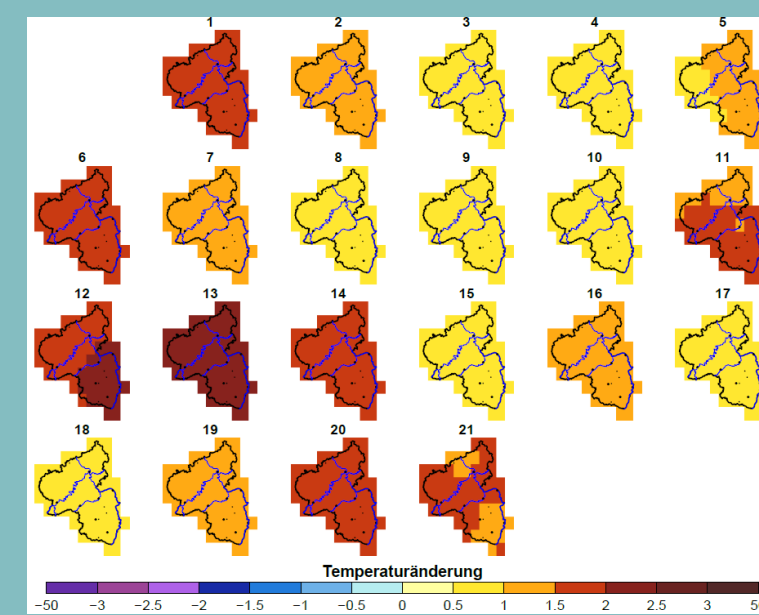
Forest



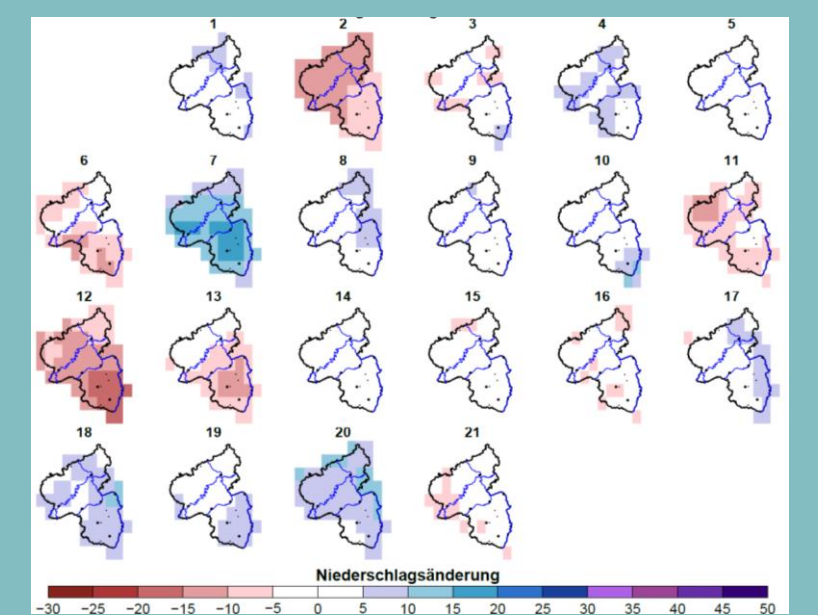
Area
840,000 ha (42%)
Tree species
60% deciduous
40% conifers
mostly mixed stands
Close-to-Nature Silviculture

Climate Change

mean annual temperature



growing season precipitation



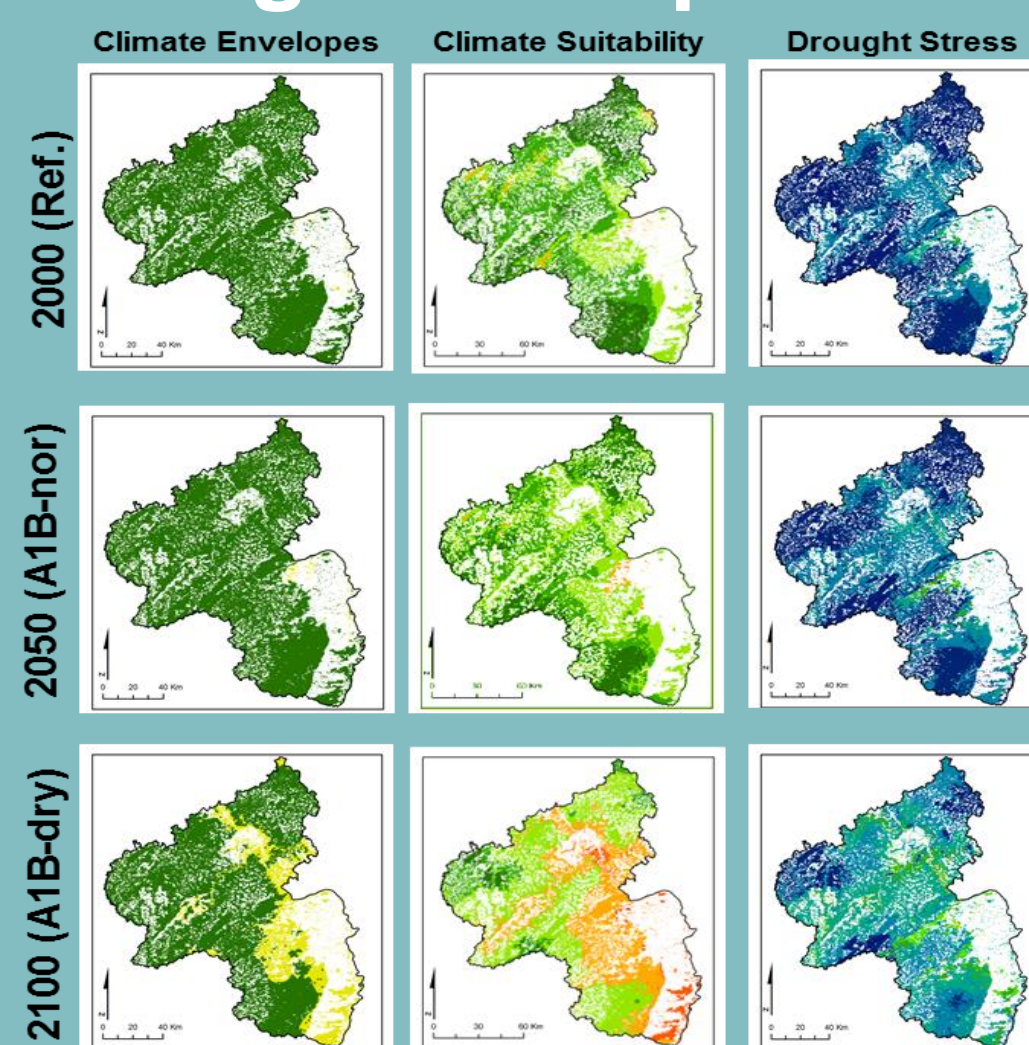
ENSEMBLES (A1B - 2021-2050)

Vulnerability Studies

Assumptions & Methods

- small range of *climate projections*
- *extrem events* are not considered
- *site characteristics* (soil, water budget, microclimate)
- reaction of *biological systems*
- *Resistance, Adaptability, Resilience*
- **deductive and empirical methods**

Regional Impacts



regional trends (Beech)

Participation

Stakeholder

- workshops with *decision-makers, forest owners, industry, nature conservation, ...*
- information events for *foresters*
- *public sensibilisation*



needs for research

Adaptation

Diversity on

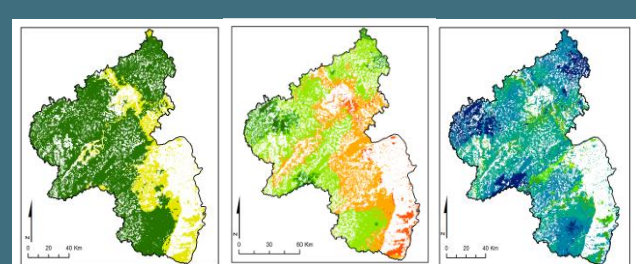
- genetic, species, stands, silviculture
- local and regional strategies

Adaptation Options

Adaptive Management

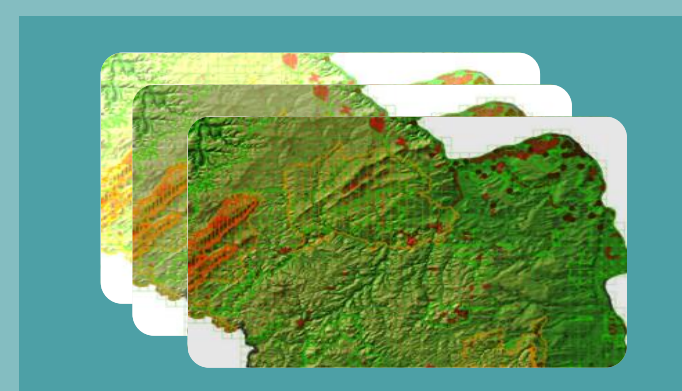
- „good-practice“
- „no-regrets“
- local expertise

Vulnerabilities

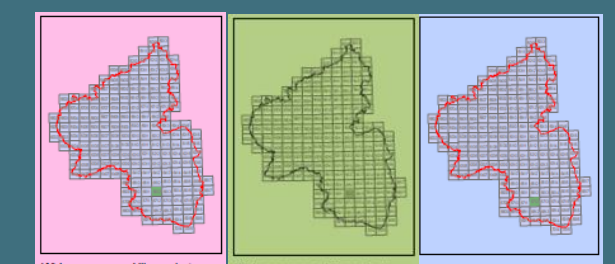


region and species specific

Regional Forest Plans



Forest Functions



production, nature conservation, society

Adaptation *in-situ*

regional vulnerabilities vs. „law of the local“



uncertainties vs. pressure to decide

Expert Knowledge

Business as Usual

Try and Error

Challenges

- spatial and time scale
- lack of knowledge:
 - dynamic of site-conditions
 - genetical, phenotypical and ecological potential
- extrem events / pests-diseases

