



COST ACTION FP0703

**ECHOES: Expected Climate cHange and
Options for European Silviculture**

COUNTRY REPORT

« GERMANY »

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Introduction:

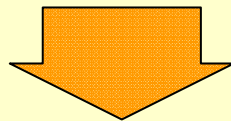
- Climate change has an international research priority:
 - **IUFRO** World Forest Congresses in Argentina (2009) and Seoul (2010) address «Forests and Climate Change»
 - **European** research programs
 - INTERREG IVB: ForeStClim
 - EFI: CarboEurope-IP, SilviStrat, PHOENIX
 - FP7: MOdels for AdapTIVE Forest Management (MOTIVE)
 - COST Action FP0601: Forest Management and the Water Cycle (FORMAN)
- **German** overview structured around:
Impacts, Adaptation, Mitigation and Strategies

Impacts (1/2):

- Research focus: Climate change projections at global, European and regional scales, e.g.:
 - General Circulation Models (GCM):
 - ECHAM: MPI-Meteorology Hamburg
 - European scale:
 - REMO, WETTREG, STAR
- Studies on climate change impacts on ecosystem processes, forest growth and forest management, e.g.:
 - FONA: Research for Sustainability (national programme)
 - ENFORCHANGE: CC-impacts on Forestry in Sachsen/-Anhalt

Impacts (2/2):

- Forest-response to climate change in Germany determined by more frequent and severe:
 - Summer droughts → water shortage, growth reduction, mortality, regeneration-problems, forest fire etc.
 - Winter floods → oxygen shortage, mortality etc.
 - Storms → wind throw / wind breakage



- Weakening the trees means as well higher susceptibility to pathogens and pest regimes

Adaptation:

- Major concern in Germany:
 - High *vulnerability* of common Norway spruce forests on some sites outside their natural range to drought, insect attacks and wind damage
- Research focus on interactive effects between forest management strategies, and forest vulnerability under climate change:
 - KLIMAZWEI: Research and Practice for Climate Protection and Adaptation
 - KLIMAZUG: Adaptation-strategies to Climate Change in different regions of Germany

Mitigation:

Research focus:

- Studies on interactions between forest management, climate change and potential carbon sequestration
- ..on forest management options for increasing biomass production e.g. by changing forest management regimes, promoting short rotation plantations and agroforestry

Strategies:

«German Adaptation-strategy to Climate Change»
(DAS) accepted 17.12.2008

- Main target: reducing the impacts of climate change
 - Improve scientific basis for better assessment of risks, chances and acting possibilities
 - Facilitate transparency and participation in communication and dialogues between different actors
 - Raising awareness by providing information
 - Develop strategies that can cope with uncertainties