



**Adaptation of forest trees  
to climate change:  
What are the implications for  
sustainable forest management in  
Europe?**



European Forest Week, Rome  
21 October 2008



**Agenda of the event**

- 16:15 Opening  
Jarkko Koskela, Biodiversity International
- 16:30 Adaptation of European forest trees to climate change  
Bruno Fady, INRA, France
- 17:00 Forest management and use of forest genetic resources in a changing climate  
Jason Hubert, Forest Research, UK
- 17:30-17:45 Discussion and concluding remarks



**Introduction**

- Biodiversity International and European forests
  - European Forest Genetic Resources Programme (EUFORGEN)
  - Establishment of a European information system on forest genetic resources (EUGIS)
  - Evolution of trees as drivers of terrestrial biodiversity (EVLTREE)
- Forest management and climate change: the role of forest genetic resources
  - Biodiversity-IUFRO workshop, Paris, 15-16 March 2006



**EUFORGEN**



- Regional platform to promote conservation and use of forest genetic resources
- Implementation mechanism of the MCPFE commitments (Strasbourg Resolution 2, Vienna Resolution 4)
- 34 countries provide funding and technical inputs
  - National Coordinators -> Steering Committee
- 108 scientists, managers and policymakers
  - Forest Management Network
  - Conifers Network
  - Scattered Broadleaves Network
  - Stand-forming Broadleaves Network
- [www.euforgen.org](http://www.euforgen.org)



**EUGIS**



- One of the actions co-funded through the Council Regulation on genetic resources in agriculture (EC 870/2004)(April 2007-Sep 2010)
- Seven project partners, EUFORGEN countries
- The purpose is to strengthen FGR documentation in Europe
  - Minimum requirements and data standards for dynamic gene conservation units
  - Network national FGR inventories in 40 countries
  - Geo-referenced data on the units
  - Online information system
- Development of gene conservation strategies and action plans at pan-European level
- [www.eufgis.org](http://www.eufgis.org)



**EVLTREE**

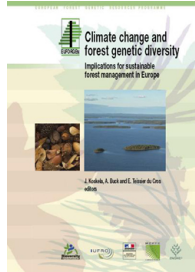


- A Network of Excellence funded by the EC 6th framework programme for research
  - Consortium of 25 institutions in 15 countries, coordinated by INRA, France
  - April 2006-March 2010
- Integration of research infrastructure
- Research on genetic and ecological processes with special emphasis on climate change impacts
- Dissemination (training, technology transfer)
  - Stakeholder group (policymakers and other individuals participating in the MCPFE process, EUFORGEN)
- [www.evoltree.eu](http://www.evoltree.eu)



## Biodiversity-IUFRO workshop

- Climate change and forest genetic diversity: Implications for sustainable forest management in Europe, Paris, France, 15-16 March 2006
- Part of the MCPFE Work Programme to implement Vienna Resolution 5 (Climate change and sustainable forest management in Europe)
- 78 participants from 25 countries



## Biodiversity-IUFRO workshop

- Presentations by leading European experts on relevant topics
  - Adaptation of forest trees
  - How to adapt forest management?
  - Future use of forest reproductive material
  - Forest genetic diversity and climate change: economic considerations
  - National adaptation strategies to climate change
- Working Group discussions
  - Silvicultural practices and forest genetic diversity
  - Forest reproductive materials
  - Regional and national strategies



## General conclusions of the workshop

- Climate change will bring along both opportunities and threats to forests
- Genetic diversity contribute to the resilience of forest ecosystems
- Use of genetic diversity provides flexibility for forest management and a recommendable risk-reducing strategy
- Pan-European strategies and guidelines are needed to promote appropriate use of forest reproductive material -> acceleration of adaptation process



## Workshop recommendations

- Policy makers in Europe should recognize the importance of forest genetic diversity in mitigating the impacts of climate change on the forest sector by expressing a commitment at pan-European level to incorporate the management of this diversity into national forest programmes and other relevant policies, programmes and strategies.
- Policy makers in Europe should promote forest management practices that maintain evolutionary processes of forest trees and support natural regeneration of forests, especially in areas where long-term natural regeneration is self-sustainable despite climate change.



## Workshop recommendations

- Policy makers in Europe should take into account the potential for accelerating adaptation of forest trees to climate change through tree breeding and transfer of potentially suitable forest reproductive material by endorsing the development of pan-European guidelines for the transfer of forest reproductive material in Europe on the basis of scientific knowledge.
- European forest research community should carry out more interdisciplinary studies (e.g. tree physiology, forest genetics, pests and diseases, forest management and economics, and modelling) on the impacts of climate change on forests with the support of the policy makers.

