



Climate smart forestry or how to integrate adaptation, mitigation and sustainable forest management (B4I and B4a)



Jean-Luc Peyron

Division 4



Contents

- Why this session
- Presentations
- Synthesis of the presentations



iufro2019

Curitiba • Brazil

SEPT 29 - OCT 5

Why this session?

- Climate change influences forests in many ways
 - growth, health, composition, regeneration, threats
- Forest and the forest-based sector influence climate change through
 - carbon sequestration and albedo,
 - substitution of renewable wood to energy intensive materials and fossil energy resources
- Both mitigation of and adaptation to climate change are necessary
 - mitigation avoids what would be unmanageable
 - adaptation manages what remains unavoidable

Why this session?

- General and forest mitigations are necessary **as soon as possible** to limit the temperature increase and reduce forest impacts
- Due to long forest life cycles, adaptation is necessary **right now** for
 - wood production
 - climate regulation and thus mitigation of climate change
 - maintenance of all other ecosystem services
- Any silvicultural operation or investment influences both adaptation and mitigation and can be evaluated from both viewpoints
- They influence also sustainable forest management in general
 - Forestry has been criticised when its main objective was wood production
 - Should its main objective be carbon sequestration?

Why this session?

This session aims at:

- i. highlighting the importance of **considering both adaptation to and mitigation of climate change** when planning forest management
- ii. thinking at the integrated level of sustainable forest management in order to assess the consequences of management decisions on **any ecosystem service or risk** to the forest
- iii. discussing the forest contribution in solving the problems in comparison with the **contribution of other sectors**
- iv. illustrating the presentations with interesting **case-studies**
- v. identifying **key messages for decision makers** in the forest-based sector or out of it.



iufro2019

Curitiba • Brazil

SEPT 29 - OCT 5

Presentations in technical session B4I

- Aapo Rautiainen (Luke, Finland)
 - Consistent carbon equivalents for pricing the warming power of surface albedo according to its social cost
- Alexander Moiseyev (Norwegian University of Life Sciences, Norway)
 - Economic and environmental impacts of European conservation and bioenergy forest management strategies
- Florian Irauschek (Boku, Austria)
 - Adapting current forest management for multiple ecosystem services to climate change in the Austrian Alps
- Sylvain Caurla (BETA, France)
 - Estimating the climate services value for forest management: the case of drought for maritime pine plantations in South-West France

Presentations in Technical session B4I (cont.)

- Christophe Orazio (EFI, France)
 - Empirical evidences on the potential adaptive performance of alternative species under current and future climate: first results of Reinforce arboreta network.
- Youjun He (Chinese Academy of Forestry)
 - Forestry policies and practices for climate adaptation and mitigation in China.
- Margaret Sraku-Lartey (CSIR, Ghana)
 - Contribution of indigenous knowledge by local communities to forest management and climate change mitigation and adaptation: case study of Offinso municipality in Ghana
- Maxwell Ferreira da Silva (CEFET/MG, UFMG, Minas Gerais, Brazil)
 - A epistemologia dos modelos na relação de fronteira entre ciência e política: políticas públicas de uso-ocupação do solo em face a mitigação e adaptação às mudanças climáticas em MG.

Presentations in Subplenary session B4a

- Rasoul Yousefpour (U. of Freiburg, Germany)
 - Uncertainty of carbon economy in forestry
- Rosa Goodman (SLU, Sweden)
 - Climate-effective reduced-impact logging (RIL-C) can nearly halve emissions from selective logging and meet one tenth of nationally determined contributions from tropical countries
- Guillaume Peterson St-Laurent (UBC and PICS, Canada)
 - Integrating climate change adaptation and mitigation objectives in British Columbia's forests
- Mariana Hassegawa (EFI)
 - Mitigating climate change through climate-smart forestry



iufro2019

Curitiba • Brazil

SEPT 29 - OCT 5

Considering all options of adaptation to and mitigation of climate change

- Integration of mitigation options such as:
 - sequestration and substitution in order to obtain a global carbon balance
 - albedo and carbon (with a carbon equivalent albedo effect)
- Integration of adaptation options such as:
 - trends due to warming
 - extreme events that are likely to occur more often
 - general adaptation and more targeted adaptation
- Integration of adaptation and mitigation options
 - prevention of forest fires
 - selection (growth, mortality) of the right species to be planted for mitigation
 - introduction of mixed species in plantation programmes for mitigation

Integrating any ecosystem service or threat in sustainable management under climate change

- Integration of all ecosystem services at the landscape level is also a way to provide **diversification** as an insurance against climate change
- It is particularly important to tackle
 - **mountainous** risks
 - **wild fires**
 - **pests**
- Threats can be reduced by appropriate **climate services**
- **Local people** are also able to deliver climate services!

The forest contribution in tackling climate change in comparison with other sectors

- The forest contribution between nature **conservation** and **energy** demand
- **Wood products** save energy consumption and reduce GHG emissions
- **Leakage effects** to other geographic regions or materials
- **Water** management accounts much
- Some decisions should be based beyond forestry on **rural development**
- Climate services are much **larger in forestry than in agriculture**

Many case-studies

- Africa (Ghana)
- Asia (China)
- Europe
 - In general
 - Austrian Alps
 - France
- Latin America (Minas Gerais, Brazil)
- North America
- Tropical countries in general

Key messages for decision makers

- Think globally
- Break silos between decision makers, for example in public policies
- Use models but confront them with reality
- Don't forget common sense
- Don't forget local knowledge



iufro2019

Curitiba • Brazil

SEPT 29 - OCT 5