

**THE ONLINE INFORMATION BULLETIN OF THE GLOBAL FOREST SCIENCE NETWORK**

## What Will We Use the Forests for in the Future?

*John Innes, Coordinator of [IUFRO Task Force on Resources for the Future](#)  
Dean of Faculty of Forestry, University of British Columbia*

A Task Force was created by IUFRO in 2011 to look at the future use of forest resources. On August 27-29, 2013, the Task Force gathered more than 120 policy makers, researchers, industry leaders and NGOs at the Resources for the Future conference, hosted by the University of British Columbia, Canada, to discuss four major themes: implications of globalization for forests, plantations, bioproducts and advanced building systems and forest ecosystem services. (<http://iufro2013.forestry.ubc.ca/>)

### Current state

With a governance framework aiming at zero forestry loss and degradation by 2020 in place, increased consumer demands and increasing scarcity of resources, the market for novel or improved traditional bioproducts is growing. Given the world's population growth and urbanization, environmental pressures and climate change, forests and the bioproducts derived from them offer potential solutions for the future global economy. Our future forests will have to be more productive, resilient to disease and pests, and adaptable to climate change. Future demand will likely be met from plantation forests that maintain conservation and biodiversity standards and respect local communities' needs and livelihoods.

### Governing the forests

With competing demands for forests, forest lands and products, indigenous communities and other communities living in forests are increasingly recognized by governments as "deciders" of the fate of forests. Failing to recognize local aspirations, land claims, and legal rights will lead to the destruction of local livelihoods, increased conflict and competition for remaining land, accelerated destruction of the world's remaining forest carbon stocks. Maintaining zero forest loss will require forestry and farming practices that produce more with less land, water and pollution, while retaining resilience and adaptability.

### A sun-rise industry

The forest sector represents a unique opportunity to meet future needs with a range of land-use options and bio-products, including energy, chemicals and materials. A shift to a wider array of forest services (e.g., recreation,



*Eucalyptus mosaic plantations in Brazil  
(reproduced with permission from Suzano Pulp and Paper)*

carbon offsets, and water management) is needed. Forest cover and related services could expand through mosaics of new plantations, natural forest restoration and responsible farming. Plantations will be the future production powerhouse, but must maintain ecosystem integrity, protect high conservation values and be developed through effective stakeholder participation.

The emerging green economy will see forest products substituting products derived from fossil fuels, but movement towards the bio-economy has not yet catalyzed the transformative changes required to reinvigorate parts of the forest products sector. To be successful, forest bio-products must be economically viable and respond to customer and market needs. Green growth will be driven by a combination of novel partnerships with inter- and non-governmental organizations, science and technology innovations and skills deployed by the private business. Contrary to popular belief, the sun over the forest sector is rising.

### Future activities

A book will be produced from the presentations and the material will form the basis of a sub-plenary session at the 2014 IUFRO World Congress. The recommendations will be incorporated into the 2014/19 IUFRO Strategy.

## Vegetation Response to Climate Change and Air Pollution - Unifying Research and Evidence from the Northern and Southern Hemispheres

*Report* from the biennial conference of RG 7.01.00 "Impacts of Air Pollution and Climate Change on Forest Ecosystems", in Ilhéus, Bahia, Brazil, September 1-6, 2013. (<http://www.iufro2013.ufop.br/>)

By Alessandra R. Kozovits, Deputy Coordinator, IUFRO Working Party [7.01.02](#); Rainer Matyssek, Coordinator IUFRO Working Party [7.01.02](#); Andrzej Bytnerowicz, Coordinator IUFRO Research Group [7.01.00](#)

Highly diverse woody-plant ecosystems of the southern hemisphere are subject to extreme anthropogenic pressure from rapid population growth and associated land-use changes and industrialization. Consequences of ecosystem fragmentation and loss are poorly understood as functionalities of most of the residual ecosystems await clarification. Combined effects of changes in land-use, climate and air pollution on forests are complex. The inclusion of a socio-economic dimension is essential for a better understanding of changes at the ecosystem and landscape scales. Globally-integrated research networks are needed to find generalities in ecosystem functions required for effective mitigation of impacts of multiple stressors.

The mission of the 26th biennial conference of the IUFRO Research Group 7.01.00 was to stimulate trans-hemispheric research collaboration with special emphasis on ecosystems of the southern hemisphere. For the first time our scientific community met in the southern hemisphere emphasizing the importance of research activities and needs in Latin America, specifically in Brazil, for IUFRO and global forestry.



*Cocoa plantation in the Atlantic Forest of the Executive Plan for Cocoa Plantation (CEPLAC). Photo by Andrzej Bytnerowicz*

### On the agenda

At the opening session, invited speakers from Brazil and South Africa focused on responses of tropical and subtropical ecosystems to climate change and air pollution. They emphasized that impacts of ozone, nitrogen deposition, and heavy metals on natural and human-modified ecosystems in Brazil and Latin America should be studied in a context of rapid population growth, landscape fragmentation and socio-economic aspects and limitations.

Increasing occurrence of wildland fires caused by changing climate, and their potential impacts on air quality, forest resources and release of carbon dioxide, was emphasized as one of the most important future threats in the southern hemisphere.

Throughout the conference various aspects of impacts of air pollution, atmospheric deposition and climate change on forests were discussed. They included evaluation of forest health; mechanisms of vegetation responses to stresses; genetic changes; confidence of using response models; and hydro-ecological changes. Importance of early warning systems (indicators), and innovative approaches such as use of functional groups in describing similarities in responses of ecosystems in southern and northern hemispheres to environmental stressors was emphasized.

The need for establishing a global network of "super sites" for understanding complex impacts of abiotic and biotic factors on forests was discussed and encouraged.

There is also a need for well-coordinated national and international efforts to address these issues and in this context IUFRO's role is of a very high importance.

### Looking into the future

Exchange of expertise and methodological innovations will initiate global scientific networking to explore consistency in forest ecosystem responses to climate change and air pollution across the hemispheres. Potential risks to health, biodiversity and sustainability of natural and cultivated forests in South America will be determined. Such assessments will provide a basis for fostering mitigation concepts of anthropogenic stress impacts focusing on forests and other woody-plant ecosystems (e.g., in Brazil, on Amazonian and Atlantic rain forests or cerrado vegetation). This is of crucial importance since, at a global level, these ecosystems have the highest potential to sequester increasing CO<sub>2</sub> concentrations and counteract climate warming and extending droughts.

*The conference was attended by 85 participants from 23 countries; 42 papers and 34 posters were presented.*

*Sponsors: Post-Graduate Program in Ecology of Tropical Biomes, Federal University of Ouro Preto, Brazil; Gorceix Foundation, Brazil; Brazilian Council for Scientific and Technological Development (Ministry of Science and Technology); Coordination for the Improvement of Higher Education Personnel, Brazil (Ministry of Education).*

## ClimTree 2013 - International Conference on Climate Change and Tree Responses in Central European Forests

By Heinrich Spiecker, Coordinator of IUFRO [4.01.04](#)

The ClimTree 2013 conference took place from 1–5 September 2013, in Zurich, Switzerland, hosted by the Swiss Federal Institute for Forest, Snow and Landscape Research (WSL), and co-sponsored by IUFRO 4.01.04 "Effects of environmental changes on forest growth". A total of 246 participants from 25 countries attended the meeting.

Program and abstracts are available at:

<http://www.iufro.org/publications/proceedings/proceedings-meetings-2013/#c20387>

and Proceedings will be published in the journals: *Annals of Forest Research* and *Forestry*.

The aim of the conference was to exchange the state of the art regarding direct (physical environment) and indirect effects (interspecific interactions) of climate change on the performance of trees and forest ecosystems. Discussion topics ranged from tree physiology and genetics to disturbances and community diversity, with a clear regional focus on Central Europe including the Alps and Carpathians.

The conference was initiated because there exists a wide variety of model projections for almost all regions of Europe, while at the same time there is a general lack of model validation. Many recent studies clearly point to the fact that tree species can recover from extreme events, either in terms of resistance or in terms of resilience. By bringing together scientists of various fields, the conference aimed to improve our understanding of effects of extreme climatic events in



Alpine landscape. Photo by Judith Stöger-Goiser.

the framework of climate change and to assess its importance in relation to management and natural disturbance.

At the conference, participants pointed out that more precise information was available today as a basis for modeling future forest responses to climate change. A majority considered drought to be the most critical driver of forest changes, followed by pests, and higher evapotranspiration rates due to higher temperatures. Effects of contemporary climate change are already visible in compositional changes of forest flora, but still remain blurred as far as tree composition is concerned. Of course, there are big regional differences in effects. Models to project climate change effects on trees and forests need to be re-considered and improved on the basis of new results from experiments.

## Risk Analysis of Forest Invasive Alien Species

By David R. Gray, Coordinator of IUFRO [4.04.07](#)

IUFRO Working Party 4.04.07 (Risk Analysis) held its inaugural meeting in collaboration with Working Party 8.02.04 (Ecology of Alien Invasives) on February 27 – March 1, 2013 at Panjab University, Chandigarh India.

The meeting was hosted and/or sponsored by Panjab University; Dayanand Academy of Environmental Sciences; Natural Resources Canada; Indian National Science Academy; Council of Scientific & Industrial Research (New Delhi); Department of Science & Technology (New Delhi).

<http://www.riskanalysis-iufro.org>

Three distinguished guests, Dr. J.R. Bhatt (Ministry of Environment and Forests, Gov't of India), Dr. A.K. Grover (Vice-Chancellor, Panjab University), and Dr. K.S. Arya (President, Dayanand National Academy of Environmental Sciences) presided over the opening ceremony and welcomed the approx. 60 attendees.

Thirty oral and 10 poster presentations were made under the four themes of:

- (1) Surveys/Impacts/Biodiversity;
- (2) Risk Assessment Methodologies;
- (3) Physiology/Genetics; and
- (4) Economics/Policy.

Over twenty invasive plant species, seven insect species, one vertebrate species and one mycoplasma like organism were discussed in terms of their range, impact and management.

### Proceedings from IUFRO Meetings

<http://www.iufro.org/publications/proceedings/proceedings-meetings-2013/#c20387>

If the proceedings of your IUFRO conference or meeting are not yet online, kindly contact us at: [office\(at\)iufro.org](mailto:office(at)iufro.org)

## IUFRO World Congress 2014

### Submit your abstract today!

15 October 2013 is the deadline for submitting your abstract for the 2014 IUFRO World Congress at <http://iufro2014.com/scientific-program/abstract-submissions/>



### Information book released!

Find up to date information about registration, program details, keynote speakers, field trips, side events etc., on the 2014 IUFRO World Congress at: [http://iufro2014.com/wp-content/uploads/2013/09/IUFRO\\_ConferenceBooklets2.pdf](http://iufro2014.com/wp-content/uploads/2013/09/IUFRO_ConferenceBooklets2.pdf)

### 2014 IUFRO World Congress Host Country Scientific Award

*Call for nominations - due December 31, 2013*  
The Congress Host Scientific Award honors a truly outstanding scientist from the host country (for 2014, this is the United States) who has elevated the profile of forest science and research accomplishments. <http://www.iufro.org/events/congresses/2014/>

## Announcements

### Forest Information Billboard

*A cooperation of the Global Forest Information Service (GFIS) and the UNECE/FAO Forestry and Timber Section.*

The purpose of the Forest Information Billboard is to share specific information on forest reporting including advances in reporting as well as related projects, publications and events. If you have announcements in these areas (max. 250 words, with a link to the full source of information), please contact Elina Warsta (elina.warsta(at)fao.org). Kindly mention if you wish to have your billboard announcement included also in GFIS (<http://www.gfis.net/>) to ensure broad distribution of the information. *Next deadline: 15 December 2013.* <http://www.unece.org/forests-welcome/about-us/forest-information-billboard.html>

### Forest Europe Photo and Video Contest

The first edition of Forest Europe's 'Show Off Your Forest' invites contributions of photos and videos showing woods and forest regions within Europe, in one of the countries that are signatories to the FOREST EUROPE agreements. Go to: <http://showoffyourforest.com/info>

### New Facebook game could help save the ash tree!

Players help analyze real genetic data from the fungus which causes Chalara ash dieback and from common the ash, *Fraxinus excelsior*. By matching and rearranging patterns, each player will contribute a small but useful analysis to the bid to save the Ash tree. See <http://www.tsl.ac.uk/fraxinus.html>

### Scholarships for Students from Africa

The Mastercard Foundation, which is based in Canada, is funding full scholarships for students from Africa to attend the University of British Columbia, either as undergraduates or to enroll in our professional Master's programs.

For September 2014 entry, students can apply to any of our undergraduate programs: <http://www.forestry.ubc.ca/undergraduate/prospective/degree-programs/>.

Students can also apply for our one-year Master's program in Sustainable Forest Management, details of which are provided at: <http://cbm.forestry.ubc.ca/master-of-sustainable-forest-management-msfm-degree/>.

Details of the Mastercard Program at the University of British Columbia, together with application forms, are available at: <http://internationalscholars.ubc.ca/mastercardfoundation/>.

### Communications Officer, Landscape Restoration

Open position at IUCN's Global Forest and Climate Change Programme. For more information see: <https://hrms.iucn.org/iresy/index.cfm?event=vac.show&vacId=652>

### UBC Positions

The Department of Wood Science and the Department of Forest Resources Management, Faculty of Forestry at The University of British Columbia, seek an Assistant or Associate Professor (tenure-track) in Sustainable Business Management. Go to <http://www.iufro.org/discover/noticeboard/#c14607> to find this and other position announcements.

## Publications

### Widening the scope of forest-based mitigation options in the tropics

*The roles of forests in substituting for fossil energy sources and moving towards a greener economy*  
By Michel de Galbert, Fabian Schmidt-Pramov, Gerhard Dieterle and Gunnar Larson. 9 June 2013.  
Discussion paper prepared by staff members of the Conseil Général de l'Alimentation, de l'Agriculture et des Espaces Ruraux, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, and the Int'l Bank for Reconstruction and Development/World Bank.

### Change and Adaptation in Socio-Ecological Systems

**CASES** offers a forum for R&D on socio-ecological systems functioning under climate and global change and on strategies and policies in how to adapt to the future. It addresses scientists and practitioners in environmental management and policies, land use planning and socio-ecological system development. *More information:* Christine Fürst – cfuerst(at)uni-bonn(dot)de; Center for Development Research (ZEF) Dept. Ecology and Natural Resources Management University of Bonn, Germany. <http://www.degruyter.com/view/j/cass>

## IUFRO Meetings

Search our [online calendar](#) for a full list of meetings!  
Find non-IUFRO meetings on the IUFRO [Noticeboard!](#)  
Also search for forest-related events in GFIS at:  
<http://www.gfis.net>

7-9 Oct 2013

**Complex Forest Ecosystems: From Tree to Landscape**  
New Orleans, LA, United States  
IUFRO [4.03.00](#)  
**Contact:** Ronald McRoberts, rmcroberts(at)fs.fed.us  
Bogdan Strimbu, strimbu(at)latech.edu  
<http://gis.latech.edu/cfe/>

7-10 Oct 2013

**16th International Boreal Forest Research Association (IBFRA) Conference**  
Edmonton, Alberta, Canada  
IUFRO [1.01.01](#), [8.01.06](#)  
**Contact:** Werner Kurz, wkurz(at)nrcan.gc.ca  
<https://events.gobigevent.com/events-web-public/event/start/171;jsessionid=zi9DCp48kI2fNRPEhWFFxq5q?0>

8-10 Oct 2013

**Afforestation of Pastures in Subtropical Regions**  
Curitiba, Brazil  
IUFRO [1.04.00](#)  
**Contact:** Alvaro Sotomayor, asotomay(at)infor.cl  
<http://www.iufro.org/science/divisions/division-1/10000/10400/activities/>

9-11 Oct 2013

**International Conference on Wood Adhesives**  
Toronto, Ontario, Canada  
IUFRO [5.00.00](#), [5.04.00](#)  
**Contact:** Christopher G. Hunt, cghunt(at)fs.fed.us  
<http://www.forestprod.org/woodadhesives/>

15-18 Oct 2013

**Forest Sector Modelling - New Approaches and Findings for Improved Resource Decisions in a Globalized World**  
Lillehammer, Norway  
IUFRO [9.07.00](#)  
**Contact:** Birger Solberg, birger.solberg(at)umb.no  
<http://www.iufro.org/science/divisions/division-9/90000/90700/activities/>

28-29 Nov 2013

**Women in Agroforestry**  
Kathmandu, Nepal  
IUFRO [1.04.00](#)  
**Contact:** Swoyambhu Man Amatya, swoyambhu\_amatya(at)yahoo.com

15-16 May 2014 and 9-11 Sep 2015

**Wilder By Design? - Managing Landscape Change and Future Ecologies**  
Sheffield, UK  
IUFRO [9.03.00](#), [9.03.01](#)  
Contact: Christine Handley, info(at)hallamec.plus.com or <http://www.ukeconet.org>

19-23 May 2014

**Adaptation in Forest Management under Changing Framework Conditions**  
Sopron, Hungary  
IUFRO [3.08.00](#), [4.05.00](#)  
**Contact:** John Herbohn, j.herbohn(at)uq.edu.au  
Jean-Luc Peyron, jean-luc.peyron(at)gip-ecofor.org  
<http://www.iufro.org/science/divisions/division-3/30000/30800/activities/>

15-21 Jun 2014

**Genetics of Five-needle Pines and Rusts in Mountain Landscapes - Conservation, Utilization and Evolution in a Changing Climate**  
Fort Collins, CO, United States  
IUFRO [2.02.15](#), [7.02.05](#)  
**Contact:** Richard A. Sniezko, rsniezko(at)fs.fed.us  
Anna Schoettle, aschoettle(at)fs.fed.us

20-28 Jul 2014

**International Poplar Symposium VI**  
Vancouver, British Columbia, Canada  
IUFRO [2.08.04](#)  
**Contact:** Cees van Oosten, silviconsult(at)telus.net  
<http://www.2014ipsvi.com/>

5-11 Oct 2014

**XXIV IUFRO World Congress 2014**  
Salt Lake City, UT, United States  
**Call for abstracts open until 15 October 2013!**  
<http://www.iufro2014.com/>

## Other Meetings

5-8 Nov 2013

**25<sup>th</sup> (Silver Anniversary) Session of the Asia Pacific Forestry Commission: "Forests for Prosperity"**  
Rotorua, New Zealand  
IUFRO represented by E Brockerhoff, Div and TF Coordinator  
**Contact:** Patrick Durst, patrick.durst(at)fao.org  
<http://www.fao.org/forestry/33587/en>

15 Nov 2013

**4th China-ASEAN International Wood Culture Forum**  
Nanning City, Guangxi, China  
<http://72.11.139.131/customPage/100002/activity/25/?CFID=11235415&CFTOKEN=16477994>

16-17 Nov 2013

**Global Landscapes Forum**  
Warsaw, Poland  
On the sidelines of the [UNFCCC COP19](#)  
IUFRO will co-organize discussion forums on *Governance and Legal Frameworks for Sustainable Landscapes* on *Governance and Legal Frameworks for Sustainable Landscapes and Linking Gendered Knowledge with Gender-responsive Action across the landscape: What Works?*  
<http://www.landscapes.org/>

9-13 Dec 2013

**European Forest Week and Metsä 2013**  
Rovaniemi, Finland  
European Forest Week:  
<http://www.fao.org/forestry/efw2013/en/>  
Metsä: <http://www.unece.org/forests/metsa2013.html>

10-14 Feb 2014

**World Congress on Agroforestry 2014 (WCA2014)**  
Delhi, India  
<https://b-com.mci-group.com/Registration/WCA2014.aspx>

9-13 Jun 2014

**Environmental Science and Technology**  
Houston, Texas, USA  
American Academy of Sciences  
**Contact:** env-conference(at)AASci.org  
<http://www.aasoci.org/conference/env/2014/index.html>

3-5 Sep 2014

**In the Bog: The Ecology, Landscape, Archaeology and Heritage of Peatlands**  
Sheffield, UK  
**Contact:** Christine Handley, christine(at)hallamec.plus.com  
<http://www.ukeconet.co.uk>