

IUFRO RG.7.01 “Impacts of Air Pollution and Climate Change on Forest Ecosystems”

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Visiting venues of the 2012 RG 7.01 Conference in Lithuania

(prepared by Andrzej Bytnerowicz)

Responding to an invitation from Algirdas Augustaitis, Deputy Coordinator of WP 7.01.01 and his wife, Ingrida Augustaitiene, I visited Lithuania in the beginning of September. At the Aleksandras Stulginskis University in Kaunas I met with the Rector and Faculty and discussed the May 19-25, 2012 conference “Biological Reaction of Forest to Climate and Air Pollution” co-organized by IUFRO RG 7.01, North American Air Pollution Workshop, ENVeurope, and ICP Integrated Monitoring. The University will provide their full support for the Conference including a well-equipped lecture hall with a capacity of ~300 people. The lecture hall has a large balcony where we expect that many of the University students will be watch our sessions. Since only general sessions are planned, this will be the main venue for the Conference. All scientific sessions, poster presentations and most of meals will be take place at the University.



Lecture hall at the Aleksandras Stulginskis University in Kaunas where scientific sessions of the May 2012 IUFRO RG. 7.01 conference will be held.

I stayed in Park Inn located in the Kaunas center which will be the main lodging place for the conference participants. The hotel is very comfortable and modern with polite and friendly service. I also visited the Curonian National Park on the Baltic Sea coast where a pre-conference field excursion will take place. The Park offers numerous points of interest, including extensive sand dunes. The dunes have a long and interesting history of intensive management, including their forestation with dwarf pine (*Pinus mugo*) in the 19th century. Lodging for the excursion participants will be in Lida, a beautiful resort town on the Curonian Lagoon.



Dense stands of *Pinus mugo* covering dunes of the Curonian National Park.

A book of abstracts with all oral and poster presentations will be published by the University before the meeting. In addition, participants will be invited to submit their contributions to special issues or sections of *Environmental Pollution*, *European Journal of Forestry Research*, *Tree Physiology*, *Baltic Forestry and Atmospheric Pollution Research*. Those who are interested in shorter publications will be invited to submit extended abstracts which will be peer-reviewed and published in *The Scientific World Journal*.

Conference web site: <http://www.iufro-at-lzuu.lt/>

WP 7.01.03, Atmospheric Deposition, Soils and Nutrient Cycling: September 2011

(prepared by Mark Fenn)

Members of RG 7.01 participated in so-called 'FOCUS' Project pilot study coordinating critical loads development across the United States. This project is coordinated under the auspices of the CLAD group (Critical Loads of Atmospheric Deposition Science Committee; <http://nadp.sws.uiuc.edu/clad/>) within the National Atmospheric Deposition Program. A major accomplishment of FOCUS was the preparation of data and submission of critical loads data for the United States in response to the call for data from The Working Group on Effects and National Focal Centres of the International Cooperative Programme on Modelling and Mapping. Critical loads research and development efforts by CLAD participating members are continuing.

In a related effort members of RG 7.01 coauthored an extensive synthesis report on empirical critical loads of N for major ecoregions in the United States. This monograph, published by the U.S. Forest Service in May 2011 is entitled: Assessment of Nitrogen Deposition Effects and Empirical Critical Loads of Nitrogen for Ecoregions of the United States, edited by L.H. Pardo, M.J. Robin-Abbott, and C.T. Driscoll. It is available online: <http://www.treesearch.fs.fed.us/pubs/38109>

A manuscript summarizing the findings of the monograph is also in press in a journal *Ecological Applications*.

Activities of IUFRO Task Force Forest Bioenergy

(prepared by Viktor Bruckman)

Dissemination of knowledge supporting the development of forest bioenergy is a main focus of the TF Forest Bioenergy. The COST-ESF Conference, which will be held in Vienna, on November 6-11, 2011, (<http://www.esf.org/index.php?id=8196>), on the Future Role of Bio-Energy will start this process. Therefore, I have organized a session in coordination with Rolf Björheden (TF Coordinator) to present case studies and current research activities and to stimulate discussion among all members of the TF. Unfortunately, since most members are not able to participate, the programme had to be reduced to an informal meeting between Rolf Björheden, Elspeth MacRae, Robert Jandl, and me, and perhaps one or two other members. As a consequence, we will focus on on-line conferences and webinars.

I also had a meeting with the CEO of the Austrian Biomass Association (ABA) this summer and presented the aims and objectives of our TF. ABA is highly interested to become a partner of our TF. ABA will provide a list of topics with research priorities as it is seen from the ABA and their customers practical view. I am certain that the Forest Bioenergy TF will benefit from research needs identified by bioenergy industry (focused on biomass potentials) and private forest owners.

- 7.01.03/TF Forest Bioenergy links with European Geosciences Union (EGU)

In my function as the “scientific officer for aboveground processes” at the EGU Division “Energy, Resources and Environment”, I tried to implement IUFRO-based topics into the scientific programme of the next general assembly (April 22-27, 2012,

<http://meetings.copernicus.org/egu2012/>). I will be a convener/co-convener for the sessions “Biomass from Forests – Potentials and consequences” and “Biomass from agriculture and waste”. The IUFRO-TF members Sanjeev Chauhan and Thomas Lewis agreed to host the session “Short Rotation Forestry Dendromass for bioenergy”. The link to IUFRO will be pointed out at least at the beginning and introduction of each respective session. The final programme will be developed shortly. We hope to attract more representatives of IUFRO to join us at the EGU-GA 2012.

Forest Ecosystems, Air Pollution, and Climate Change Symposium at IALE2011

(prepared by Yusuf Serengil)

IALE 2011 (International Association of Landscape Ecologists) World Congress took place in Beijing on August 18-23, 2011. Around 800 scientists attended the Congress. Forestry issues were discussed at many symposia focusing on climate change and forest health.

Among the climate change related symposia, a symposium entitled “Forest ecosystems, air pollution, and climate change” was organized by Andrzej Bytnerowicz and Yusuf Serengil and was chaired by Yusuf Serengil. There were 9 presentations at the symposium from China, Turkey, Australia, and Venezuela on various aspects of air pollution and climate change. The following conclusions and research gaps were emphasized:

- Research on adaptation and mitigation roles of forests is the major channel to guide policy makers.
- Social, economic and political issues should be emphasized in the context of water and climate change. Influences on ecosystem services should be evaluated in this respect.
- Integrated long term monitoring of forest ecosystems is essential for understanding the integrated effects of stressors.
- Research is needed on impacts of forestry activities on changing ecological conditions of forests.
- Evapotranspiration and soil moisture are very important factors when it comes to understanding drought and resulting wildfires.



“Forest ecosystems, air pollution, and climate change” symposium organized at the IALE Congress by IUFRO RG. 7.01.

Report from the COST Action FP0903 conference "Ozone, climate change and forests", 14-16 June 2011, Prague, Czech Republic
(prepared by Elena Paoletti)

The COST conference "Ozone, climate change and forests" was open to any interested scientist and was attended by 90 participants from 25 countries. A total of 44 oral presentations and 15 poster presentations were given. Ozone fluxes and effects, monitoring of ozone effects, standards for the protection of forests against ozone, interactive effects of ozone and climate change, were discussed. Two sessions were organized jointly by the COST Action FP0803 (Ozone effects on below-ground part of forest ecosystems), and ICP Vegetation (insights from crop science). The conference was very successful in achieving its main objective, i.e. to give an updated overview of the present knowledge about interactions of climate change and ozone impacts on forests and other vegetation. Further developments of modeling, including physiological (stomatal flux) and environmental conditions, were discussed.

The proceedings will be peer-reviewed and published in three journals, *Environmental Pollution* (on demand), *Journal of Environmental Monitoring* and *iForest-Biogeosciences and Forestry*.

For more details go to: <http://cost-fp0903.ipp.cnr.it/events/conferenceprague.html>

IUFRO-FORNESSA Africa Congress

Please consider taking part or even organizing a scientific session at the IUFRO-FORNESSA Africa Congress that will be taking part in June 2012. More information about the Congress you can find at <http://fornis.net/content/first-iufro-fornessa-regional-congress>.

Mike Wingfield, IUFRO Vice President for Divisions, is strongly encouraging all IUFRO members to consider this very important event in their travel plans.