

#### D09 - Technical Session

## **XXIII IUFRO World Congress**

"Asia's Forests for the Future"

Seoul, Korea - 23 - 28 August, 2010

# CHANGES IN CLIMATE AND AIR POLLUTION – NEW DIRECTIONS IN FOREST MONITORING, RESEARCH AND MODELING

Marcus Schaub<sup>1</sup>, Lisa Emberson<sup>2</sup> and Marco Ferretti<sup>3</sup>

<sup>1</sup> Session coordinator:

Swiss Federal Research Institute WSL, Zuercherstrasse 111, 8903 Birmensdorf, Switzerland; IUFRO Coordinator of Working Group 7.01.01, marcus.schaub@wsl.ch

<sup>2</sup> Session moderator:

Stockholm Environment Institute at York, University of York, York YO10 5DD, UK, IUFRO deputy of Working Group 7.01.05

<sup>3</sup> Session co-organizer: TerraData environmetrics, Siena, Italy

Keywords: Air pollution, Climate Change, Carbon Sequestration, Forest Health, Asian Forests

## 1 Session objectives, topic(s), and relevance

The main objective of the session of this session is to evaluate how and how well climate change and air pollution effects on forests can be detected while climate and pollution have changed. Key words and areas of major concern may be monitoring, data analysis, field and remote sensing techniques, linking between monitoring, research and modeling. We aim to defining research activities and hence monitoring requirements that may be particularly important in terms of policy. This may vary depending on the scale (site-specific catchment, national to regional and global) of the respective investigations.

What are the current and projected direct and indirect effects of changing climate and air pollution on forest ecosystems in the eastern hemisphere? What are the possible air pollution and climate change effects on carbon sequestration? What kind of monitoring system may be appropriate to detect air pollution and climate change effects on forests? How could monitoring be targeted to address particular research and policy questions that may vary by region and with different scales? How may the future



change in respect to different emission trend projections? Could the drivers of these changes be in any way related to the expected supportive capacity of forests (e.g. population growth resulting in an increased demand for forest ecosystem services)?

In respect to the above questions the state of the art and relevance to policy will be highlighted, considering that monitoring activities are specifically designed to inform current and future research activities across the regions and across disciplines. The outcome of the session may be published in a special issue of a renowned ISI journal and provide a peer-reviewed basis for environmental policy making.

In particular, we aim to reach policy makers emphasizing monitoring as a valuable tool for policy initiatives with respect to reductions in air pollution impacts that would also enhance C sequestration.

### 2 Session format

For the format of the session we welcome oral presentations on the above indicated topics. The call is open to everyone. The submitted abstracts will be evaluated by the session organizers and selected for 6 oral (15 + 5 minutes) presentations according to the topic and expected quality. The session will be completed by a moderated panel discussion of 30 minutes.

For further information on the XXIII IUFRO World Congress, please access http://www.iufro2010.com