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Technical Theme 1

T1.5 Climate-smart pine forest management (Oral / Poster)

The global change crisis is happening in front of our eyes. Climate-driven changes affect strongly tree growth, survival and disturbance dynamics in pine forests, similar to other forest ecosystems. The realised positive effects of climate change, such as higher growth rates and extended vegetation periods in boreal forests, are totally overshadowed even there by associated negative phenomena: warming, changing precipitation, an altered pattern of extreme weather events, forest fires and insects herbivores outbreaks. In temperate, Mediterranean and subtropical pine forest ecosystems, even climate and pest-prone decline events are reported, and major shifts in species composition of forests and woodlands are expected.

Many of these adverse consequences of climate change can be avoided, mitigated or at least delayed by implementation of adaptive forest management. Pine and mixed pine-broadleaves forests have a significant potential to become a vital part of these efforts. On the other hand, the role of pines for plantation forestry is paramount worldwide, providing essential ecosystem services such as timber, biomass and NWFPs provisioning for a bio-based economy.

This session intends to address the issue of forest management adaptation to climate changes, with the focus on pine forests. Both adaptation and mitigation efforts are of interest. The most important questions are: how to incorporate mitigation of the negative impacts of climate change into forest management and how to combine it with other ecological, social and economic goals? In this session we would welcome contributions that (i) implement adaptive concepts into forest management (ii) change stand structures and tree species composition in ways that make the resulting forest better adapted to the climate and maintain/increase genetic diversity (iii) use natural forest dynamics for optimizing stand development (iv) predicts, quantify and explore impacts of climate change on pine forests.

The objectives of the technical session are (i) to create space for presentation of current results of scientific work in the field of forest management and climate change adaptation, (ii) facilitate information and knowledge exchange and (iii) finally encourage discussions and collaborations between researchers from different disciplines.

Mikolaj Lula¹, Emma Holmström¹, Teresa F. Fonseca², Santiago C. González-Martínez³, Miren del Río⁴, Sven Mutke⁵

¹ Southern Swedish Forest Research Centre

² Coordinator WP1.01.10 Ecology and Silviculture of Pine

³ Coordinator Division 2 Physiology and Genetics

⁴ Deputy RG1.09.00 Ecology and silviculture of mixed forests

⁵ Coordinator RG1.08.00 Silviculture for edible NWFP