

BOOK OF ABSTRACTS

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Pan-European, large-scale, long-term and harmonized – ICP Forests as a model for future international forest monitoring?

T5.34 The new age of forest monitoring: A common European forest monitoring system in a global perspective

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Abstract: Context. European forests represent an invaluable asset for wood production, biodiversity conservation and to combat climate change. While National Forest Inventories (NFIs) are important to periodically evaluate the condition of European forests, they may be limited in terms of international focus, temporal resolution, range of attributes covered, and data accessibility. These are exactly the areas where the International Co-operative Programme on Assessment and Monitoring of Air Pollution Effects on Forests (ICP Forests) has had its strengths for almost 40 years. By reviewing the main achievements of the program, here we show how it is relevant and useful to several European policy initiatives and discuss areas of future improvement.

Methods. Launched in 1985, ICP Forests includes now 42 Countries in Europe and beyond. It is based on a multi-level monitoring concept with a probabilistic component (ca. 6000 Level I plots) and an intensive, case-study oriented component (ca. 600 Level II plots). The two components are linked by a common set of attributes. Methods adopted by the ICP Forests are internationally standardized, regularly reviewed and updated, cover all ecosystem compartments, include comprehensive Quality Assurance/Quality Control, and permit annual reporting.

Main results and conclusion. Results can be considered in terms of scientific achievements and program's governance. In terms of science, ICP Forests was successful in detecting and reporting spatio-temporal changes in forest condition (in terms of forest health, growth, nutrition, biodiversity) and identifying their relationship with biotic (e.g. pests, diseases) and abiotic (e.g. climate, air pollution) drivers. In terms of governance, since its establishment ICP Forests adopted a model combining a bottom-up approach (with Expert Panels dealing with scientific evidence and methodologies) and a top-down decision-making mechanism (the Task Force, where all Countries are represented). Overall, this model was resilient during the dramatic political changes that happened in Europe since the 1990s, and was able to demonstrate over the past 40 years that harmonized international forest monitoring is possible and feasible. For the above reasons, while there are areas where considerable improvement is necessary, we consider ICP Forests as a useful model for future forest monitoring in Europe and beyond.