

Forest management for water production and storage

Forests are an essential element of the European cultural, geographical and environmental landscapes. They cover approximately one third of Europe's land area, and their role in water provision is even more pivotal, as forested landscapes are the preferred sources for generation, storage and export of drinking water to supply the human population.

Research on forest-water interactions touches upon the **water resource aspect and potential hazards to the human population**. Along river systems and in larger floodplains, peak flow rates may cause devastating floods. The frequency and intensity of such floods may increase due to climate change and a concurrent amplification of extreme weather situations.

The **provision of adequate water supply for European forest ecosystems, water quality, and the protective role of forests in reducing water-related hazards are potentially at risk due to a changing climate and changing land-management practices**. The water budgets of forest ecosystems are heavily dependent on the climate and forest structure. The latter is determined by the **management measures applied in the forestry sector, such as tree species selection, harvesting methods, and stand structure and density management**. This was the Action's starting point.



COST Action FA0601 brought together experts from systems ecology, landscape ecology, basic and applied forest sciences, soil science, hydrology and biodiversity research by pulling together the enormous potential of forest- and water-related research in Europe.

This Action aims to advance knowledge on forest-water interactions in Europe, and to elaborate science-based guidelines for improved management of forests which are predominantly designated for the production and storage of water.

An integrated, multidisciplinary approach for forest and water-related research

As knowledge concerning this particular area is still very limited, this COST Action has been pulling together the enormous potential of forest and water-related research in Europe through an integrated, multidisciplinary approach. By doing so, this research network contributes to overcoming the current scientific fragmentation in this area.

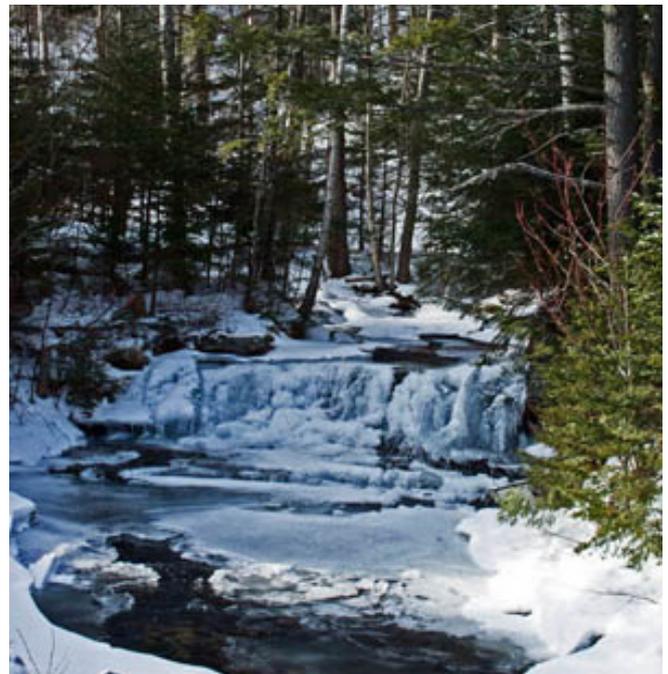
The scientific programme embraces three major areas, corresponding to the three working groups acting within the Action:

- expected **changes in forest tree species composition and forest structures in Europe as well as (re)afforestation on set-aside arable land**
- **expected impact of climatic change** (particularly a stronger precipitation gradient from North-Western to South-Eastern Europe) **on forest vitality status and forest-water relations**
- the different relevant scales in the **assessment of forest-management-water relations and their integration.**

If you wish to learn more about COST Action FP0601, please contact:

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COST is Europe's longest-running intergovernmental framework in science and technology cooperation, providing funding for research networking projects called 'Actions'. Supported by the EU's 7th Framework Programme, COST mobilises and connects extraordinary scientific potential, within Europe and beyond.

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