Project Database of ICP Forests

PROJECT DESCRIPTION

PROJECT INFORMATION

Project title:	Evaluation of pedotransfer functions for estimating available water content of soil in a forest context
Project ID:	222
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Within the framework of climatic disturbances, changes in the forest water balance are expected to affect both the variation in evaporative demand and the rainfall deficit during the summer months. It is therefore necessary to anticipate these fluctuations by applying water balance models to regions, nations and continents.

The available water content is essential for perennial plants because it will allow plants to extract water when they need it. However, its estimation is often costly in time and money because it is necessary to describe the root distribution, the chemical properties and the hydraulic properties of the soil (pF/humidity curve). Today the databases in France and Europe give us access to the depth of soils and their chemical properties. On the other hand, hydraulic properties are rarely measured and are often estimated from pedotransfer functions. Unfortunately these functions are, for the most part, derived from data in an agricultural context.

The objective of this request for access to data would be to allow:

1. to test the existing pedotransfer functions for estimating available water content in a forest context.
2. if the data allow it to contribute to the development of new pedotransfer functions at the forest level.

Ultimately, the choice of the pedotransfer function best suited to the forest environment will make it possible to improve the accuracy of forest water balance models and to participate in the effort to adapt forests to climate change.