Project Database of ICP Forests
PROJECT DESCRIPTION

PROJECT INFORMATION

Project title: Exploring whether functional diversity confer resistance and resilience to drought in forests

Project ID: 104

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Summary
Last IPCC report forecasts increasing drought frequency and intensity with important negative consequences on biosphere processes such as forest productivity. Extreme drought events could drastically reduce productivity and trigger forest dieback. It is therefore crucial to identify effective mechanisms that confer stability to forests against extreme drought events. The main objective of this study is to analyse the potential role of functional diversity as driver of stability in European forests against drought. The main objective is to scale up individual tree growth and phenology responses (including crown condition) up to community productivity level through an integrated approximation of phenology and tree-ring analyses.

Hypotheses to be tested:
1-A longer period with leaves confers more stability to forests through enhanced and less variable growth;
2-A better crown condition (higher vitality) is related to improved and more stable growth and increases forest productivity.
Statistical methods to be applied
Descriptive statistics and correlations calculated between crown condition, growth data and phenology.
Linear mixed-effects models to assess the effects of climate on crown condition, growth data and phenology.
Further data involved in the evaluations.
We will use tree-ring data available at public databases (ITRDB) and taken by the author in Spain.