



Guangqi Zhang is currently a Postdoctoral researcher at UMR SILVA – INRAE, Nancy, France. He is working on how tree ring growth, stable isotopes and anatomical traits are affected by climate and environmental changes, especially in drought conditions.

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ZOOM : <https://umontpellier-fr.zoom.us/j/91664131715>

Analysing resilience of beech tree to recurrent extreme drought events through ring growth, wood anatomy and stable isotopes

presented by

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ABSTRACT

Extreme drought events have caused widespread forest dieback with detrimental effects on forest functioning and carbon and water balance. The decline of European beech (*Fagus sylvatica* L.), an important tree species in central Europe, due to recent drought is particularly notable. However, the response of beech multi-proxy traits to drought and the physiological mechanisms of its resistance and adaptation to drought remain poorly understood. The main objective of this study is to gain insight into the physiological properties involved in the resilience or death trajectories of the beech trees in response to an extreme and prolonged drought episode. We retrospectively analysed multi-proxy traits including tree ring width, a proxy for tree cambial growth, wood anatomical traits, a proxy for the xylem hydraulic performance, and tree ring isotopic composition, a proxy for intrinsic water use efficiency (iWUE) to assess effect of drought on beech trees. This work contributes to the understanding of how drought-sensitive trees cope with extreme drought events in terms of their carbon-water relations in the context of climate change.

KEY WORDS

Drought; Isotope discrimination; Resilience; Water use efficiency; Wood anatomy

Invited and animated by:

Dr. Zhun MAO (UMR AMAP)

Type:

Research results

Oral language:

English

Language of PPT:

English

