

Particularities in beech and oak responses to climate at the easternmost sites of their distribution in Europe

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Beech and oak are the most representative forests for Romania and for the Republic of Moldova. In the context of forecasted climate change scenarios, the growth of these tree species at their distribution margin is crucial to adapt current forest management strategies. Analyses of beech (*Fagus sylvatica* L.) and oak (*Quercus* sp.) growth have shown high plasticity, but easternmost beech populations have been rarely studied. To describe the response of the marginal beech and oak population to the climate in the far east sites of its distribution, we first compiled new tree ring width chronologies. Then we analysed climate-growth relationships for two dendrochronological networks for the both species in Eastern Romania and the Republic of Moldova. We observed a relatively high growth rate in the marginal populations compared to core distribution sites. Our analyses further revealed a distinct and significant response of beech and oak growth to all climatic variables, assessing for the first time the relationship between growth and vapour pressure deficit (VPD) which described how plant growth responds to drought.