



Correlating radial growth of Scots pine to precipitation and temperature across Europe

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Studies that utilize tree-ring data and temperature/precipitation across wider scale (e.g. continent) are not common. We provide new findings that relate to the radial growth of Scots pine (EUMIXFOR dataset with 32 plots) and temperature/precipitation (eobs database) across European continent. Significant correlations between climate variables (from 1965 to 2014) and growth have been found.

Application of bootstrapped correlation for different parts of season showed that most prominent and also the most universal correlation across different European pine stands were that between growth and summer months precipitation. Most of the stands were positively dependent on summer precipitation. Generally high temperatures were related to poor growth (negative correlation) in Central Europe, but in contrary in the East and South Europe growth and temperatures were positively correlated. Acquired results provide better understanding of climate-growth phenomena and open a new opportunity for better assessments of forest increment based on the wide scale climate data.