



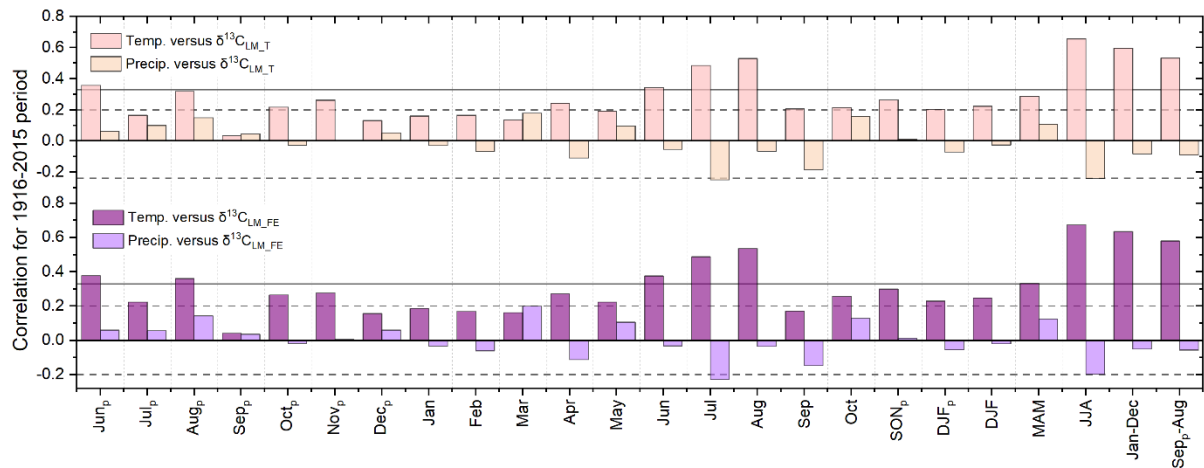
Supplement of

Climate signals in stable carbon and hydrogen isotopes of lignin methoxy groups from southern German beech trees

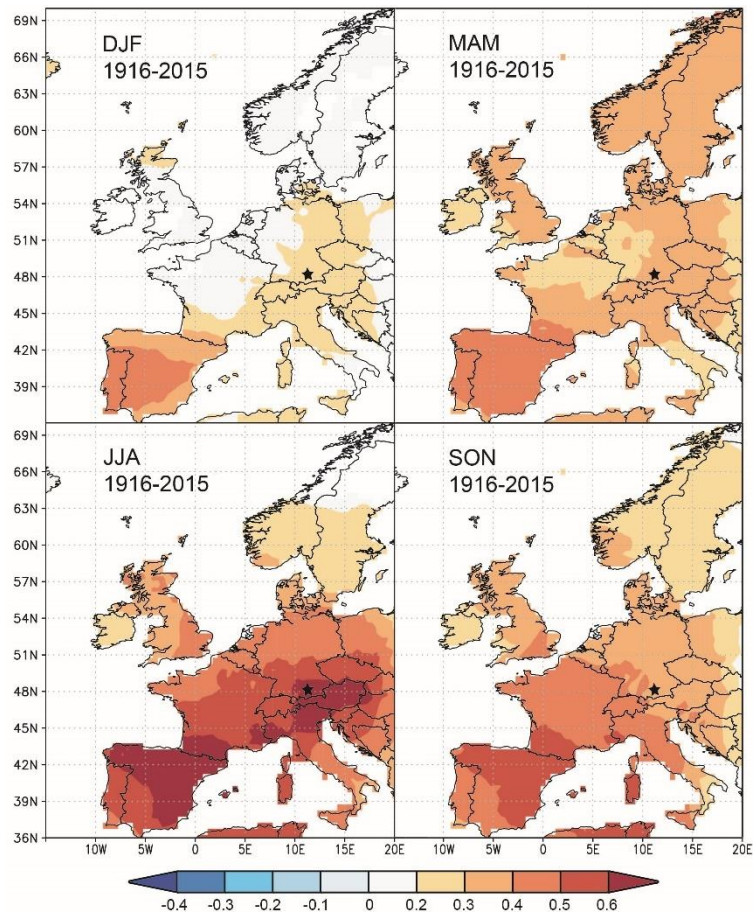
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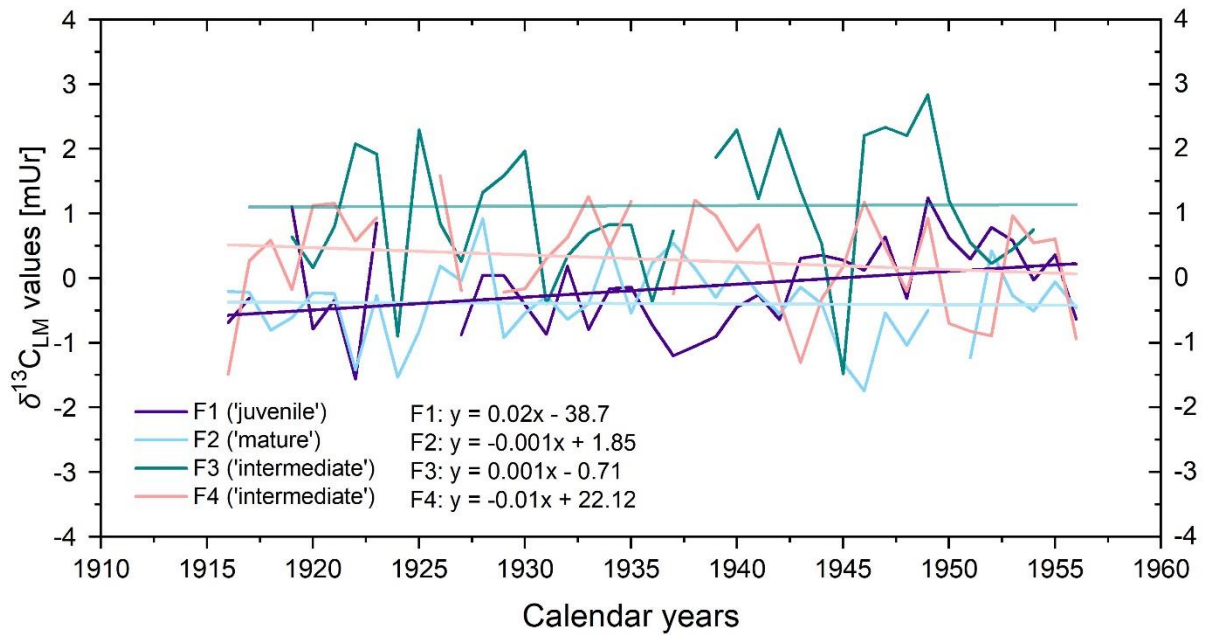
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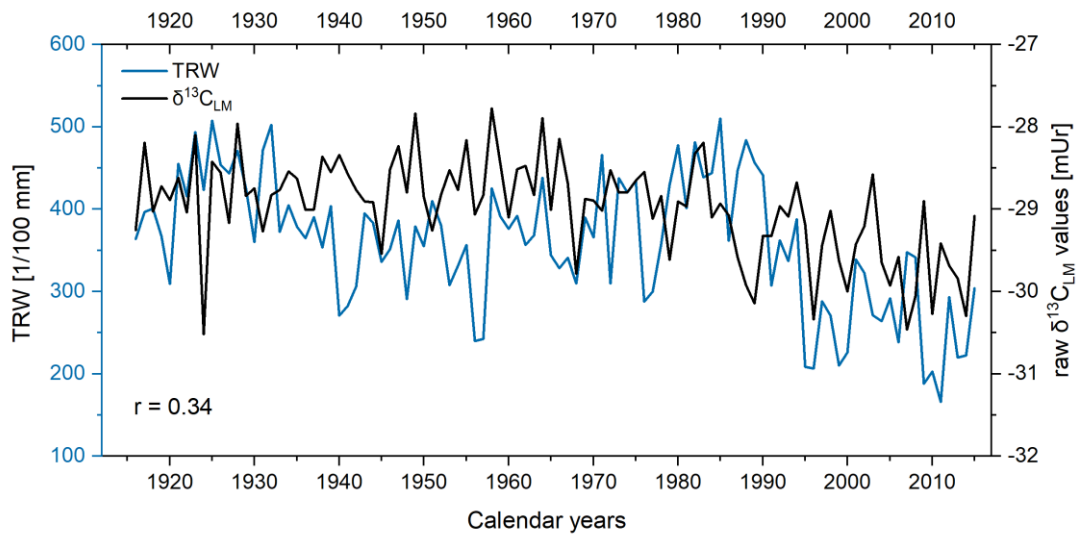
S1. Correlation coefficients between corrected $\delta^{13}C_{LM,T}$, $\delta^{13}C_{LM,FE}$ chronologies and local temperatures and precipitation totals from 1916 to 2015. The subscript p indicates the months of the previous year, and horizontal lines indicate the significance levels, with solid lines representing highly significant ($p < 0.001$) and dashed lines representing significant values ($p < 0.05$).



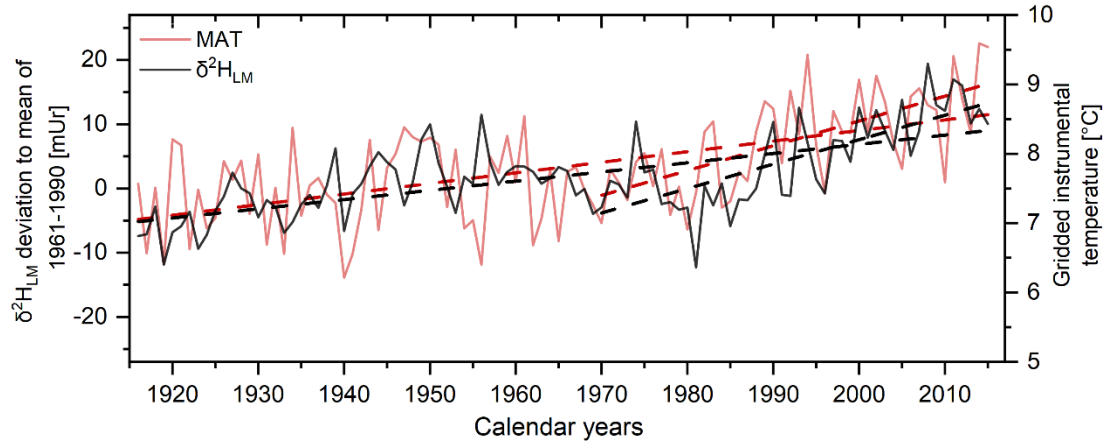
S2. Spatial correlations between winter (DJF), spring (MAM), summer (JJA), fall (SON) temperature data (CRU TS4.04), and $\delta^{13}C_{LM,RL}$ anomalies from 1916-2015. Black star marks the Hohenpeißenberg in Germany.



S3. Linear regression analysis of the four mean $\delta^{13}C_{LM}$ series (F1-F4) over the period 1916-1956. During this period tree age differ between 12-52 (F1) and 81-121 (F2) years.



S4. Mean $\delta^{13}C_{LM}$ and TRW series of four *Fagus sylvatica* trees (F1-F4) from 1916-2015.



S5. Gridded instrumental MAT and mean $\delta^2\text{H}_{\text{LM}}$ chronology (relative to the mean value of 1961-1990) (solid lines) over the period 1916 to 2015. Linear regression lines (dashed lines) are shown for the whole period and the period from 1970 to 2015.