

Supplementary Materials: Is Cork Growth a Reliable Proxy for Stem Diameter Growth in Cork Oak (*Quercus suber* L.)? Implications for Forest Management under Climate Change in Mediterranean Regions

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Climate data: Figure S1

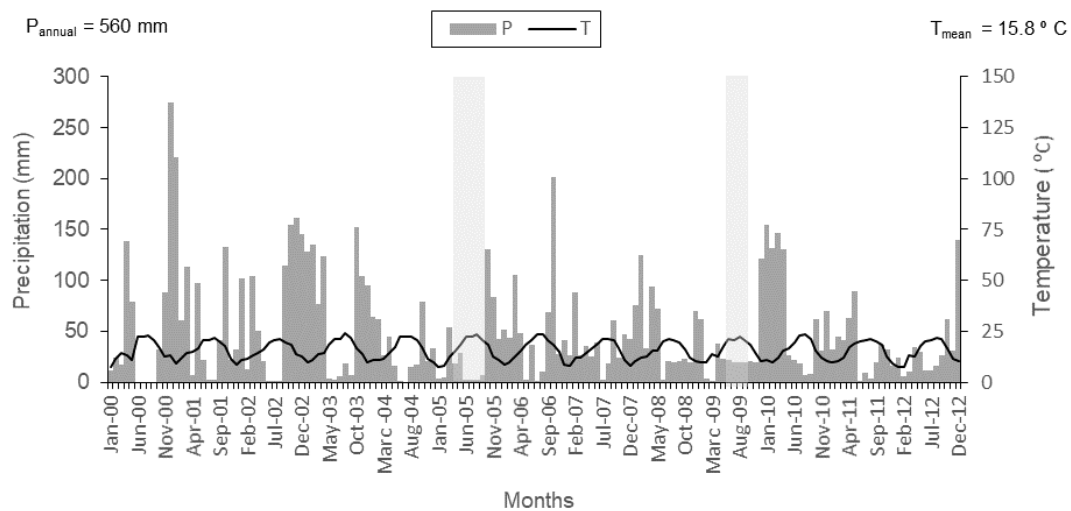


Figure S1. Monthly precipitation (P) (full grey bars) and mean temperature (T) (black line) for the period 2000-2012 for the study area. Climate data for the period under study refer to the weather stations of Vila Franca de Xira, located approximately 11 km NW of the study area, for the monthly precipitation and mean temperature, and of Sto Estevão, located in the study area, for the monthly precipitation. Mean total annual precipitation (P_{annual}) and mean annual temperature (T_{mean}) are indicated in the graph. Severe drought of 2005 and moderate drought of 2009 are indicated in light grey. .

Mixed model effects analysis

In the mixed model analyses for stem diameter growth index (ID_{bh}) and cork growth index (IC_{rw}), the random effects were tree size class (D_{bh}). The results of fixed effects and random effects are given in Supplementary Table S1 (see equations below).

Table S1. Results of the fixed effects of the linear models shown in Table 1 for stem diameter growth index (ID_{bh}) and cork growth index (IC_{rw}).

Estimates of Covariance Parameters

Stem diameter growth index (ID_{bh})

MODEL	Random effects group	Estimate	Std. Error
M₀	D_{bh} class (n=4)	0.002	0.002
	Residual	0.133	0.008
M₄	D_{bh} class (n=4)	0.002	0.002
	Residual	0.133	0.008

Table S2. Results of the random effects of the selected linear models shown in Table 1 for stem diameter growth index (ID_{bh}) and cork growth index (IC_{rw}).

Cork growth index (IC_{rw})

MODEL	Random effects group	Estimate	Std. Error
M₈	D_{bh} class (n=4)	0.000	0.000
	Residual	0.029	0.000
M₁₂	D_{bh} class (n=4)	0.000	0.000
	Residual	0.029	0.000

Distribution of the Residuals in the selected models M0 and M4, the models for ID_{bh} , with the lower AIC (Table 1)

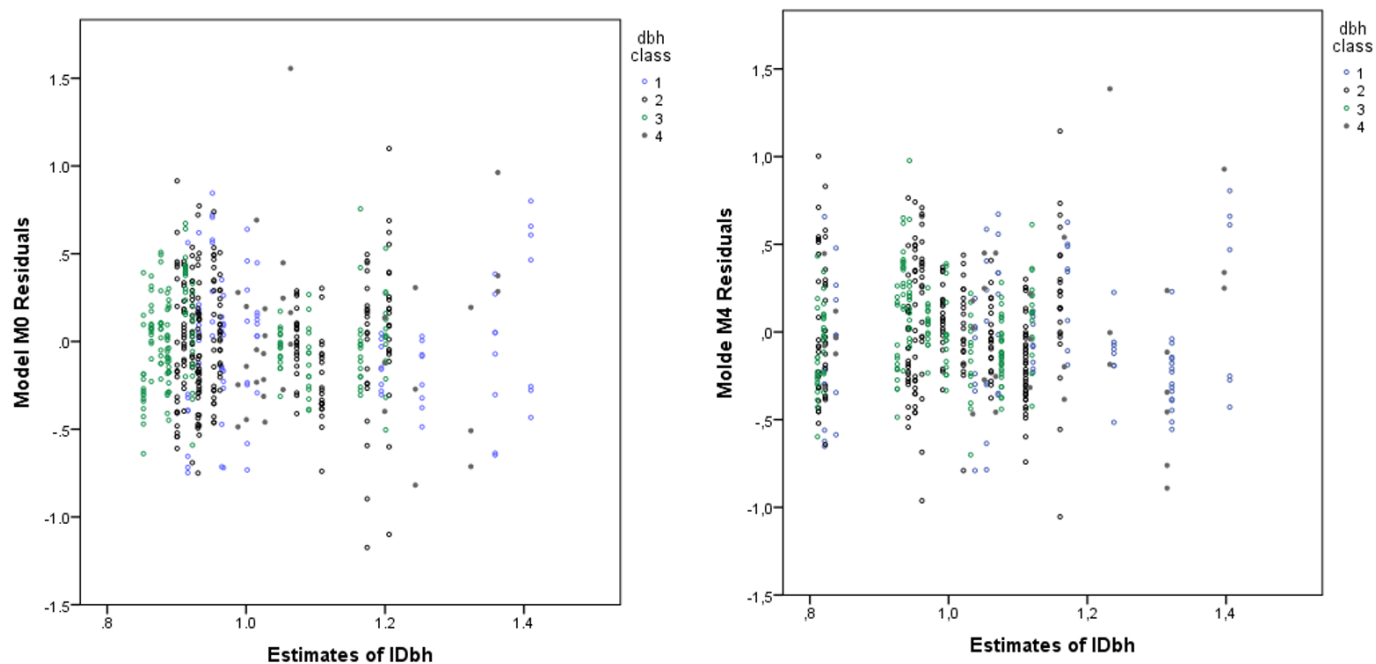


Figure S2. Residuals against the estimates of ID_{bh} in the models M0 and M4 (Table 1).