Supplementary Material

Drought-induced mortality selectively affects Scots pine trees that show limited intrinsic water-use efficiency responsiveness to raising atmospheric CO₂

Ana-Maria Hereş[A,B,D]*, Jordi Voltas*[C]*, Bernat Claramunt López*[A,B] *and Jordi Martínez-Vilalta*[A,B]

[A]CREAF, Cerdanyola del Vallès, Bellaterra, Barcelona, 08193, Spain.

[B]Universitat Autònoma de Barcelona, Cerdanyola del Vallès, Bellaterra, Barcelona, 08193, Spain.

[C]Departament of Crop and Forest Sciences, AGROTECNIO Center, Universitat de Lleida, Av. Rovira Roure 191, Lleida, 25198, Spain.

[D]Corresponding author. Email: ana_heres@yahoo.com

Table S1.   Results of linear regressions between Δ^{13}C-based and theoretical intrinsic water-use efficiency (WUE_i) values according to the three scenarios proposed by Saurer *et al.* (2004)

RMSError values are also given. Abbreviations: β_o, intercept; β_1, slope; β_1', slope when the intercept is set to 0; *RMSError*, root mean square error; ct, constant

Site	Condition	Scenario	β_o	Confidence interval (95%) for β_o	β_1	Confidence interval (95%) for β_1	β_1'	Confidence interval (95%) for β_1'	RMSError
Prades	wetL	C_i=ct	22.831	9.21 – 36.45	0.777	0.65 - 0.90	0.982	0.97 – 0.99	4.22
	wetL	C_i/C_a=ct	–64.031	(–)91.38 – (–)36.68	1.675	1.41 – 1.94	1.054	1.04 – 1.07	6.98
	wetL	C_a-C_i=ct	–	–	–	–	–	–	14.25
	dryL	C_i=ct	34.178	19.60 – 48.75	0.689	0.56 – 0.82	0.987	0.97 – 1.00	4.56
	dryL	C_i/C_a=ct	–40.445	(–)68.81 – (–)12.09	1.432	1.17 – 1.70	1.054	1.04 – 1.07	6.89
	dryL	C_a-C_i=ct	–	–	–	–	–	–	14.22
	dryD	C_i=ct	53.853	36.73 – 70.98	0.474	0.33 – 0.62	0.941	0.92 – 0.96	8.63
	dryD	C_i/C_a=ct	3.245	(–)29.78 – 36.27	0.970	0.67 – 1.28	1.000	0.99 – 1.01	3.49
	dryD	C_a-C_i=ct	–	–	–	–	–	–	8.24
Arcalís	wetL	C_i=ct	29.471	11.58 – 47.36	0.724	0.56 – 0.89	0.998	0.98 – 1.01	5.01
	wetL	C_i/C_a=ct	–54.084	(–)91.19 – (–)16.98	1.619	1.25 – 1.99	1.076	1.06 – 1.09	8.98

wetL	C_a-C_i=ct	–	–	–	–	–	–	15.70
dryL	C_i=ct	34.221	19.04 – 49.40	0.660	0.52 – 0.80	0.980	0.96 – 1.00	5.19
dryL	C_i/C_a=ct	–42.541	(–)74.28 – (–)10.80	1.490	1.17 – 1.81	1.059	1.04 – 1.07	7.09
dryL	C_a-C_i=ct	–	–	–	–	–	–	13.73
dryD	C_i=ct	44.982	22.28 – 67.68	0.553	0.34 – 0.77	0.982	0.96 – 1.00	6.61
dryD	C_i/C_a=ct	–19.880	(–)68.03 – 28.27	1.262	0.77 – 1.76	1.057	1.04 – 1.08	7.57
dryD	C_a-C_i=ct	–	–	–	–	–	–	13.09

Reference

Saurer M, Siegwolf RTW, Schweingruber FH (2004) Carbon isotope discrimination indicates improving water-use efficiency of trees in northern Eurasia over the last 100 years. *Global Change Biology* **10**, 2109–2120. doi:10.1111/j.1365-2486.2004.00869.x
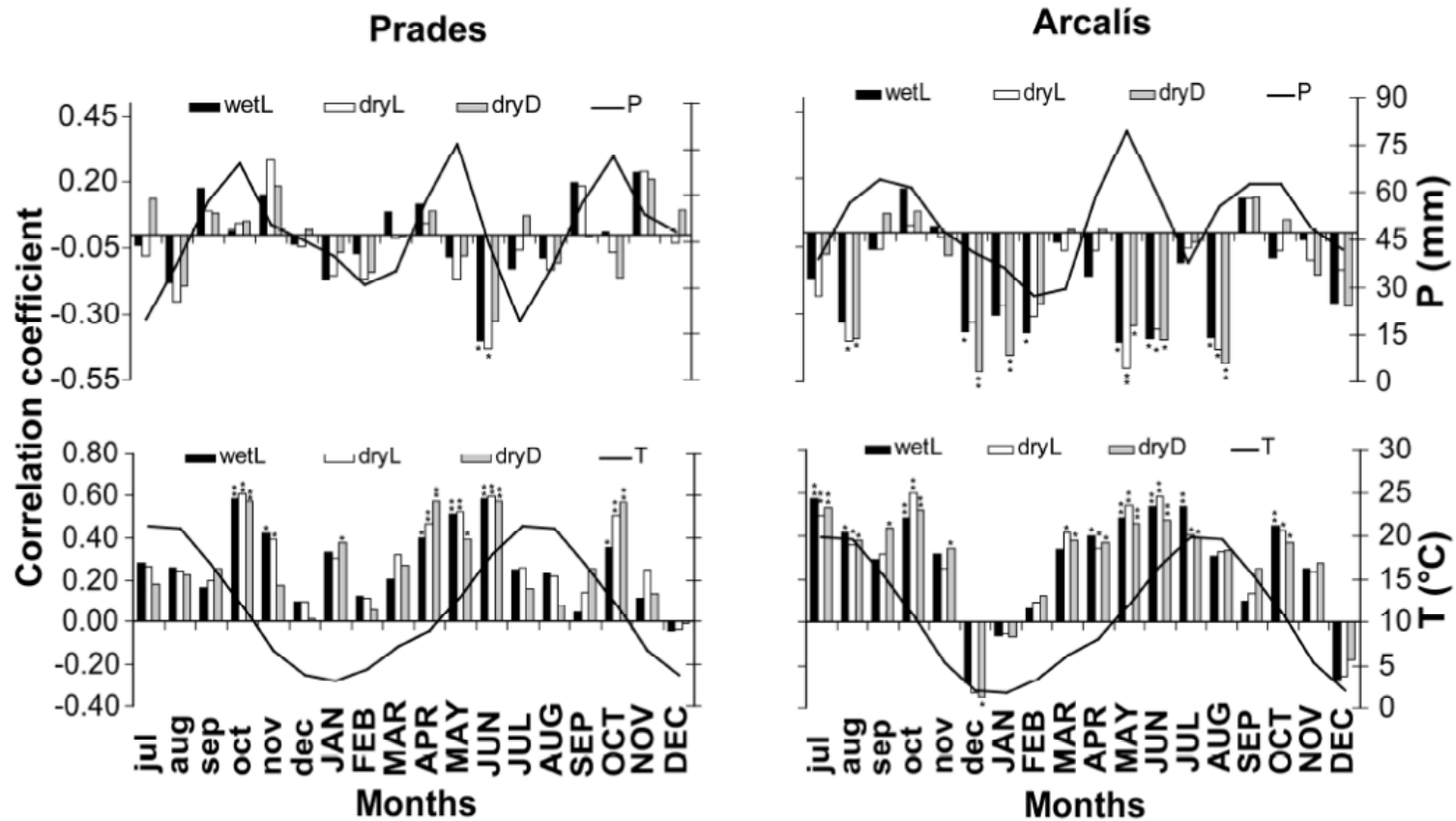
Fig. S1. Pearson correlations between intrinsic water-use efficiency (WUE$_i$) and monthly climatic variables (temperature, T°C; precipitation, P mm). Time interval covers months from previous to growth year (jul to dec) and from current year of growth (JAN to DEC). Significant relationships are indicated: *, $P < 0.05$; **, $P < 0.01$.