

Appendix S1. Supplementary tables

Table S1. Basal stem circumferences of the 20 selected *Acacia* trees at the beginning of the experiment. IL, Israel; SA, South Africa.

Ecotype	Site	Stem circumference (cm)
<i>A. tortilis</i> subsp. <i>tortilis</i>	IL	38
<i>A. tortilis</i> subsp. <i>tortilis</i>	IL	52
<i>A. tortilis</i> subsp. <i>tortilis</i>	IL	38
<i>A. tortilis</i> subsp. <i>tortilis</i>	IL	34
<i>A. tortilis</i> subsp. <i>tortilis</i>	IL	51
<i>A. tortilis</i> subsp. <i>raddiana</i>	IL	111
<i>A. tortilis</i> subsp. <i>raddiana</i>	IL	129
<i>A. tortilis</i> subsp. <i>raddiana</i>	IL	46
<i>A. tortilis</i> subsp. <i>raddiana</i>	IL	104
<i>A. tortilis</i> subsp. <i>raddiana</i>	IL	101
<i>A. tortilis</i> subsp. <i>heteracantha</i>	SA	45
<i>A. tortilis</i> subsp. <i>heteracantha</i>	SA	49
<i>A. tortilis</i> subsp. <i>heteracantha</i>	SA	60
<i>A. tortilis</i> subsp. <i>heteracantha</i>	SA	47
<i>A. tortilis</i> subsp. <i>heteracantha</i>	SA	77
<i>A. tortilis</i> subsp. <i>heteracantha</i>	SA	77
<i>A. tortilis</i> subsp. <i>heteracantha</i>	SA	50
<i>A. tortilis</i> subsp. <i>heteracantha</i>	SA	62
<i>A. tortilis</i> subsp. <i>heteracantha</i>	SA	70
<i>A. tortilis</i> subsp. <i>heteracantha</i>	SA	41

Table S2. Collinearity statistics among the four climatic variables by variance inflation factor test (VIF). IL, Israel; SA, South Africa.

Site	Climatic variable	VIF
IL+SA	Temperature	1.72
	Radiation	2.45
	RH	1.47
	Rain	2.39
IL	Temperature	2.33
	Radiation	2.30
	RH	2.71
	Rain	1.22
SA	Temperature	2.22
	Radiation	2.28
	RH	1.52
	Rain	1.52

Table S3. Models (M11–M18) in which collinear variables were excluded one at a time to compare models M3–M5 with all climatic variables. Partial models were less parsimonious than models that included all variables.

Country	Model	AIC	R ²	Fixed effect	Standard coefficient	P
SA	M11	1371	0.269	RH	0.042	<0.001
				Temperature	-0.304	0.041
				Temperature ^2	0.005	0.040
				Rain	6.90e-4	0.772
SA	M12	1362	0.285	RH	0.038	<0.001
				Radiation	-0.001	<0.001
				Rain	0.002	0.348
IL	M13	1422	0.253	RH	-0.003	0.279
				Temperature	0.403	<0.001
				Temperature ^2	-0.007	<0.001
				rain	0.007	0.055
IL	M14	1584	0.087	RH	0.003	0.314
				Radiation	2.24e-5	0.889
				Rain	0.002	0.630
IL	M15	1422	0.250	Radiation	-1.51e-4	0.296
				Temperature	0.407	<0.001
				Temperature ^2	-0.007	<0.001
				Rain	0.006	0.082
IL	M16	1424	0.249	Temperature	0.397	<0.001
				Temperature ^2	-0.007	<0.001
				RH	-0.001	0.610
IL	M17	1583	0.087	Radiation	3.87e-5	0.806
				RH	0.004	0.188
IL	M18	1423	0.248	Radiation	-1.33e-4	0.356
				Temperature	0.402	<0.001
				Temperature ^2	-0.007	<0.001

Table S4. Model equations for all models included in the statistical analyses

Model	Equation
M1	weekly growth ~ 1 + country + RH.m + rad.m + rain + temp 2 + Temp.m+(1 tree)
M2	weekly growth ~ 1 + country + Temp.m + RH.m + temp 2 + rain + rad.m + country:Temp.m + country:RH.m + country:temp 2 + country:rain + rad.m:country+(1 tree)
M3	weekly growth ~ 1 + Temp.m + RH.m + temp 2 + rain + rad.m+(1 tree)
M4	weekly growth ~ 1 + Temp.m + RH.m + temp 2 + rad.m + rain+(1 tree)
M5	weekly growth ~ 1 + Temp.m + RH.m + temp 2 + rad.m +(1 tree)
M6	weekly growth ~ 1 + country + pre.RH.m + pre.rad.m + pre.rain + pre.temp 2 + pre.Temp.m+(1 tree)
M7	weekly growth ~ 1 + country +pre. Temp.m + pre,RH.m + pre.temp 2 + pre.rain + pre.rad.m + country:pre.Temp.m + country:pre.RH.m + country:pre,temp 2 + country:pre.rain + pre.rad.m:country+(1 tree)
M8	weekly growth ~ 1 + pre,Temp.m + pre.RH.m + pre.temp 2 + pre.rain + pre.rad.m+(1 tree)
M9	weekly growth ~ 1 + pre.Temp.m + pre.RH.m + pre.temp 2 + pre.rad.m + pre.rain+(1 tree)
M10	weekly growth ~ 1 + pre.Temp.m +pre.RH.m + pre.temp 2 + pre.rad.m +(1 tree)
M11	weekly growth ~ 1 + RH.m + rain + Temp.m + temp 2+(1 tree)
M12	weekly growth ~ 1 + RH.m + rain + rad.m+(1 tree)
M13	weekly growth ~ 1 + RH.m + rain + Temp.m + temp 2+(1 tree)
M14	weekly growth ~ 1 + RH.m + rad.m+(1 tree)
M15	weekly growth ~ 1 + rad.m + Temp.m + temp 2+rain+(1 tree)
M16	weekly growth ~ 1 + RH.m + Temp.m + temp 2+(1 tree)
M17	weekly growth ~ 1 + RH.m +rad.m+(1 tree)
M18	weekly growth ~ 1 + rad.m + Temp.m + temp 2+(1 tree)