

Appendix S6 Posterior mean (SD) and 95% CI parameter values for the hierarchical analyses. Cases where native and non-native species are significantly different (i.e. non-overlapping 95% CIs) are indicated in **bold**.

Parameter	Negative responses		Positive responses	
	Detrimental effects of climate change		Beneficial effects of climate change	
	Native	Non-native	Native	Non-native
Maximum effect size (a)				
Overall	0.73(0.32)	1.55(0.41)	0.91(0.4)	1.28(0.42)
	0.3,1.41	0.6,2.41	0.37,2.05	0.55,2.25
Terrestrial	1.05(0.32)	1.67(0.49)	1.11(0.38)	1.46(0.41)
	0.58,1.78	0.84,2.77	0.54,1.98	0.79,2.46
Aquatic	0.92(0.24)	1.97(0.58)	1.33(0.456)	1.76(0.55)
	0.55,1.53	0.96,3.26	0.58,2.87	0.88,3.14
Terrestrial-temperature	1.15(0.42)	1.86(0.69)	1.68(0.23)	2.18(0.64)
	0.59,2.16	0.81,3.51	1.27,2.2	1.18,3.63
Terrestrial-precipitation	0.98(0.24)	1.57(0.48)	0.69(0.15)	1.01(0.13)
	0.63,1.59	0.81,2.7	0.5,1.11	0.8,1.34
Terrestrial-CO₂	1.13(0.39)	1.64(0.56)	0.82(0.33)	1.5(0.61)
	0.6,2.12	0.71,2.92	0.44,21.68	0.66,3.05
Aquatic-temperature	0.89(0.1)	2.34(0.63)	1.25(0.56)	2.11(0.64)
	0.7,1.11	1.18,3.69	0.47,2.7	1.07,3.58
Aquatic - CO₂	0.9(0.26)	1.97(0.6)	1.46(0.65)	1.84(0.62)
	0.59,1.52	0.89,3.32	0.57,3.12	0.84,3.39
Half saturation constant (b)				
Overall	0.06(0.127)	0.04(0.17)	0.07(0.26)	0.16(0.47)
	0.000008,0.53	0.000003,0.53	0.00001,0.72	0.000007,1.59
Terrestrial	0.51(0.32)	1.21(0.6)	0.34(0.29)	0.81(0.52)
	0.05,1.28	0.18,2.5	0.02,1.16	0.08,21.96
Aquatic	0.27(0.29)	1.5(0.55)	0.92(0.64)	1.17(0.51)
	0.008,1.09	0.39,2.62	(0.1,2.64)	0.25,2.23
Terrestrial-temperature	0.39(0.27)	0.69(0.44)	0.2(0.08)	0.75(0.38)
	0.04,1.01	0.069,1.78	0.06,0.4	0.2,1.64
Terrestrial-precipitation	0.58(0.39)	1.27(0.71)	0.14(0.19)	0.09(0.09)
	0.07,1.57	0.22,3.01	0.003,0.7	0.002,0.33
Terrestrial- CO₂	0.53(0.35)	1.35(0.69)	0.44(0.4)	1.007(0.63)
	0.05,1.343	0.26,3.15	0.02,1.51	0.15,2.63
Aquatic-temperature	0.012(0.02)	1.4(0.54)	1.12(0.77)	1.07(0.45)
	0.0004,0.08	0.4,2.54	0.15,3.11	0.34,2.1
Aquatic - CO₂	0.17(0.25)	1.64(0.68)	1.02(0.76)	1.32(0.66)
	0.008,0.81	0.39,3.16	0.07,3.03	0.26,2.96
Variances				
η^2		0.14(1.72)		0.13(1.61)
		0.12,0.17		0.11,0.15
σ_a^2 terrestrial	0.02(.01)	0.03(0.02)	0.2(0.11)	0.14(0.05)
	0.005,1.5	0.006,3.36	0.04,5.47	0.02,7.84
σ_a^2 aquatic	0.02(0.01)	0.05(0.02)	0.03(0.02)	0.04(0.02)
	0.004,2.38	0.007,11.4	0.006,7.94	0.007,14.73
σ_b^2 terrestrial	0.02(0.017)	0.06(0.02)	0.02(0.01)	0.1(0.04)
	0.0054,1.47	0.008,5.33	0.004,2.24	0.01,7.63
σ_b^2 aquatic	0.02(0.016)	0.04(0.02)	0.04(0.02)	0.04(0.02)

	0.004,4.88	0.006,11.93	0.006,11.93	0.006,10.07
σ_{at}^2	0.11(0.06)	0.06(0.03)	0.11(0.04)	0.07(0.03)
	0.02,2.05	0.01,3.55	0.01,3.95	0.01,4
σ_{bt}^2	1.03(0.1)	0.15(0.12)	0.97(0.09)	0.97(0.09)
	0.23,11	0.24,10	0.22,9.9	0.22,9.8
