fire

Article

Changing Climate Suitability for Dominant Eucalyptus Species May Affect Future Fuel Loads and Flammability in Tasmania

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Supplementary methods include:

Default species distribution model configurations for the Biodiversity and Climate Change Virtual Laboratory

Supplementary results show:

(1) Response curves illustrating the relationship between probability of occurrence for *E. delegatensis* and each of the environmental variables used for the three species distribution models Artificial Neural Networks, Maxent and Multivariate Adaptive Regression Splines
(2) Response curves illustrating the relationship between probability of occurrence for *E. obliqua* and each of the environmental variables used for the three species distribution models Artificial Neural Networks, Maxent and Multivariate Adaptive Regression Splines

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Supplementary Methods

Supplementary Table S1. Default species distribution model configurations for the Biodiversity and Climate Change Virtual Laboratory.

Variable	Default
Absence-Presence Ratio	1
Pseudo-Absence Strategy	Random
Pseudo-absence disk minimum distance (m)	0
Number of background points	10000
Environmental Variable Common Resolution	Scale to coarsest resolution

Supplementary Results

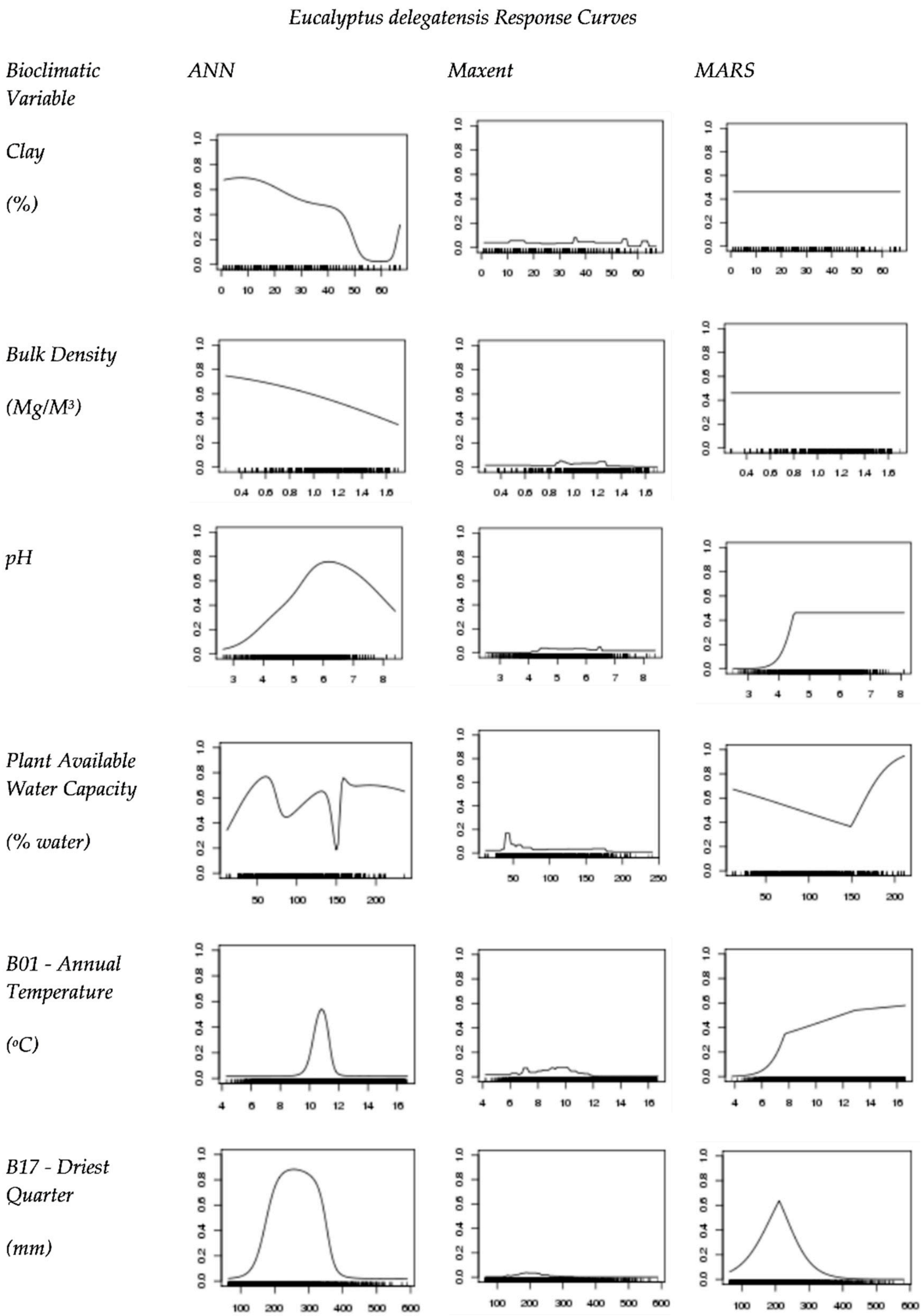
Supplementary Table S2. Change in species range for *E. delegatensis* according to 3 SDMs (Maxent, MARS and ANN) and 3 GCMs (ACCESS1.0, CNRM-CM5 and MIROC5) as a percentage of initial distribution and areal extent (km2), with ensemble means for each.

		ACCESS1.0		CNRM-CM5		MIROC5		MEAN	
		2050	2070	2050	2070	2050	2070	2050	2070
MAXENT	Contraction	21,533 (65%)	27,445 (82%)	17,837 (52%)	26,331 (79%)	16,494 (50%)	21,492 (65%)	18,621 (56%)	25,089 (75%)
	No Change	11,743 (35%)	5,831 (18%)	15,889 (48%)	6,945 (21%)	16,782 (50%)	11,785 (35%)	14,805 (44%)	8,187 (25%)
	Expansion	2,259 (7%)	1,853 (6%)	2,776 (8%)	2,300 (7%)	3,105 (9%)	2,651 (8%)	2,713 (8%)	2,268 (7%)
MARS	Contraction	24,198 (69%)	28,938 (83%)	20,654 (59%)	27,745 (79%)	19,830 (57%)	24,409 (10%)	21,561 (62%)	27,031 (57%)
	No Change	10,085 (31%)	6,064 (17%)	14,349 (41%)	7,258 (21%)	15,172 (43%)	10,594 (30%)	13,202 (38%)	7,972 (23%)
	Expansion	1,729 (5%)	1,263 (4%)	1,735 (5%)	1,407 (4%)	2,078 (6%)	1,805 (5%)	1,847 (5%)	1,492 (4%)
ANN	Contraction	17,030 (53%)	23,439 (74%)	15,899 (50%)	22,018 (69%)	15,395 (48%)	19,500 (61%)	16,108 (50%)	21,652 (68%)
	No Change	14,811 (47%)	8,402 (26%)	15,942 (50%)	9,823 (31%)	16,446 (52%)	12,341 (39%)	15,733 (50%)	10,189 (32%)
	Expansion	1,756 (6%)	605 (2%)	1,437 (5%)	1,293 (4%)	2,002 (6%)	1,745 (5%)	1,732 (6%)	1,214 (4%)
MEAN	Contraction	20,920 (62%)	26,607 (80%)	18,130 (54%)	25,365 (76%)	17,240 (52%)	21,800 (45%)	18,763 (56%)	24,591 (67%)
	No Change	12,213 (38%)	6,766 (20%)	15,393 (46%)	8,009 (24%)	16,133 (48%)	11,573 (35%)	14,580 (44%)	8,783 (26%)
	Expansion	1,915 (6%)	1,240 (4%)	1,983 (6%)	1,667 (5%)	2,395 (7%)	2,067 (6%)	2,097 (6%)	1,658 (5%)

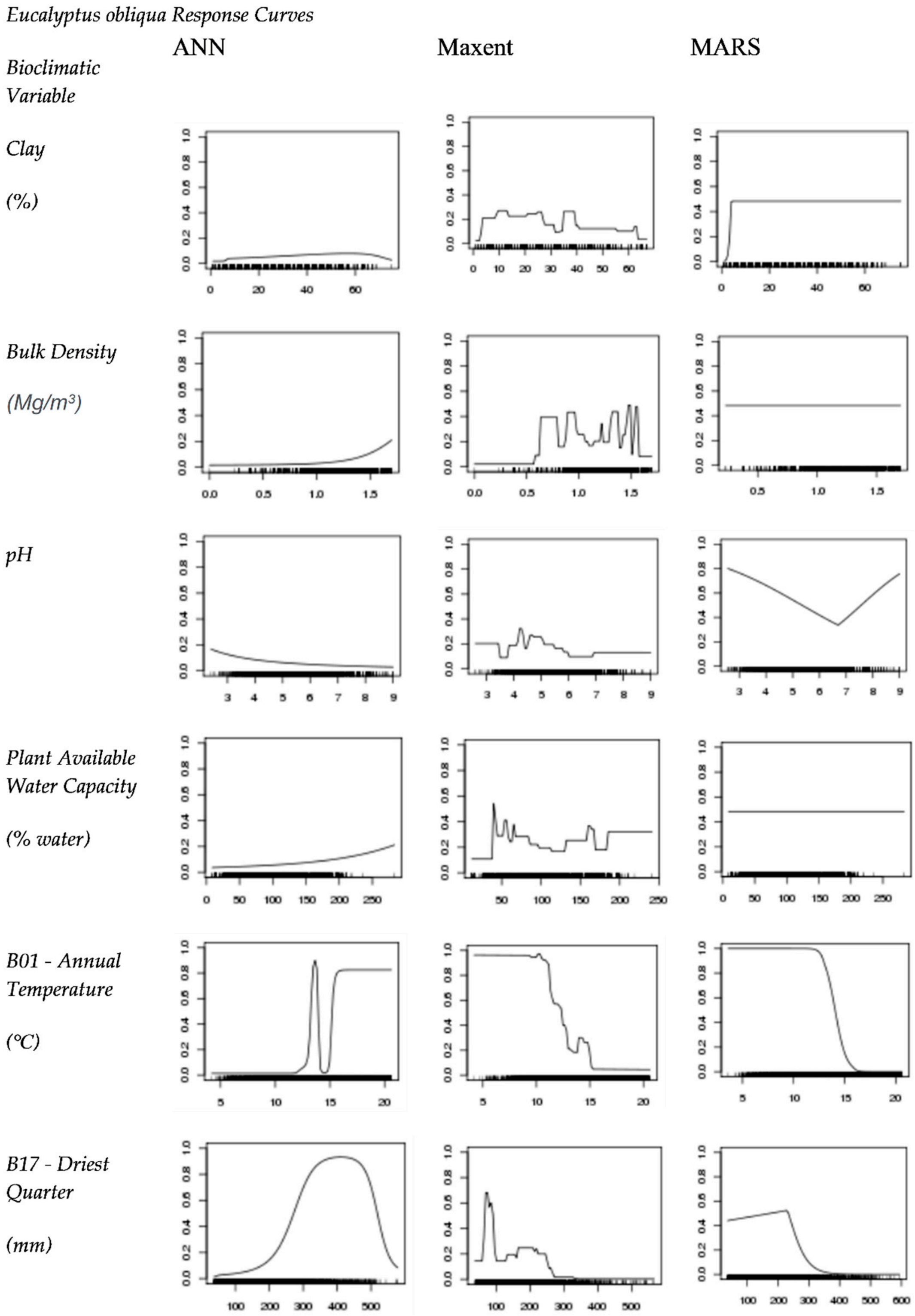
Supplementary Table S3. Change in species range for *E. obliqua* according to 3 SDMs (Maxent, MARS and ANN) and 3 GCMs (ACCESS1.0, CNRM-CM5 and MIROC5) as a percentage of initial distribution and areal extent (km2), with ensemble means for each.

		ACCESS1.0		CNRM-CM5		MIROC5		MEAN	
		2050	2070	2050	2070	2050	2070	2050	2070
MA	Contraction	81,513 (54%)	115,271 (76%)	80,494 (53%)	104,265 (69%)	75,940 (50%)	94,860 (62%)	79,316 (52%)	10,479 (69%)

XENT	No Change	70,547 (46%)	36,789 (24)	71,565 (47%)	47,434 (31%)	76,120 (50%)	57,200 (38%)	72,744 (48%)	47,141 (31%)
	Expansion	29,060 (19%)	18,838 (12%)	26,062 (17%)	22,772 (15%)	32,241 (21%)	29,972 (20%)	29,121 (19%)	23,861 (16%)
MARS	Contraction	33,333 (16%)	49,119 (38%)	35,755 (28%)	50,092 (39%)	27,967 (22%)	35,531 (27%)	32,352 (25%)	44,914 (35%)
	No Change	96,341 (74%)	80,556 (62%)	93,919 (72%)	79,582 (61%)	101,707 (78%)	94,143 (73%)	97,322 (75%)	84,760 (65%)
	Expansion	30,290 (23%)	26,746 (20%)	33,719 (26%)	37,073 (29%)	27,336 (21%)	30,392 (23%)	30,448 (23%)	31,404 (24%)
ANN	Contraction	70,346 (46%)	104,546 (69%)	67,577 (44%)	92,967 (61%)	60,452 (40%)	83,227 (55%)	66,125 (43%)	93,580 (62%)
	No Change	81,739 (54%)	47,589 (31%)	84,509 (56%)	59,118 (39%)	91,633 (60%)	68,859 (45%)	85,960 (57%)	58,522 (38%)
	Expansion	17,964 (12%)	15,885 (10%)	17,444 (11%)	17,493 (12%)	20,650 (14%)	20,413 (13%)	18,686 (12%)	17,930 (12%)
MEAN	Contraction	61,731 (42%)	89,645 (61%)	61,275 (42%)	82,441 (56%)	54,786 (38%)	71,206 (48%)	59,264 (40%)	81,098 (55%)
	No Change	82,876 (58%)	54,978 (39%)	83,331 (58%)	62,045 (44%)	89,820 (63%)	73,401 (52%)	85,342 (60%)	63,474 (45%)
	Expansion	25,771 (18%)	20,490 (14%)	25,742 (18%)	25,779 (19%)	26,742 (19%)	26,926 (19%)	26,085 (18%)	24,398 (17%)



Supplementary Figure S1. Response curves showing the relationship between probability of occurrence for *E. delegatensis* and each of the environmental variables used for the three species distribution models Artificial Neural Networks, Maxent and Multivariate Adaptive Regression Splines.



Supplementary Figure S2. Response curves showing the relationship between probability of occurrence *for E. obliqua* and each of the environmental variables used for the three species distribution models Artificial Neural Networks, Maxent and Multivariate Adaptive Regression Splines.