

APPENDIX S5: Summary table for logistic regression models

Table S5.1: Summary of results for logistic regression models of species occurrence in Europe and the Swiss Alps explained by different sets of three climatic variables (minimum temperature, TMIN; growing-degree-days, GDD; water balance, WBAL, including their linear and quadratic terms): the total number of estimated parameters including the intercept (K), the percentage of times a model was selected as the best ($\Delta AIC = 0$) for all studied species ($n_{\text{best-all}}$; $n = 1577$), and only for the species with non-truncated responses to TMIN ($n_{\text{best-tmin}}$; $n = 1072$), GDD ($n_{\text{best-gdd}}$; $n = 1013$) and WBAL ($n_{\text{best-wbal}}$; $n = 970$), the mean (\pm SD) Akaike weight for all studied species (w) and the mean (\pm SD) proportion of variation in species occurrence explained by a given model (R_L^2) for all studied species. Since GDD and TMIN were highly correlated in the Swiss Alps two sets of models were tested for this area

	K	$n_{\text{best-all}}$ (%)	$n_{\text{best-tmin}}$ (%)	$n_{\text{best-gdd}}$ (%)	$n_{\text{best-wbal}}$ (%)	w (%)	R_L^2
Europe							
TMIN	3	0.5	0.7	0.7	0.1	0.7 \pm 4.6	20.6 \pm 11.3
GDD	3	0.4	0.2	0.0	0.3	0.6 \pm 4.5	20.5 \pm 14.1
WBAL	3	0.1	0.0	0.0	0.0	0.1 \pm 2.0	12.7 \pm 10.8
TMIN, GDD	5	10.8	9.9	10.9	9.1	10.5 \pm 22.2	29.4 \pm 14.2
TMIN, WBAL	5	8.6	9.3	8.1	9.3	10.5 \pm 22.2	28.7 \pm 13.1
GDD, WBAL	5	1.8	0.7	1.2	1.5	2.0 \pm 9.8	25.8 \pm 14.2
GDD, TMIN, WBAL	7	77.7	79.2	79.2	79.7	77.8 \pm 30.9	33.6 \pm 14.0
Swiss alps – Set 1							
TMIN	3	10.5	10.6	-	10.0	11.5 \pm 21.3	21.7 \pm 11.1
WBAL	3	40.1	41.5	-	40.5	35.7 \pm 30.3	23.6 \pm 11.2

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WBAL, TMIN	5	49.5	47.9	-	49.5	52.8±31.0	25.7±11.2
Swiss alps – Set 2							
GDD	3	14.3	-	15.3	14.5	14.1±23.6	22.2±11.2
WBAL	3	30.3	-	32.1	31.8	30.2±29.2	23.6±11.2
GDD, WBAL	5	55.4	-	52.6	53.6	55.8±31.5	26.1±11.2
