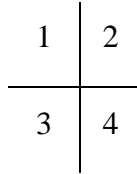


4 Supplementary Material S5

. **Model evaluation results.** Evaluation of models calibrated with off-diagonal occurrences. Occurrences where split in four quadrants based on the longitude and latitude values as in (Peterson, 2012):



Occurrences from quadrants 1 and 4 were grouped and named **A**, while occurrences in quadrants 2 and 3 were grouped and denoted **B**. Models were calibrated with **A** and evaluated later with **B** and vice versa. Evaluations were based on the number of independent points predicted correctly and the proportion of area predicted suitable by the models to estimate *p-values*:

Model	Algorithm	All occurrences		Not outlier Occurrences	
		A vs B	B vs A	A vs B	B vs A
N_F	MEV	5.76×10^{-3}	1.56×10^{-4}	1.56×10^{-3}	4.41×10^{-4}
N_R	Marble	5.33×10^{-15}	1.25×10^{-13}	4.15×10^{-4}	2.64×10^{-9}
N_F	Maxent	5.80×10^{-8}	0.0	8.02×10^{-7}	0.0
N_R	Maxent	0.0	1.89×10^{-13}	0.0	3.24×10^{-11}

N_F = Fundamental niche estimation. N_R = Realized niche estimation. MVE = Minimum-volume ellipsoid. A = occurrences of geographic quadrants 1 and 4. B = occurrences of geographic quadrants 2 and 3.

