

Ecography

**ECOG-04873**

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**Supplementary material**

## Appendix 1

Table A1. The mean value of Pearson's correlation coefficients for the relationships between phylogenetic metrics (NRI, NTI, PDI) and climatic variables (MT, AP, TS, PS) according to gradient type (latitudinal versus elevational) reported in Figure 3.

Climatic variable	Latitudinal gradient			Elevational gradient		
	NRI	NTI	PDI	NRI	NTI	PDI
MT	-0.253	-0.304	0.292	-0.096	-0.234	0.165
AP	-0.143	-0.171	0.165	-0.040	0.067	-0.010
TS	0.236	0.275	-0.270	0.007	-0.123	0.059
PS	-0.002	0.009	-0.005	-0.049	-0.126	0.086

Abbreviations: NRI, net relatedness index; NTI, nearest taxon index; PDI, phylogenetic diversity index; MT, minimum temperature; AP, annual precipitation; TS, temperature seasonality; PS, precipitation seasonality.

Table A2. Slopes for simple linear regressions of nearest taxon index (NTI) against minimum temperature (MT, °C) for latitudinal and elevational gradients. NTI was calculated using the species pool with all the 149 species of this study.

Gradient	Length	N	Slope	<i>P</i>
(1) Latitudinal gradients				
Gradient at elev. 0–200 m	2532 km	3532	-0.045	<0.001
Gradient at elev. 200–400 m	1713 km	3000	-0.054	<0.001
Gradient at elev. 400–600 m	1571 km	2719	-0.060	<0.001
(2) Elevational gradients				
Gradient at lat. 34–36°	1685 m	2388	-0.090	<0.001
Gradient at lat. 36–38°	1675 m	2238	-0.222	<0.001
Gradient at lat. 38–40°	1397 m	2405	-0.142	<0.001



Figure A1. Phylogeny for the 149 species of this study generated based on Hawkins et al.'s phylogenetic tree.



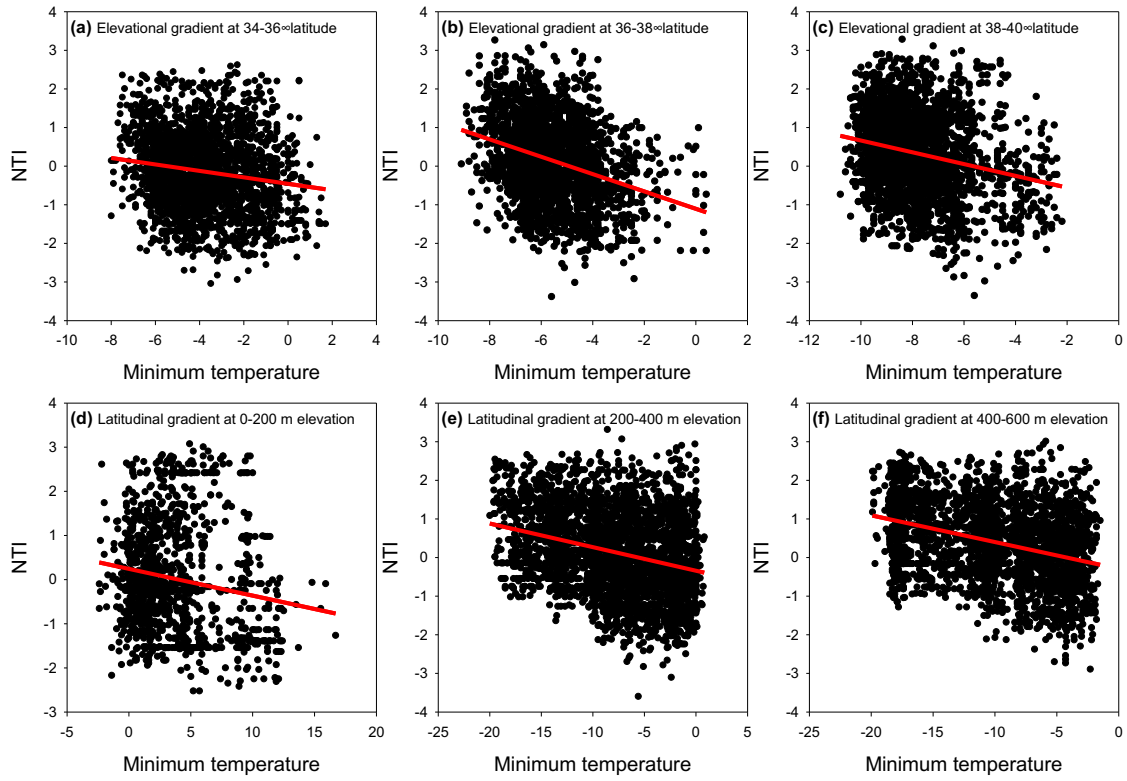


Figure A3. Relations of nearest taxon index (NTI) of angiosperm tree assemblages with minimum temperature (°C) along three elevational gradients (panels a, b and c) and three latitudinal gradients (panels d, e and f). Panels b and f are as panels b and d in Figure 4.

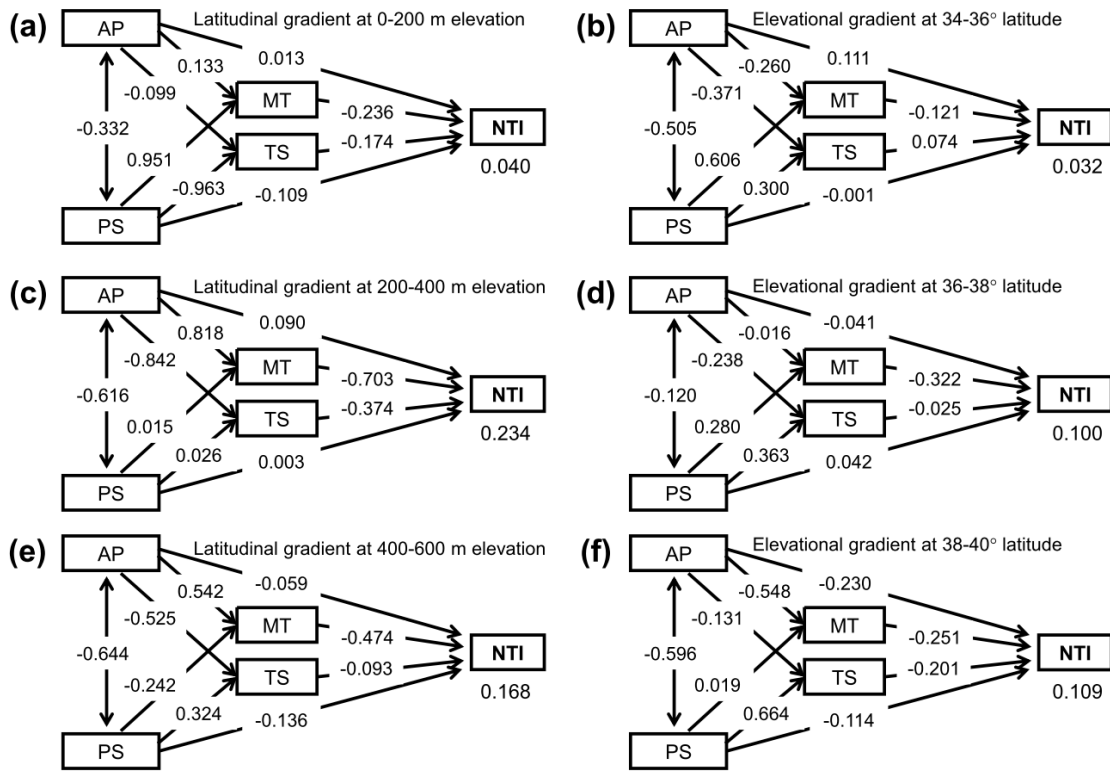


Figure A4. Structural equation models showing relationships among annual precipitation (AP), precipitation seasonality (PS), minimum temperature (MT), and temperature seasonality (TS) in explaining the variation in nearest taxon index (NTI) of angiosperm trees in forest communities along latitudinal gradients (a, c, and e) and elevational gradients (b, d, and f) in eastern North America. Numbers on arrow lines are standardized path coefficients; numbers below boxes for NTI are  $R^2$  values.