

Appendix to Momberg et al. (2021). Exposing wind stress as a driver of fine-scale variation in plant communities, Journal of Ecology.

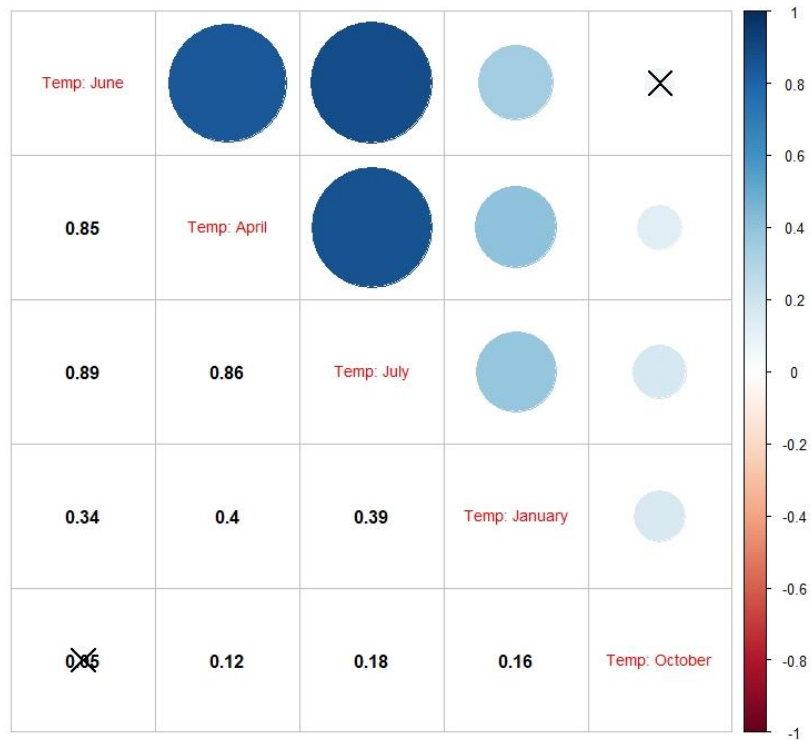


Figure A1 Pairwise Pearson correlation coefficients between soil temperature variables. “X” indicates non-significant correlations.

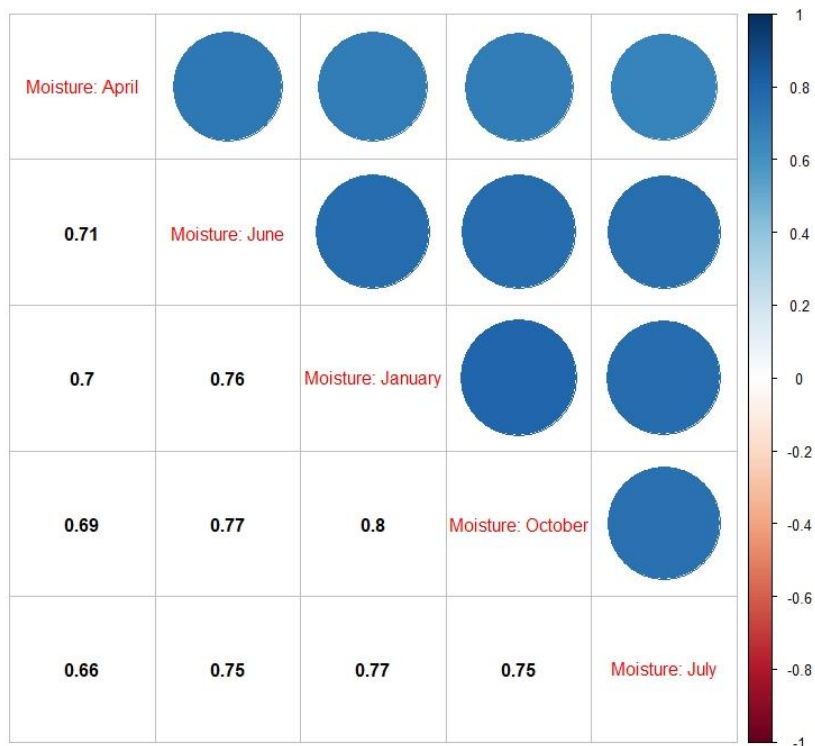


Figure A2 Pairwise Pearson correlation coefficients between soil moisture variables. “X” indicates non-significant correlations.

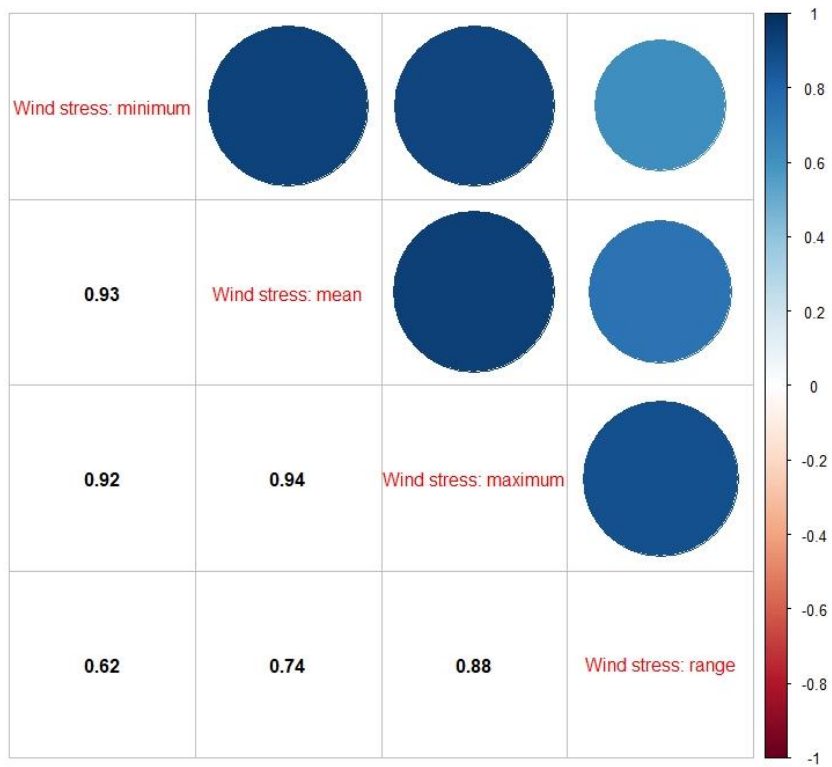


Figure A3 Pairwise Pearson correlation coefficients between wind stress variables. “X” indicates non-significant correlations.



Figure A4 Pairwise Pearson correlation coefficients between all of the predictors included in the final full models. “X” indicates non-significant correlations.

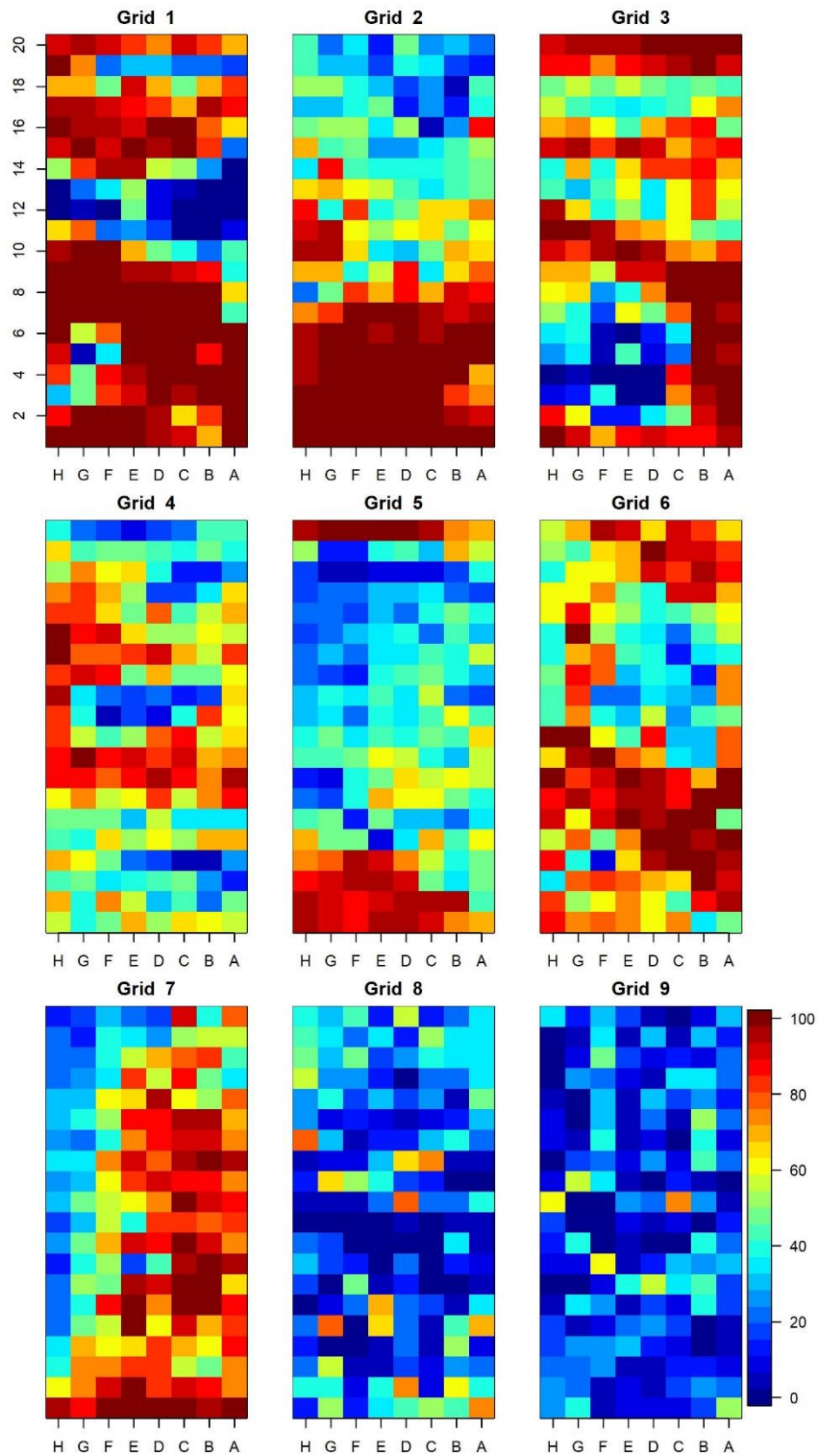


Figure A5 Vascular plant cover (%) across all nine study grids (see Fig. 1 for location of the grids). Cooler colours indicate low plant cover and warmer colours indicate higher vegetation cover. Each cell represents a 1 x 1 m quadrat, with all 180 quadrats per grid being contiguous.

Table A1 Performance of the simple versus full models for species richness and vegetation cover across the two statistical methods. GAM = generalized additive model; GLZ = generalized linear model.

	Richness	Cover
GAM		
Deviance explained (%): simple model	21.4	66.3
Deviance explained (%): full model	24.9	67.7
p-value	< 0.001	< 0.001
GLZ		
Deviance explained (%): simple model	18.7	65.5
Deviance explained (%): full model	19.5	66.9
p-value	0.06	< 0.001

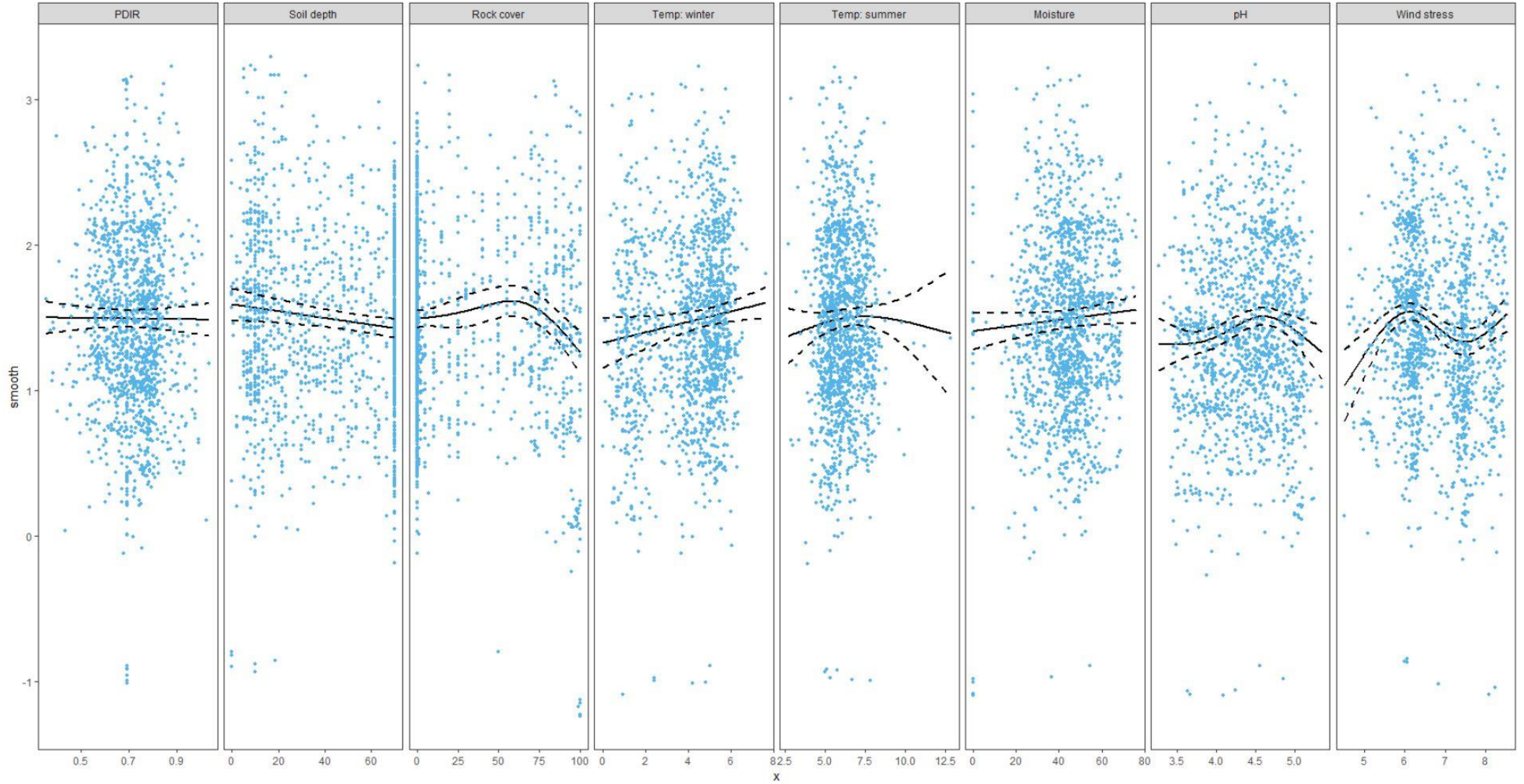


Figure A6 Individual predictor variables' response curves for species richness in the full GAM model, with raw data indicated by blue symbols. Black solid lines represent the response curves while black dashed lines represent 95 % confidence intervals.

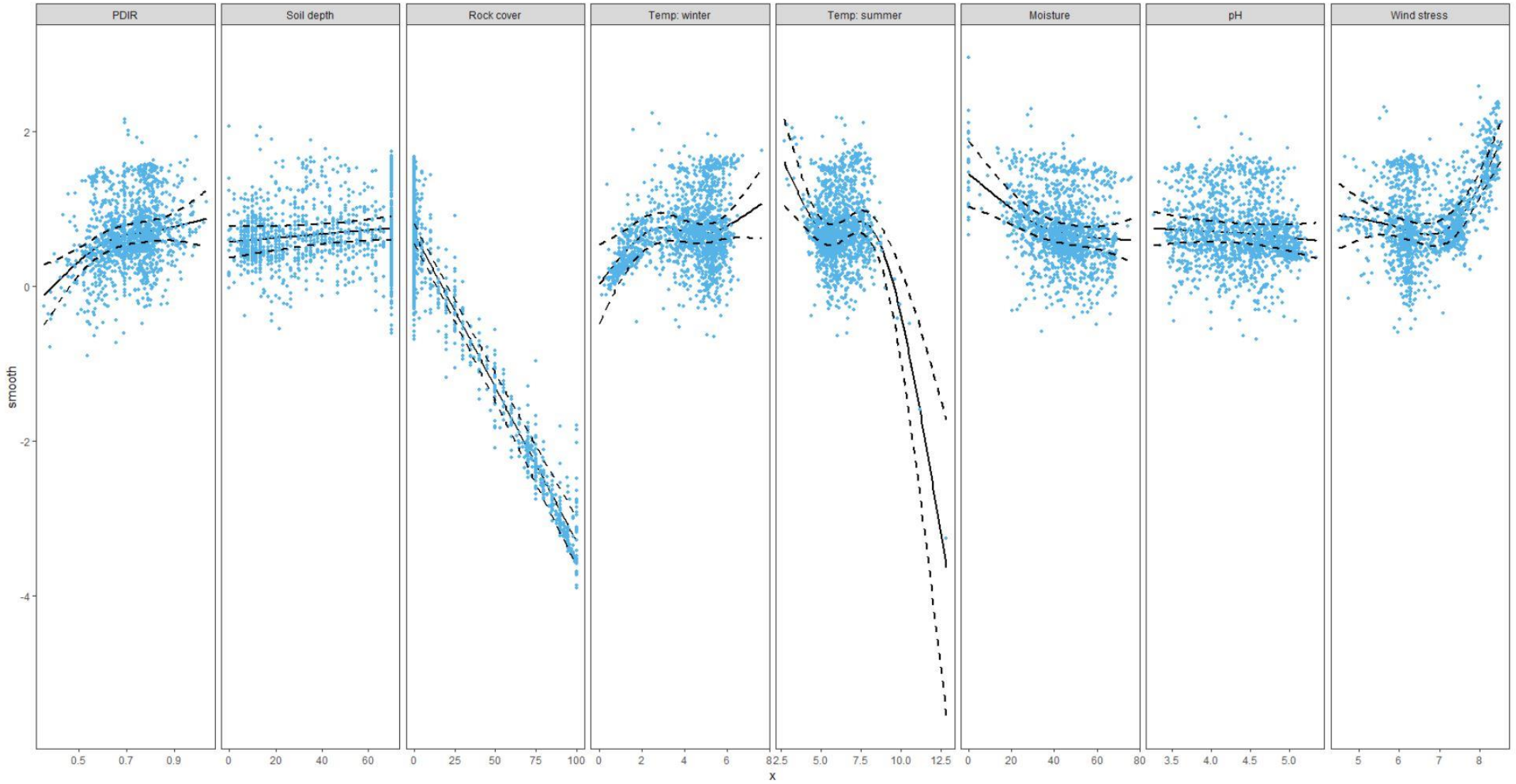


Figure A7 Individual predictor variables' response curves for vegetation cover in the full GAM model, with raw data indicated by blue symbols. Black solid lines represent the response curves while black dashed lines represent 95 % confidence intervals.

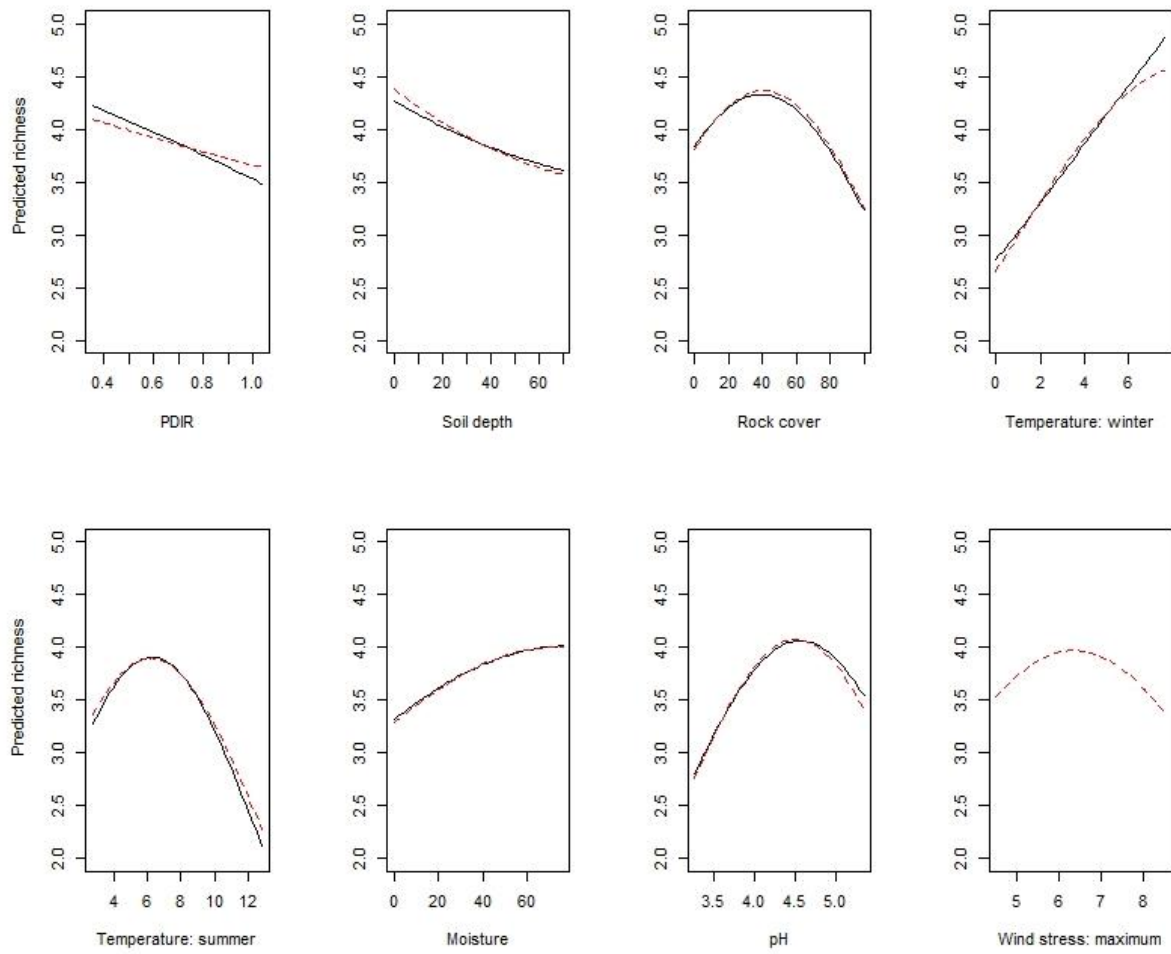


Figure A8 Individual predictor variables' response curves for species richness in GLZ models. Black solid lines represent the response curves in the simple model (excluding wind index predictor variables), while red dashed lines represent the response curves in the full model.

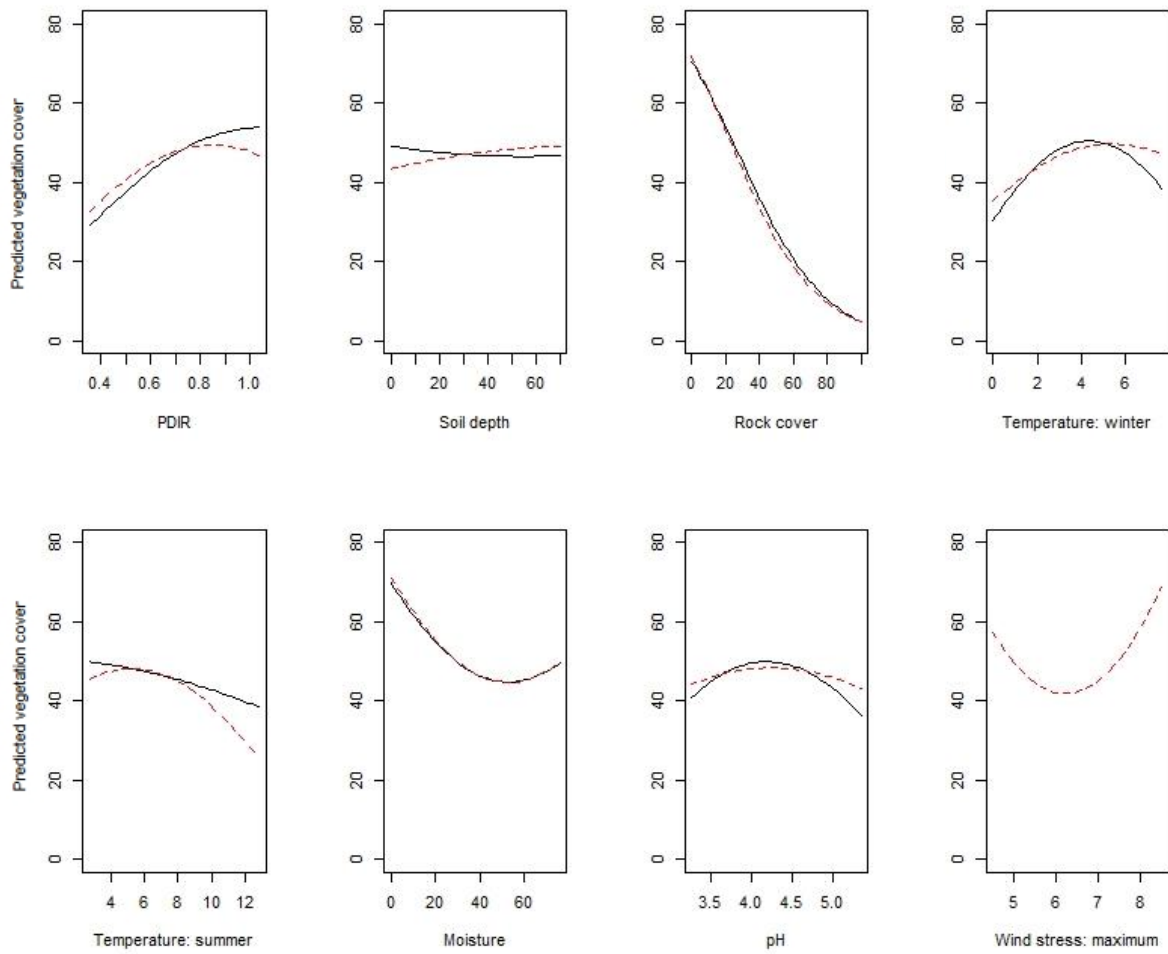


Figure A9 Individual predictor variables' response curves for vegetation cover in GLZ models. Black solid lines represent the response curves in the simple model (excluding wind index predictor variables), while red dashed lines represent the response curves in the full model.

Table A2 Variable importance for all variables when predicting spatial variation in species richness and vegetation cover in the full generalized boosted regression model (GBM). The five most important predictors for each response variable are highlighted in bold.

	Richness	Cover
	Relative importance (%)	
Rock cover	15.47	52.96
Wind stress: maximum	18.77	3.59
Soil pH	20.91	26.75
Soil depth	7.24	3.04
Temperature: summer	10.78	2.59
Temperature: winter	7.66	8.44
PDIR	10.61	0.69
Soil moisture	8.59	1.93

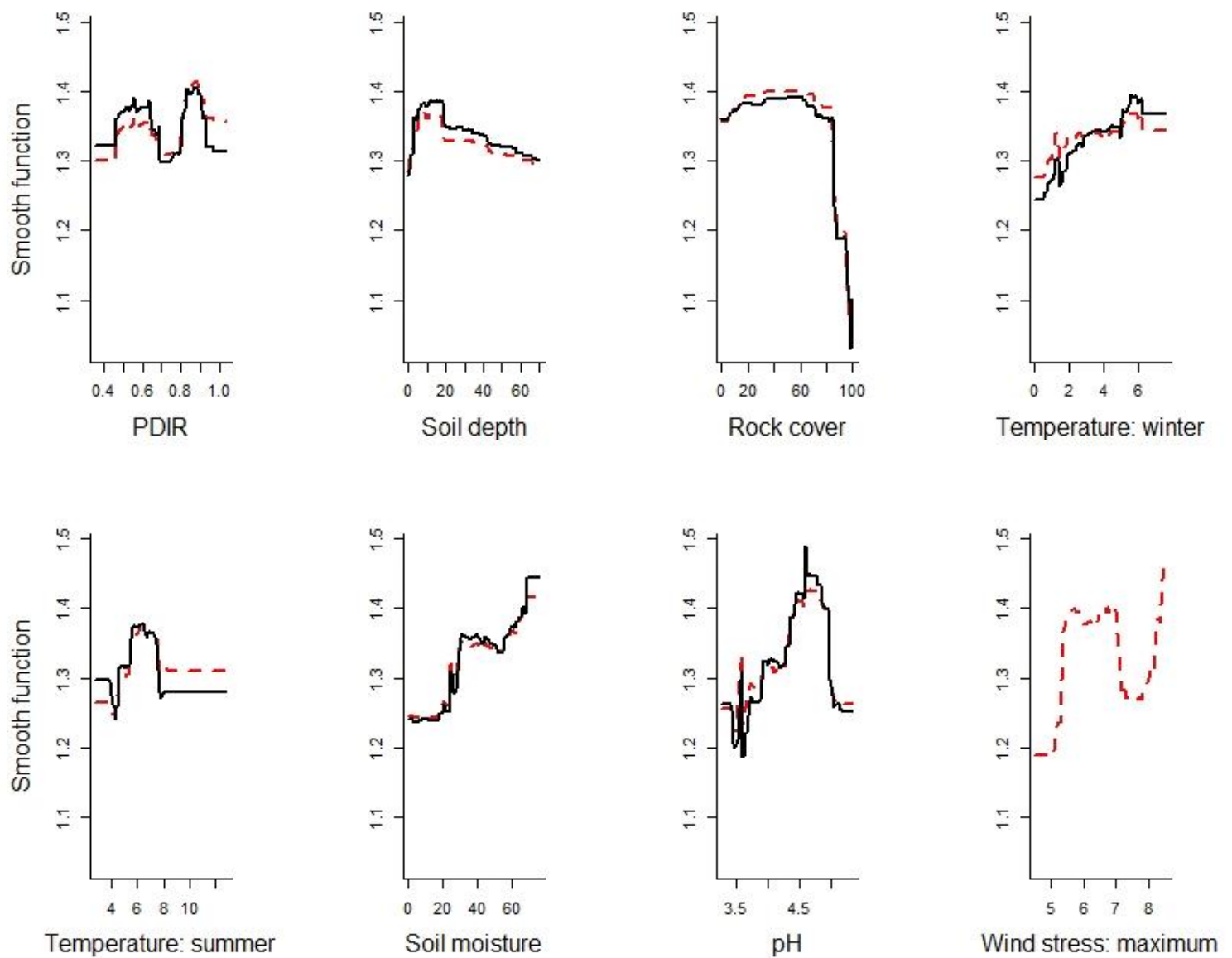


Figure A10 Individual predictor variables' response curves for species richness in GBM models. Black solid lines represent the response curves in the simple model (excluding wind index predictor variables), while red dashed lines represent the response curves in the full model.

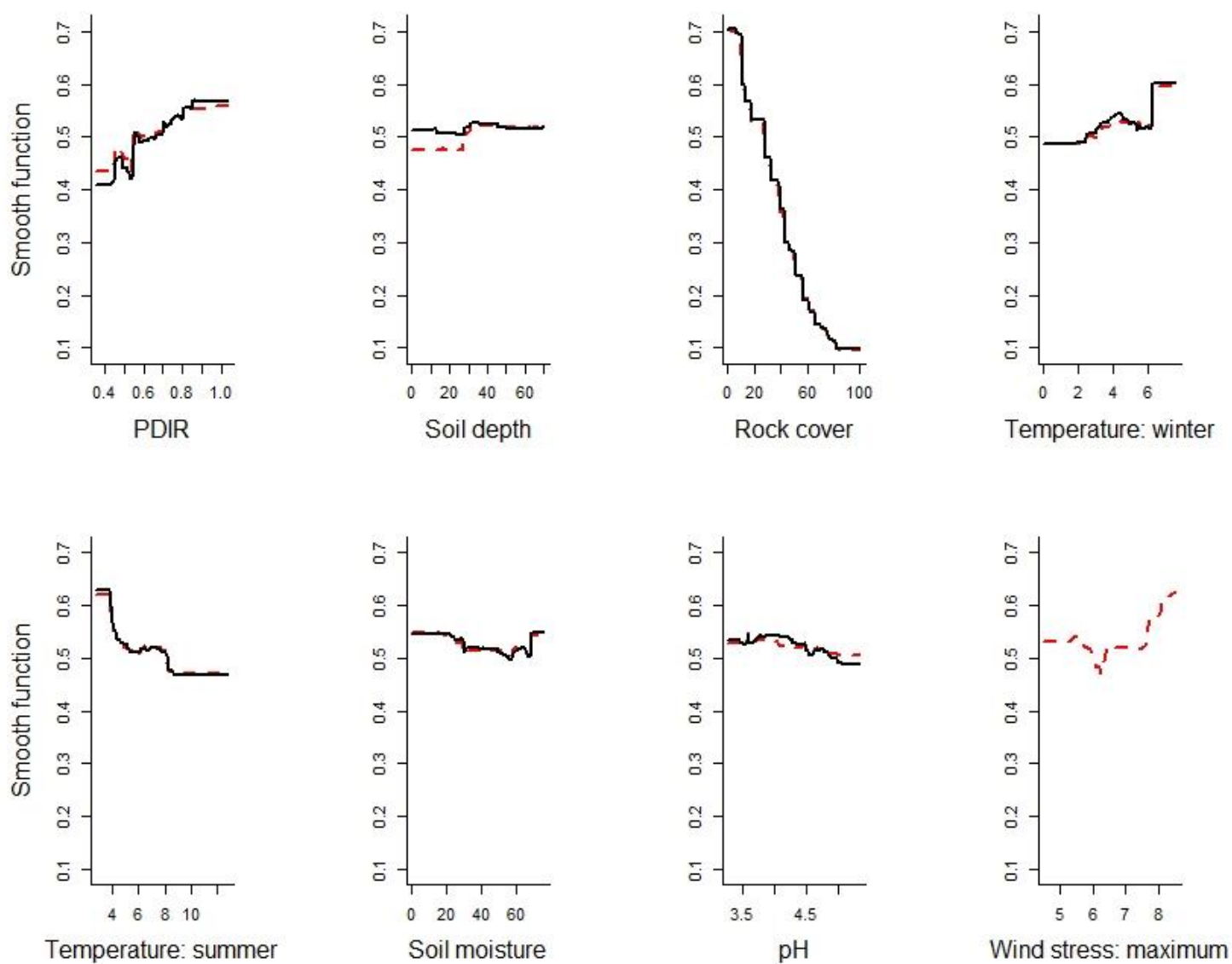


Figure A11 Individual predictor variables' response curves for vegetation cover in GBM models. Black solid lines represent the response curves in the simple model (excluding wind index predictor variables), while red dashed lines represent the response curves in the full model.