



**Supplemental Fig.S1** Multiple collinearity analysis of environmental variables. If Spearman  $\rho^2 > 0.5$ , it can be inferred that there is a strong collinearity between these factors, and one of them kept while the others removed. We retained SPO, PCNM1, SLOP, PCNM4, AT, SWC, TP, PCNM2, pH and TC.