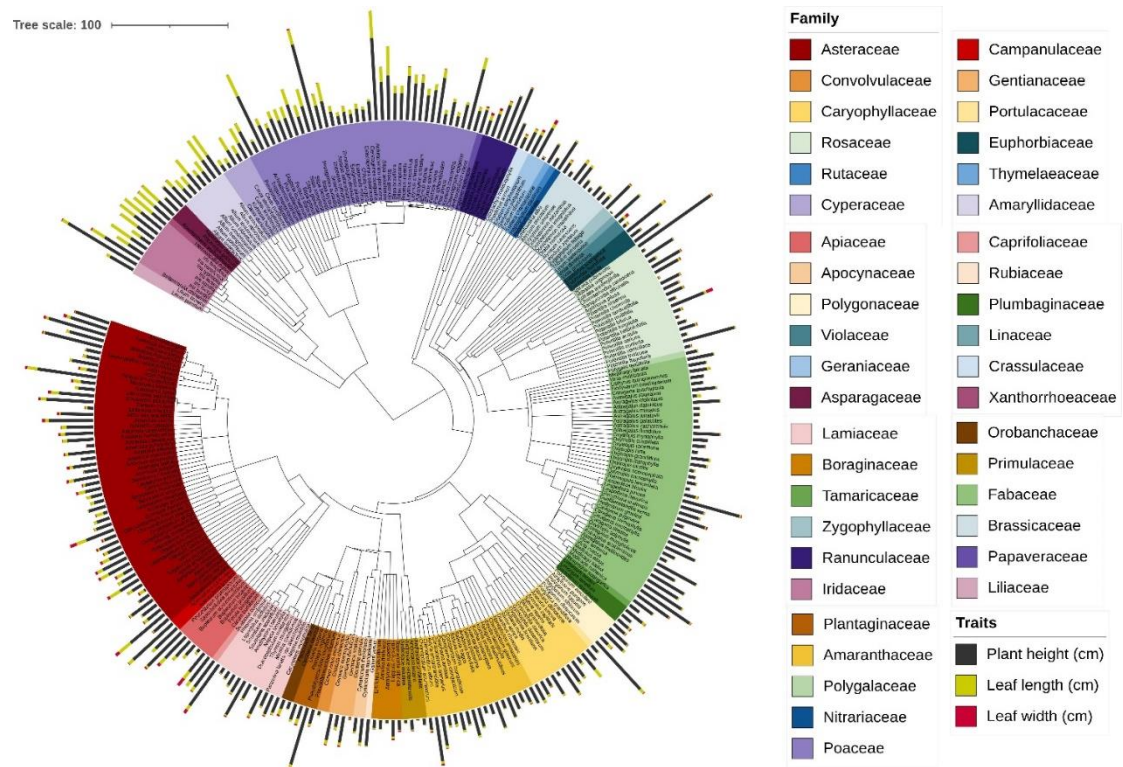
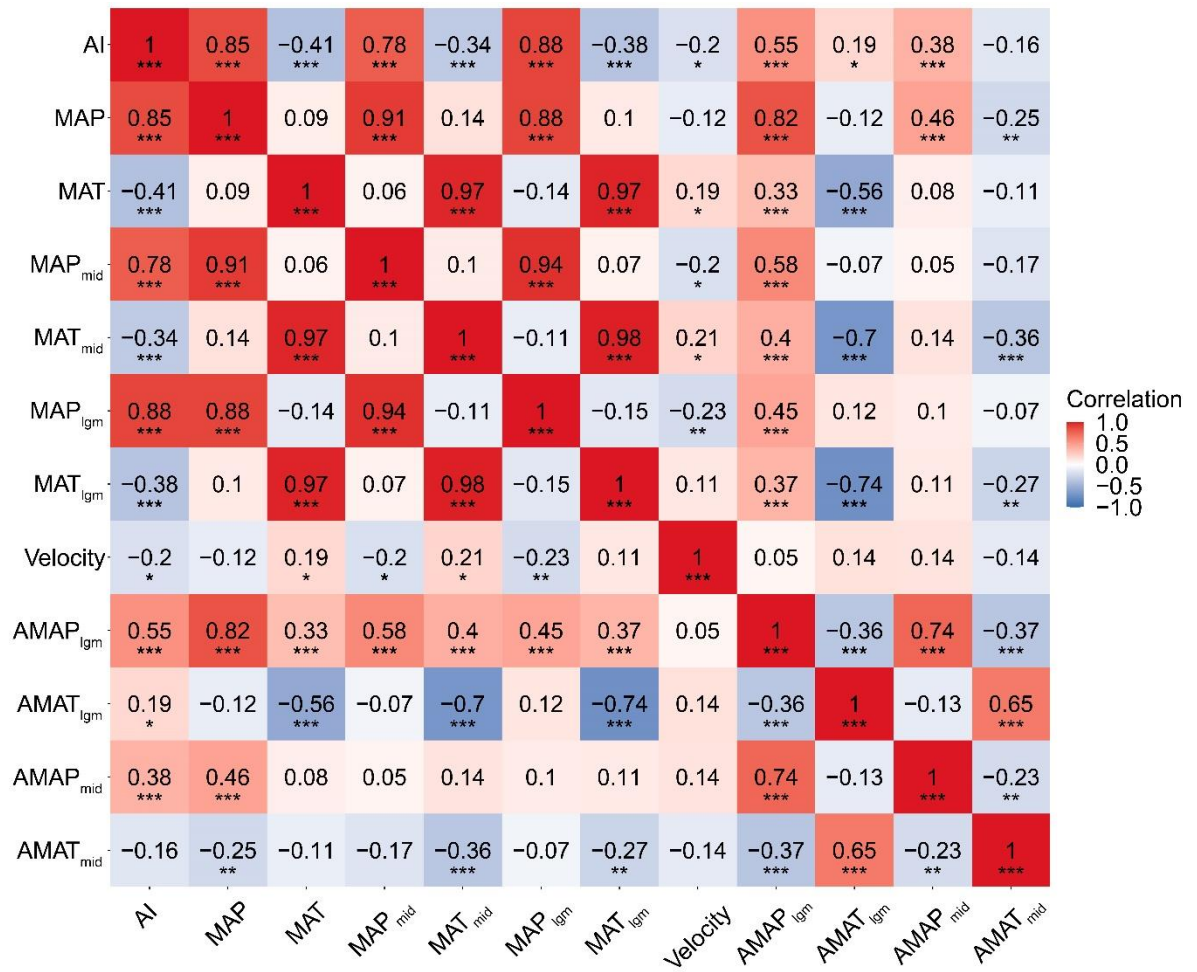


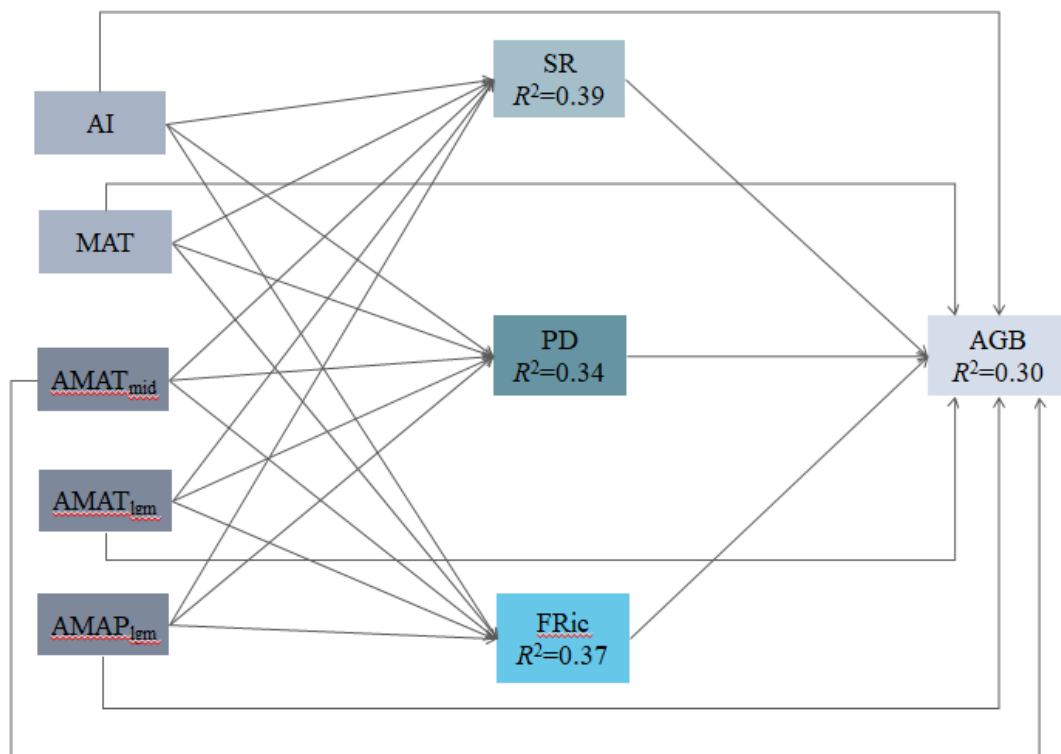
**Fig. S1 Study area and field sampling sites.** (a) Mean annual temperature; (b) Mean annual temperature of the Mid-Holocene; (c) Mean annual temperature of the Last Glacial Maximum.



**Fig. S2 Phylogenetic trees of herbaceous plants and their traits in steppe on the Mongolian Plateau**



**Fig. S3 Correlation analysis of climate factors**



**Fig. S4 A conceptual model assumed that the effects of present climate (AI and MAT) and paleoclimate change (AMAT<sub>mid</sub>, AMAT<sub>lgm</sub> and AMAP<sub>lgm</sub>) on diversity and AGB.**