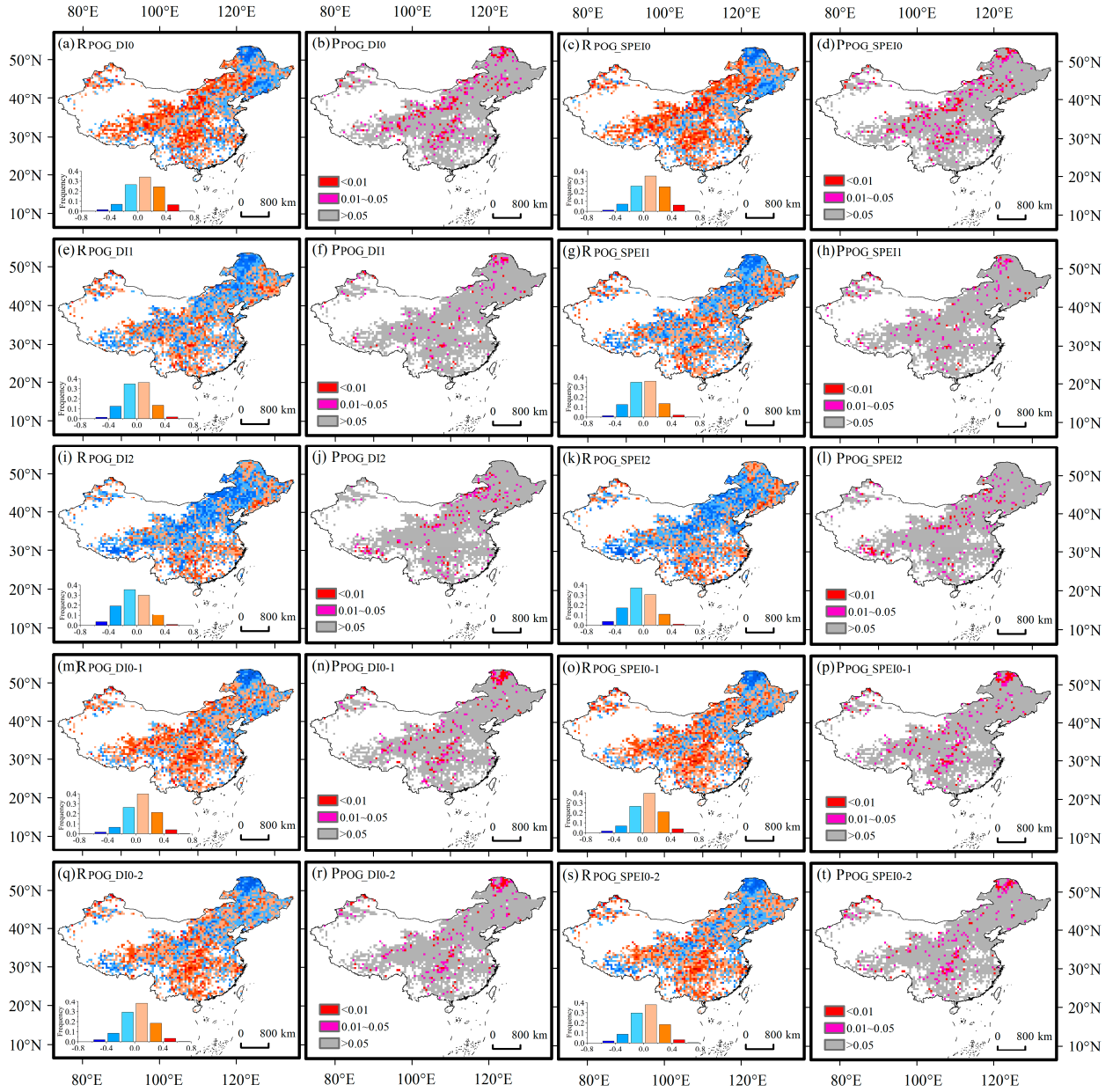Figure S1 The Pearson's correlation coefficients and p-values between POG and DI/SPEI in different periods. The numbers 0, 1, 2, 0-1 and 0-2 in the subtitles (a-t) represent the DI/SPEI in current month of the multiyear average POG (M0), 1st month before the multiyear average POG (M1), 2nd month before the multiyear average POG (M2), current and 1st month before the multiyear average POG (M0-1) and current, 1st, and 2nd month before the multiyear average POG (M0-2), respectively.
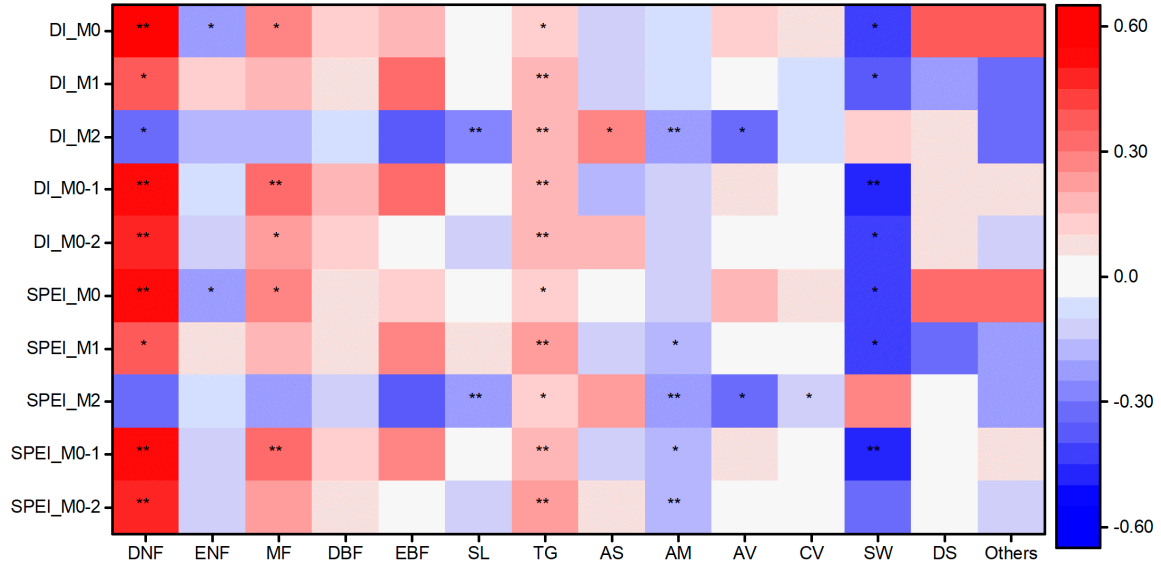
Figure S2 The Pearson's correlation coefficient between $R_{POG\_drought}$ index and elevation for different biomes. $R_{POG\_drought}$ index represents the Pearson's correlation coefficient between POG and SPEI/DI.
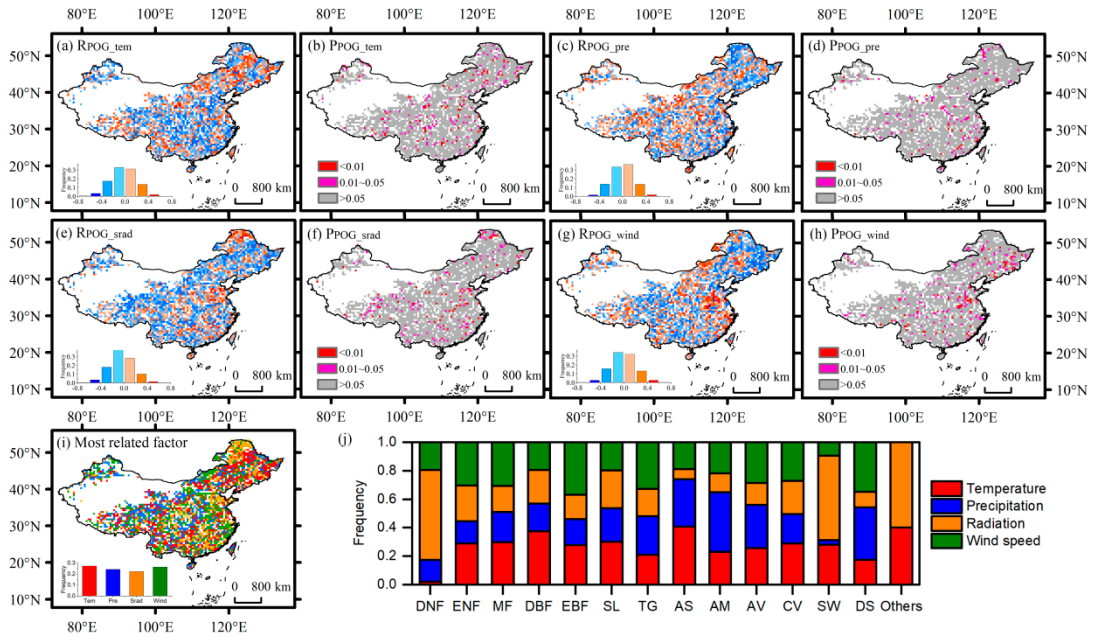

Figure S3 Partial correlation coefficient and significance between POG and (a,b) temperature, (c,d) total precipitation, (e,f) total radiation, (g,h) wind speed, and most related factors (i) across China, and (j) in different vegetation regions. The partial correlation analysis was performed between POG and each of the climate factors, while controlling the others.