

Supplementary Information

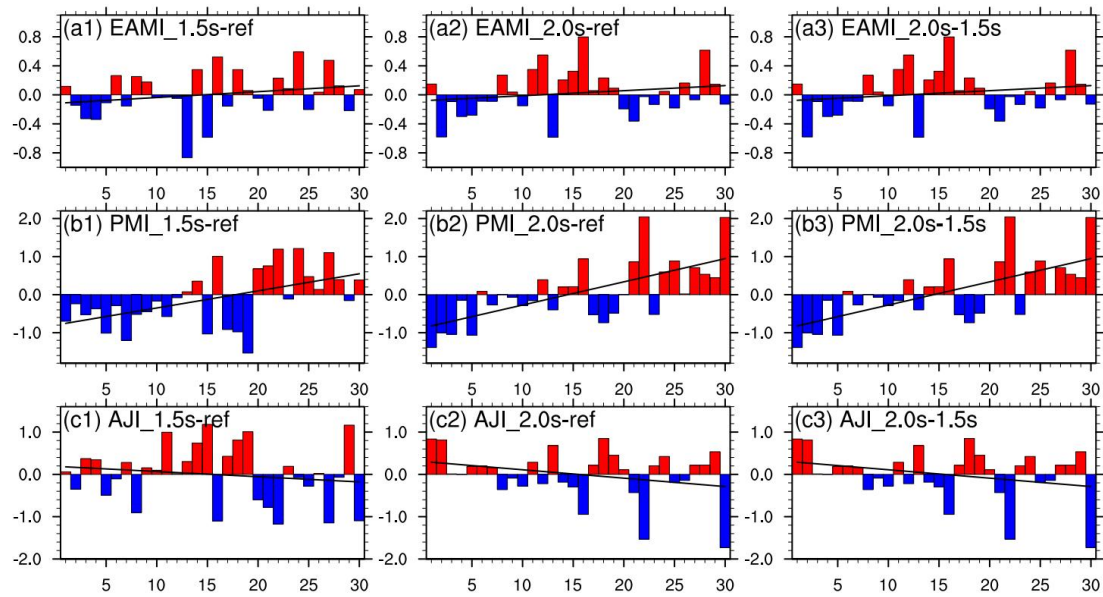


Figure S1 Changes of summer EAMI (a) and PMI (b) and AJI (c), for differences between the stabilized warming scenarios at 1.5°C (left column) and 2°C (middle column) and the reference period, and for differences between warming thresholds (right column)

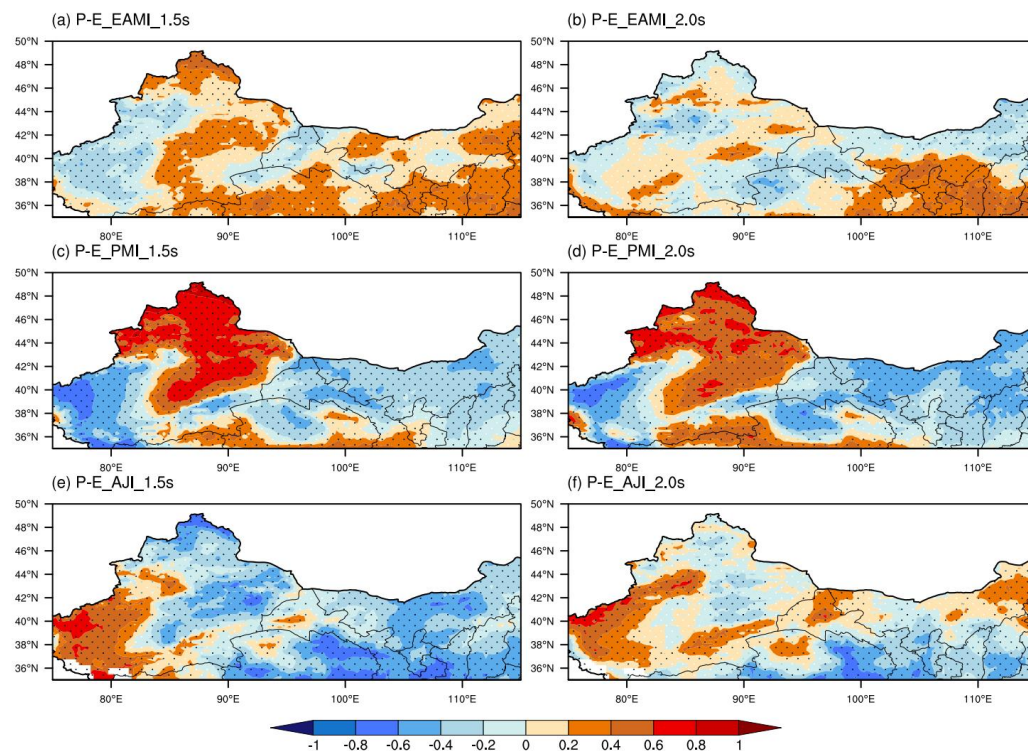


Figure S2 Spatial distribution of correlation coefficients between the East Asian summer wind index (EAMI), the the Tibetan Plateau monsoon index (PMI) and westerly jet index (AJI) and summer water availability (P-E), the dotted areas indicate changes with a significance level of 0.05

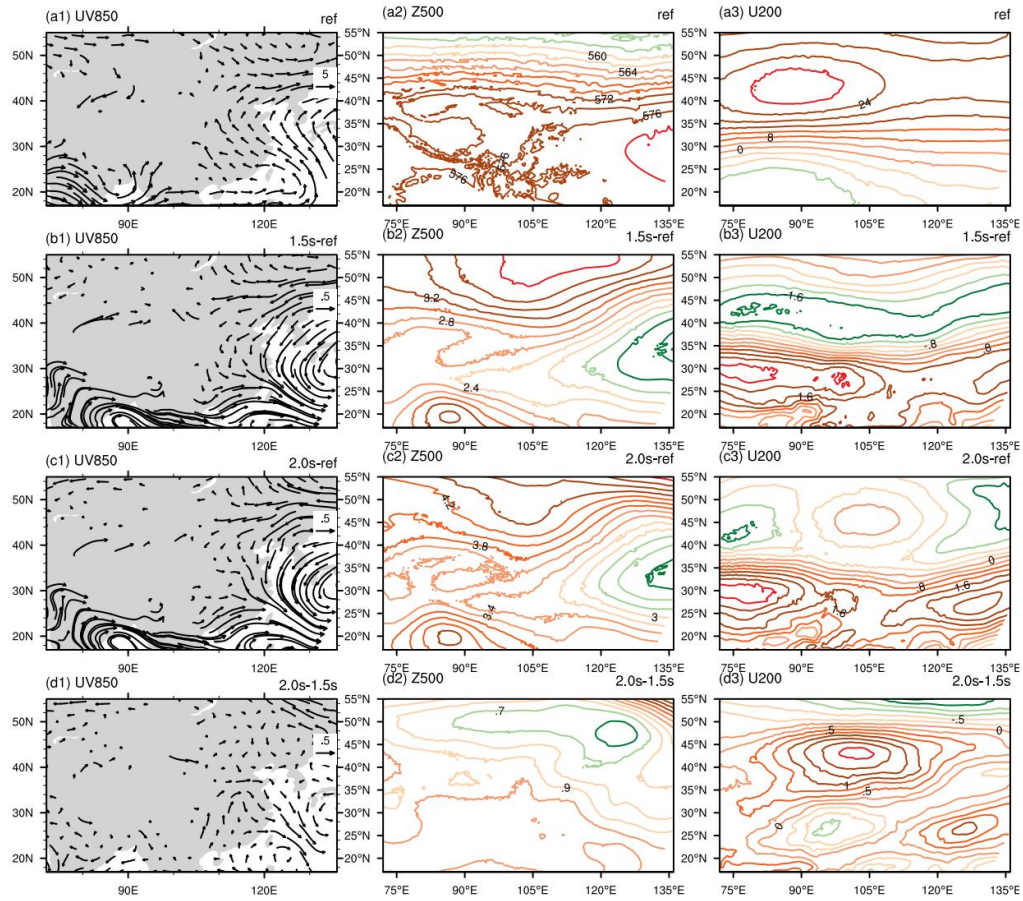


Figure S3 The spatial distribution of wind on 850hPa, geopotential height on 500hPa and zonal wind on 200hPa in summer.

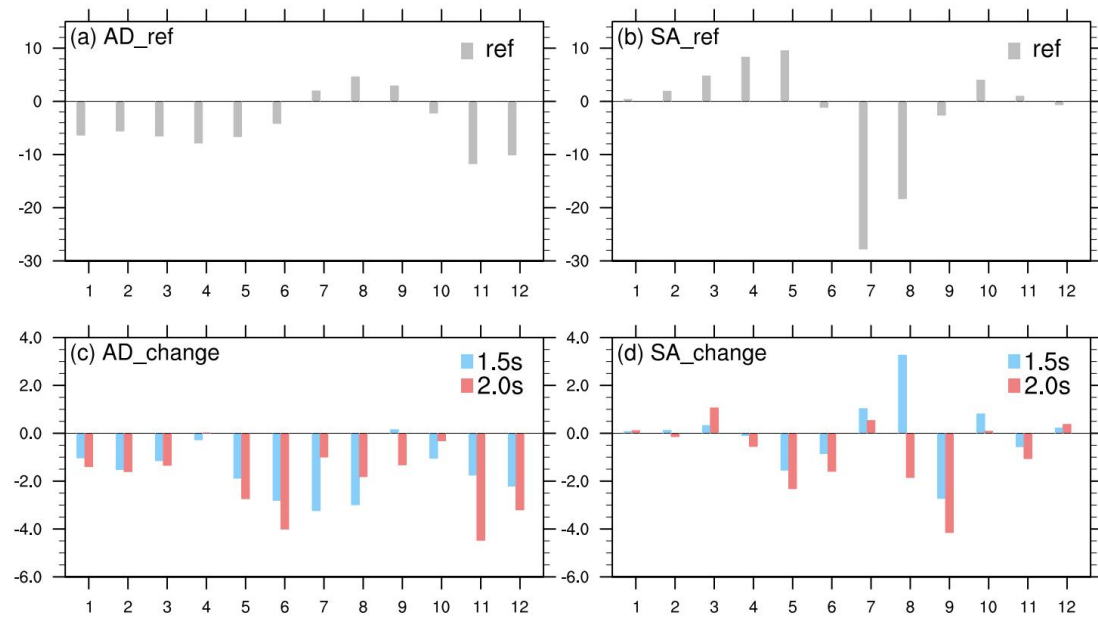


Figure S4 The monthly evolution of vertically integrated moisture divergence in reference period (a&b) and changes (c&d), unit: $10^{-8} \text{ g}/(\text{s cm}^2 \text{ hPa})$.

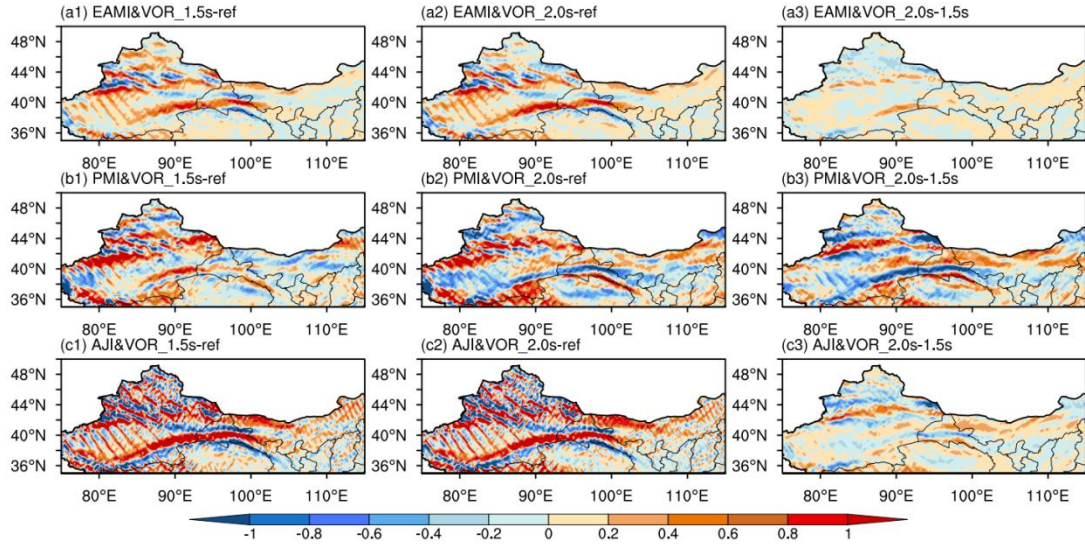


Figure S5 Spatial distribution of changes in summer EAMI (a), PMI (b) and AJI (c) regression to 500 hPa vorticity advection (defined as wind multiplied by the horizontal gradient of vertical vorticity) (unit: 10^{-8} /s/year), for differences between the stabilized warming scenarios at 1.5°C (left column) and 2°C (middle column) and the reference period, and for differences between warming thresholds (right column)