
Supporting Information for

**Asynchronous Patterns Between Vegetation Structural Expansion and
Photosynthetic Functional Enhancement on China's Loess Plateau**

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Contents of this file:

Figures S1 to S4

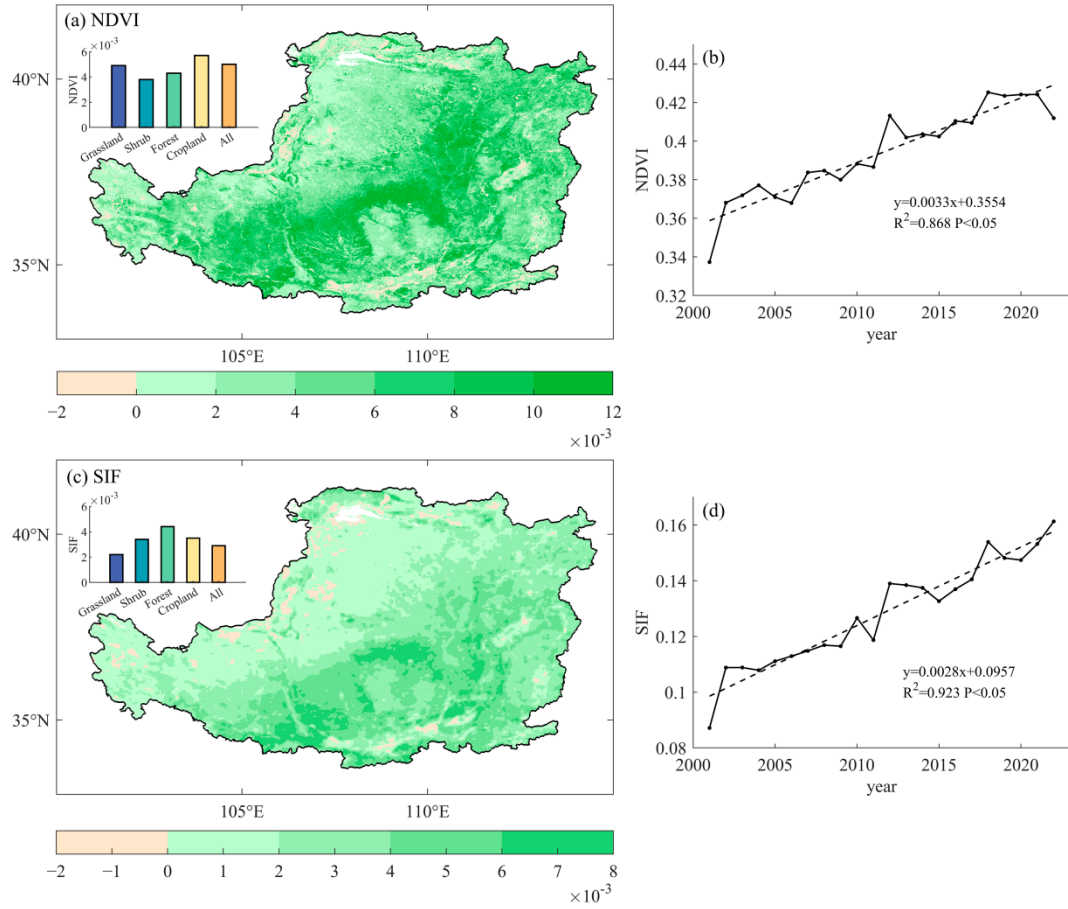


Figure.S1 Spatial distributions of trends in the growing-season (April–October) NDVI and SIF on the Loess Plateau from 2001 to 2022.

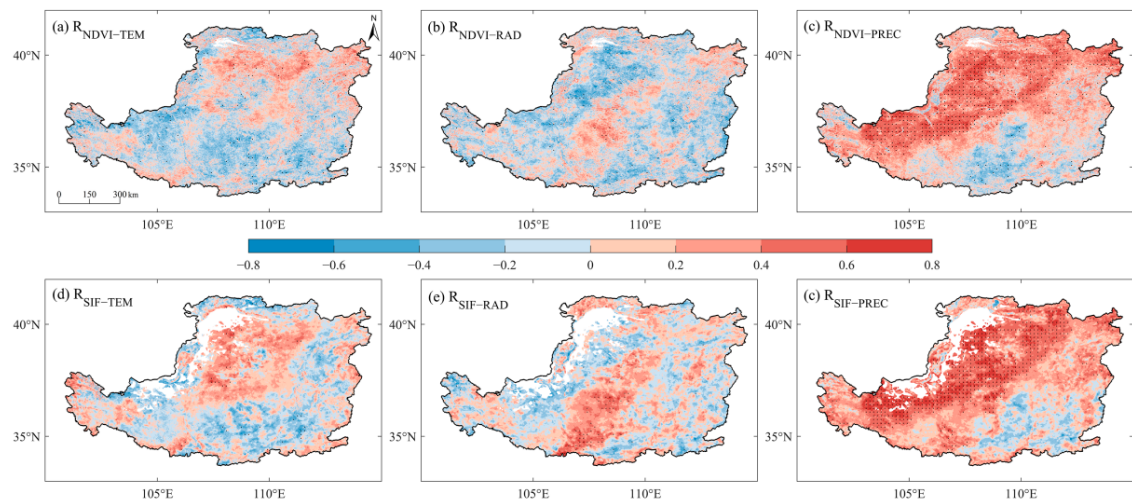


Figure.S2 Spatial patterns of partial correlation coefficients between vegetation indices (NDVI, SIF) and climatic drivers (temperature (TEM), solar radiation (RAD), precipitation (PREC)).

precipitation (PREC)) across the Loess Plateau (2001-2022). Statistically significant correlations ($p < 0.05$) are denoted by black dots. Missing SIF data for particular years account for the additional blank regions in panels (d)-(f).

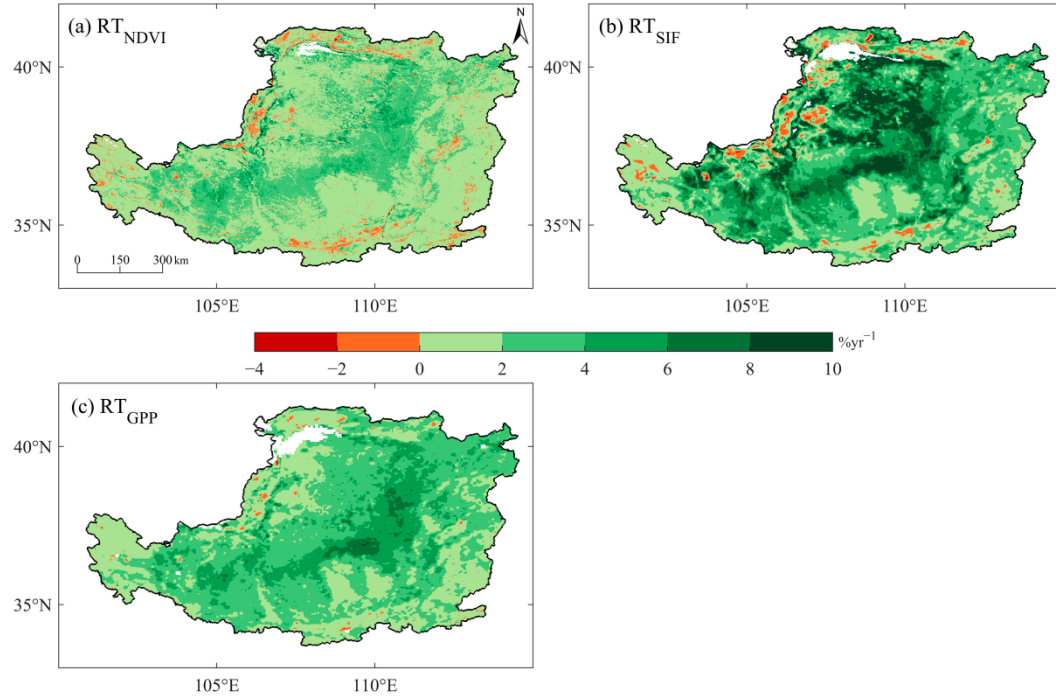


Figure.S3 Spatial patterns of relative trends of (a) NDVI (RT_{NDVI}), (b) SIF (RT_{SIF}) and (c) GPP (RT_{GPP}) on the Loess Plateau (2001-2022).

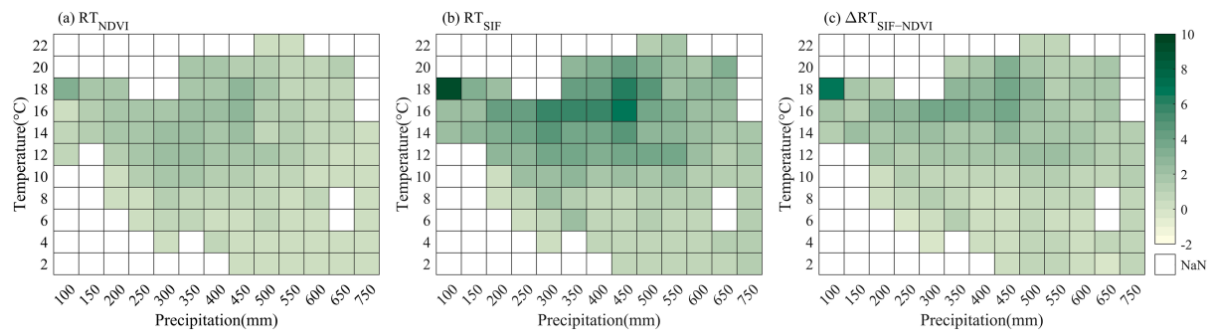


Figure.S4 Hydrothermal gradients of RT_{NDVI} , RT_{SIF} and $\Delta RT_{SIF-NDVI}$ across the Loess Plateau (2001-2022).