

Supplementary Materials:

The following is the supplementary data to this article:

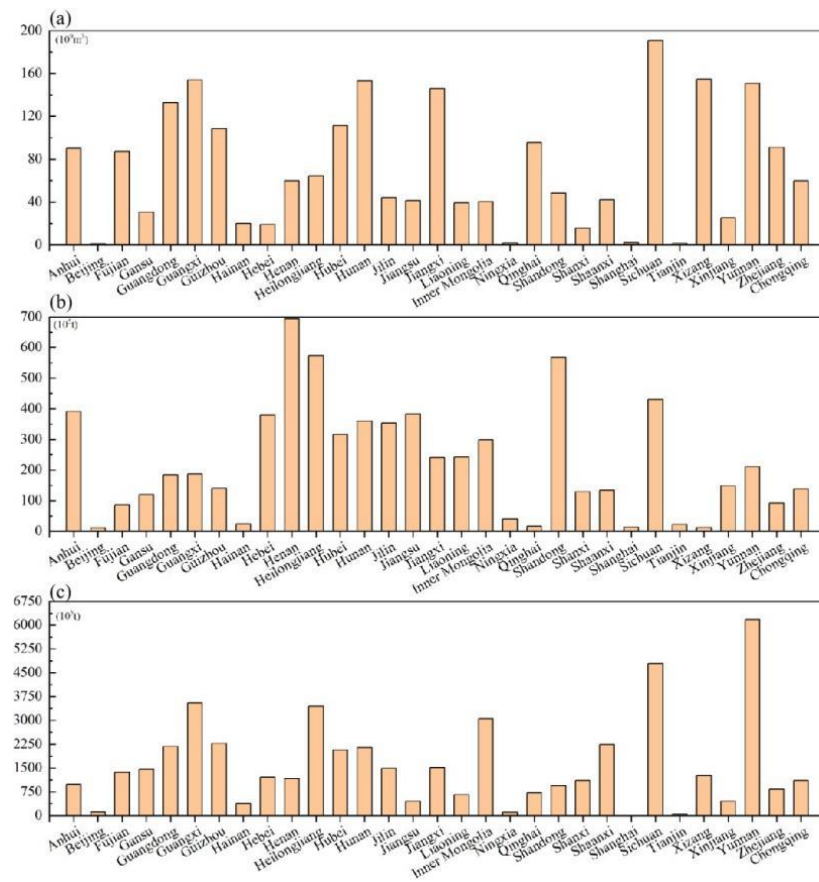


Figure S1. Average values of water yield (WY), food provision (FP), and carbon sequestration (CS) supply by province.

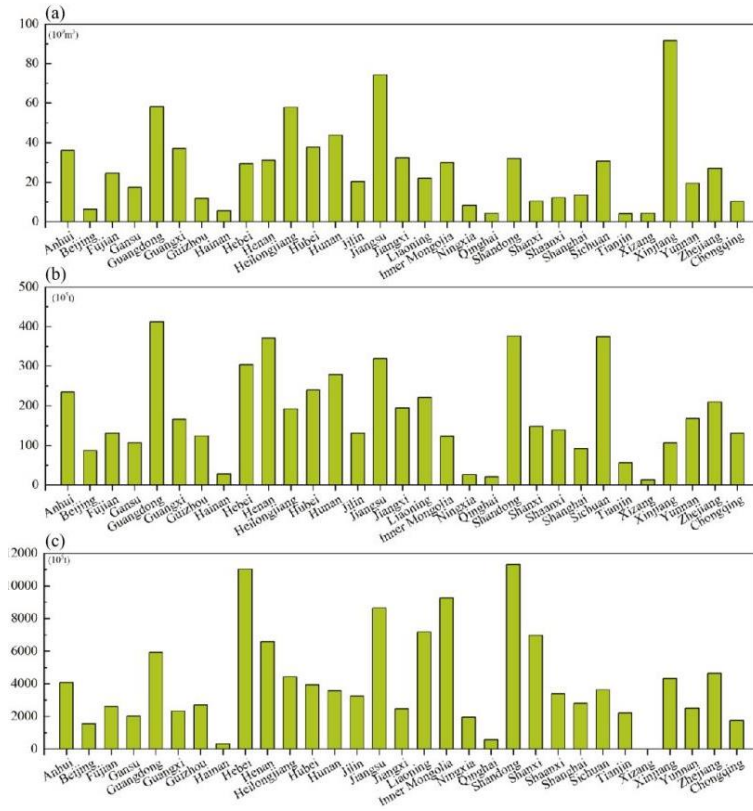


Figure S2. Average values of water yield (WY), food provision (FP), and carbon sequestration (CS) demand by province.

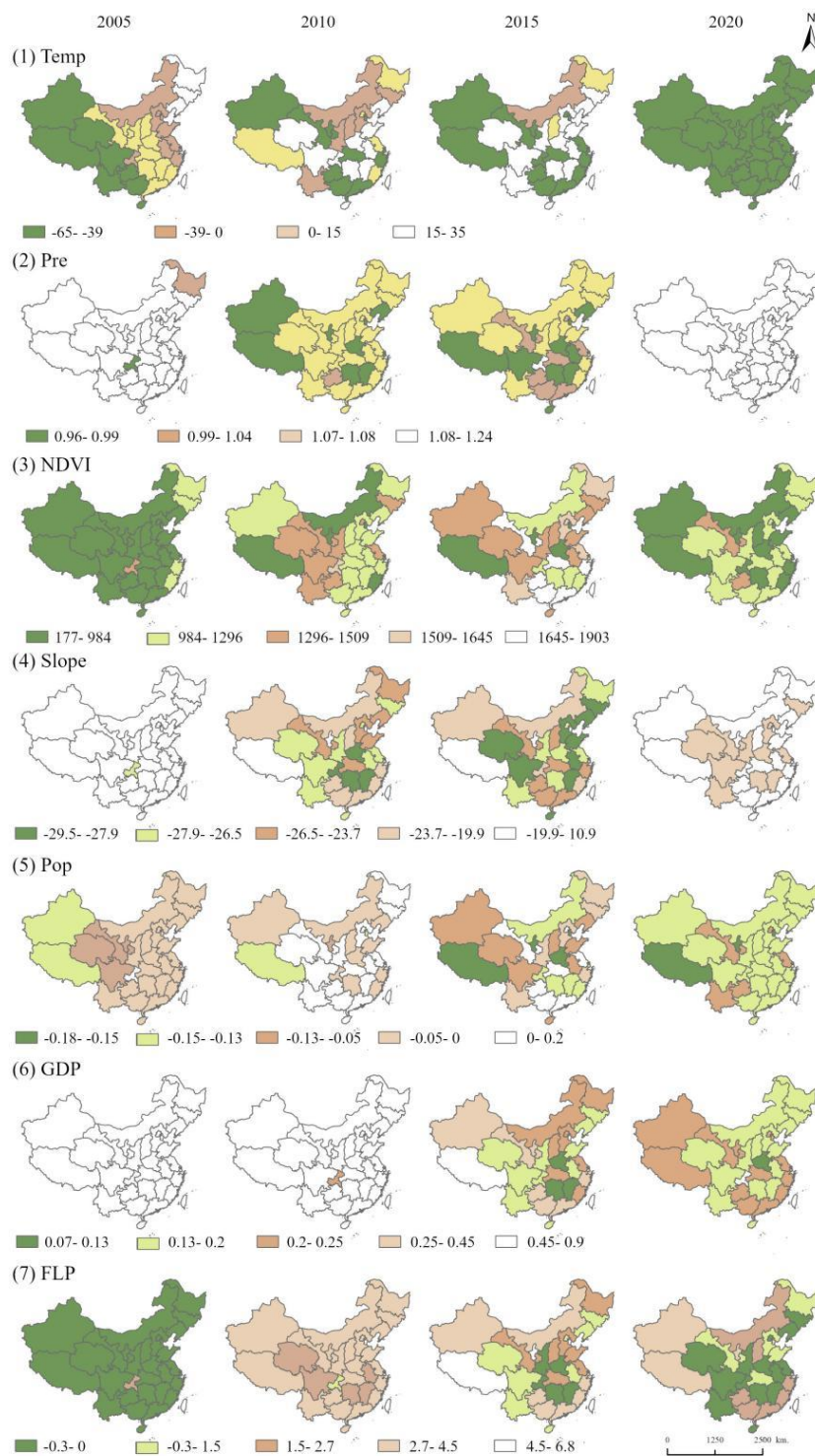


Figure S3. Spatial distribution of GTWR coefficients of factors influencing water yield in China from 2005 to 2020.

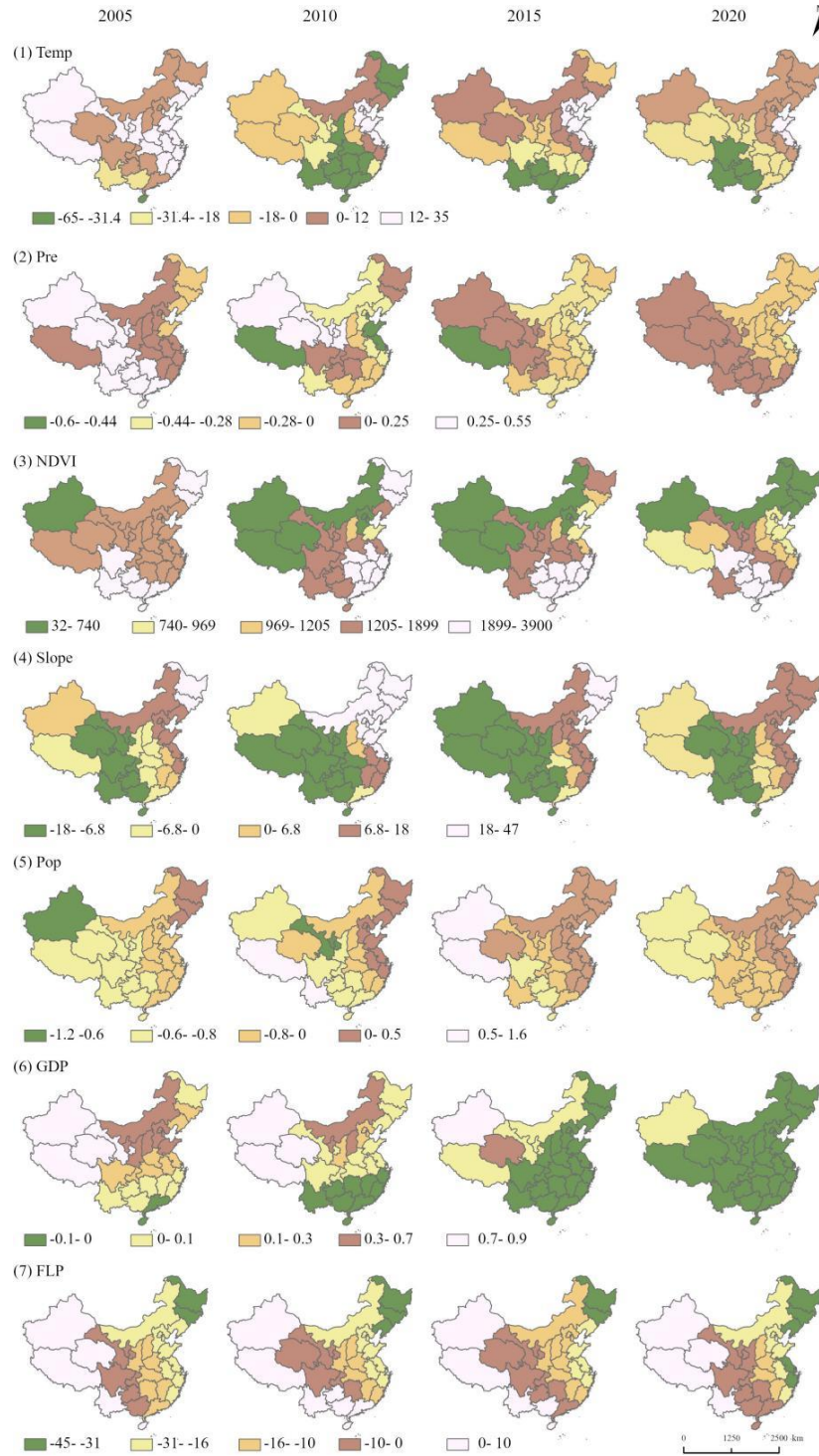


Figure S4. Spatial distribution of GTWR coefficients of factors influencing food provision in China from 2005 to 2020.

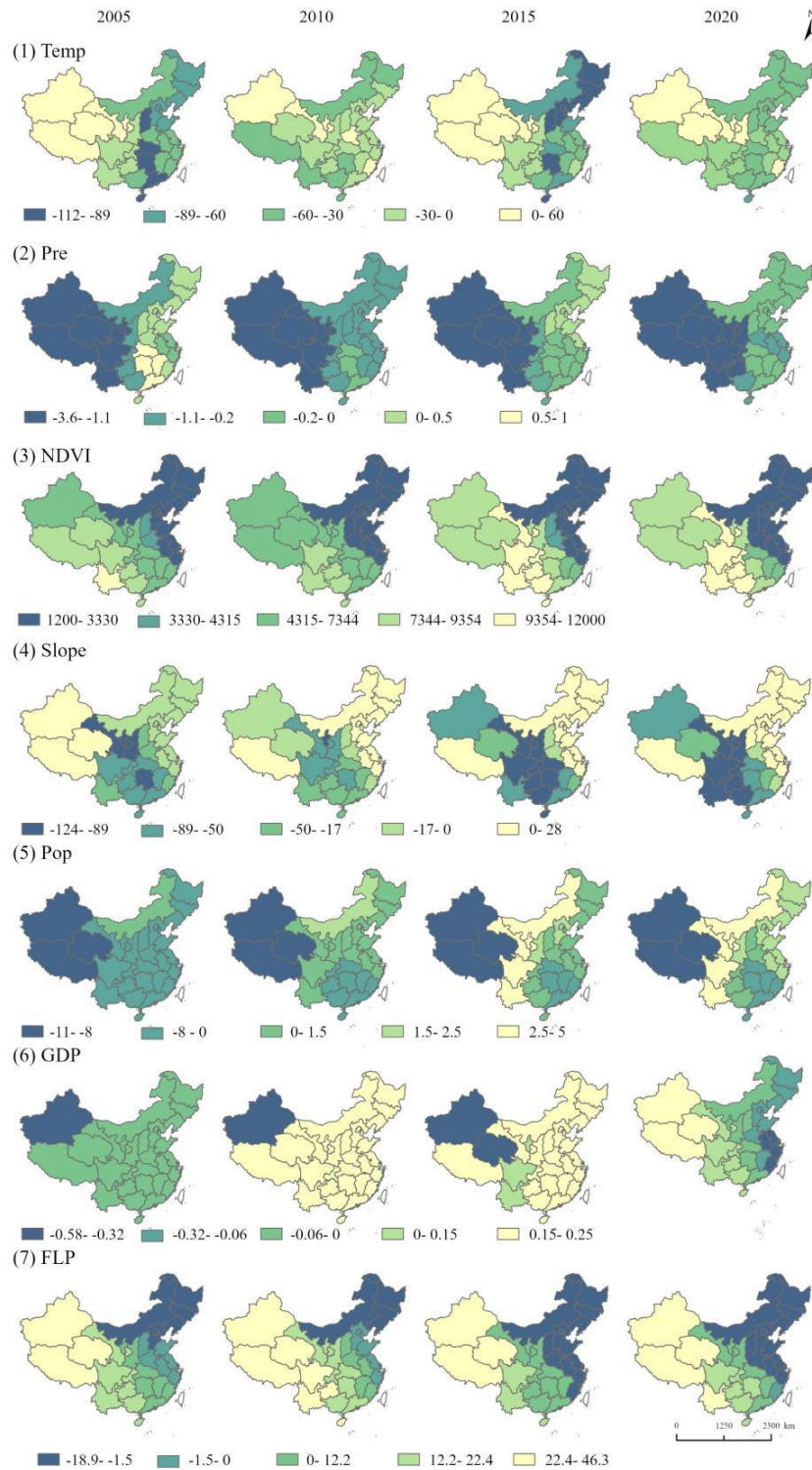


Figure S5. Spatial distribution of GTWR coefficients of factors influencing carbon sequestration in China from 2005 to 2020.

Table S1. VIF of driving factors.

Driving factors	VIF	Tolerance
Temp	5.417	0.185
Pre	6.085	0.164
NDVI	4.476	0.223
DEM	11.859	0.084
Slope	2.507	0.399
POP	5.203	0.192
GDP	1.775	0.563
FLP	5.729	0.175
CLP	13.359	0.075

Table S2. Assessment of GTWR model.

Indicator	Model type			Model comparison	
	OLS	GWR	GTWR	GTWR-OLS	GTWR-GWR
AICc	4236	3480	2329	-1907	-513
R2	0.43	0.64	0.73	0.30	0.09

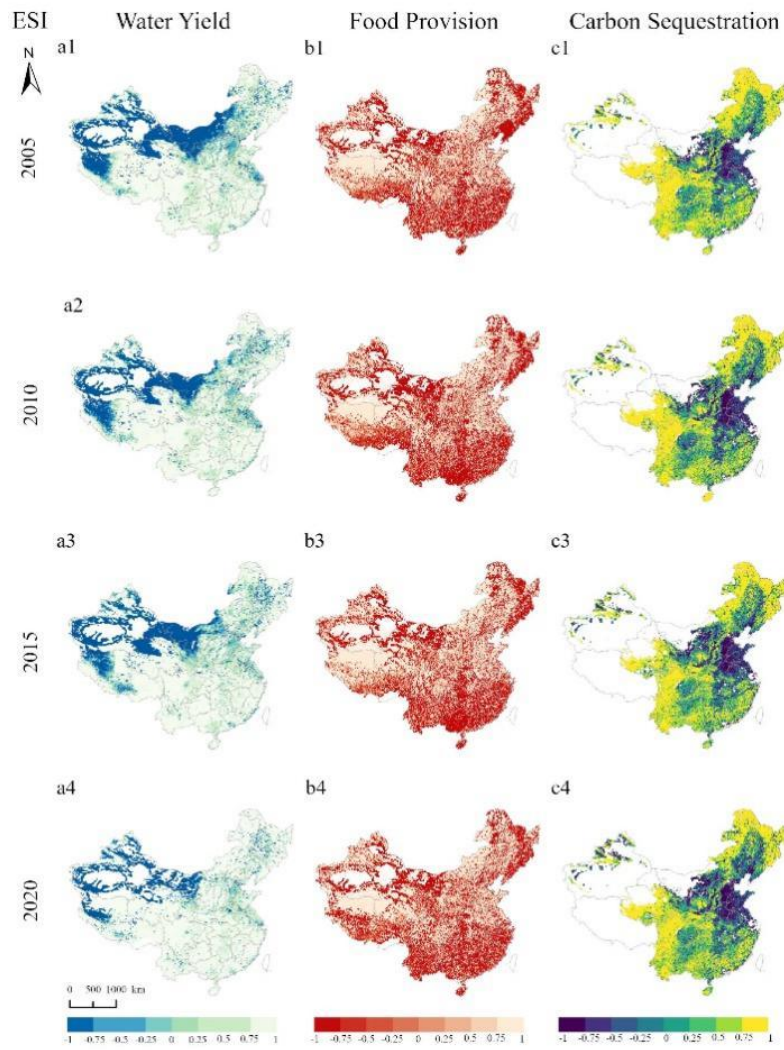


Figure S6. Spatial patterns of ESI of Water yield, Food provision, and Carbon sequestration in China during 2005-2020.