

## Supplementary Materials

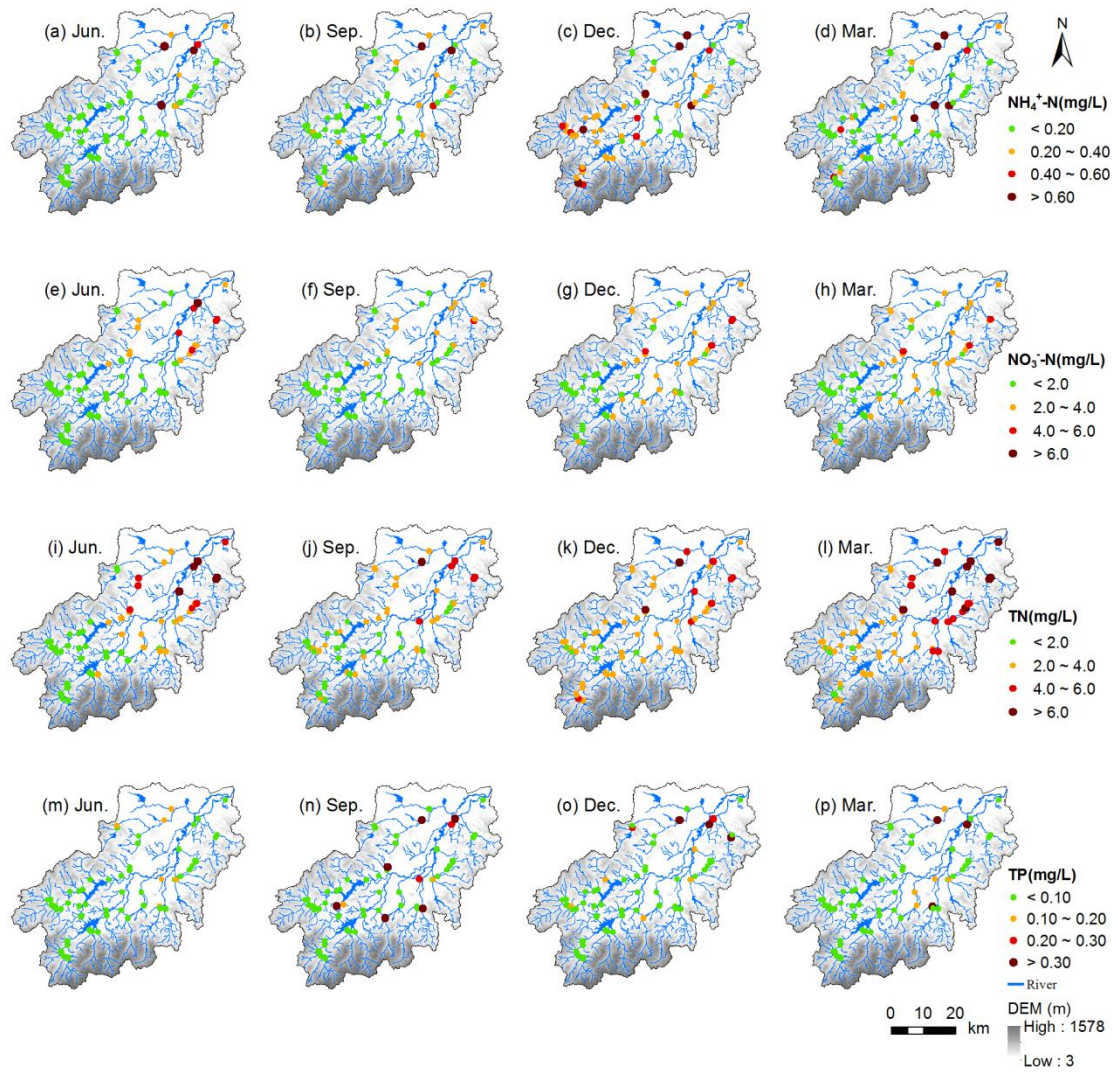
### **How Landscape Patterns Affect River Water Quality Spatially and Temporally: A Multiscale Geographically Weighted Regression Approach**

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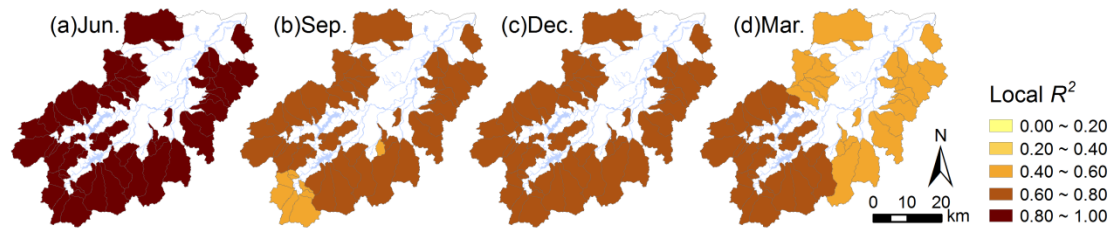
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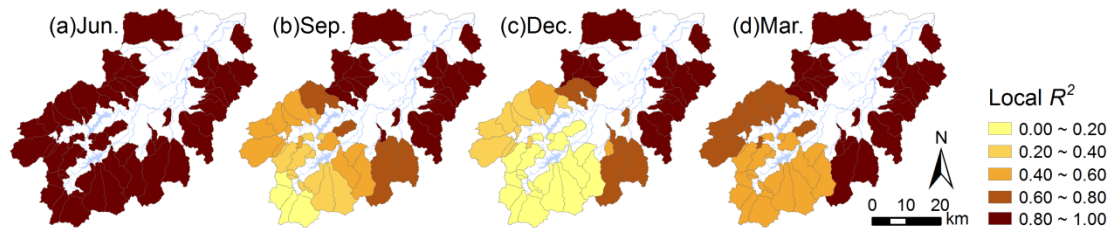
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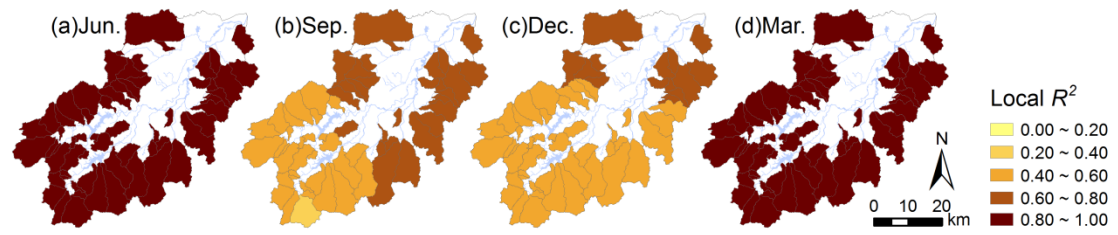
**Figure S1.** Spatial variations in the water quality parameters in the upper reaches of the West Tiaoxi River. (a) ~ (d), (e) ~ (h), (i) ~ (l) and (m) ~ (p) shows the concentrations of NH<sub>4</sub><sup>+</sup>-N, NO<sub>3</sub><sup>-</sup>-N, TN and TP in June, September and December 2020 and March 2021, respectively.



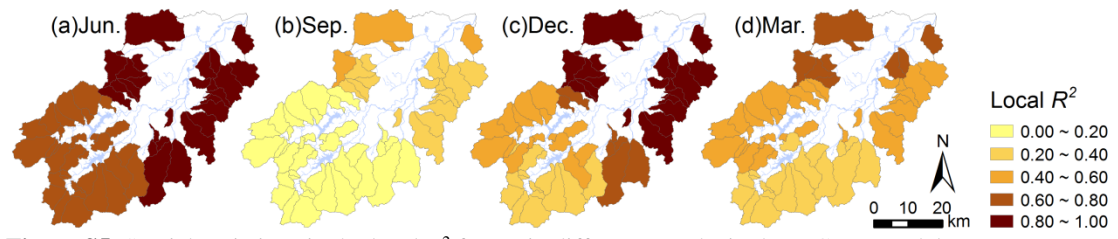
**Figure S2.** Spatial variations in the local  $R^2$  values for  $\text{NO}_3^-$ -N in different months in the MGWR model.



**Figure S3.** Spatial variations in the Local  $R^2$  values for  $\text{NH}_4^+\text{-N}$  in different months in the MGWR model.



**Figure S4.** Spatial variations in the Local  $R^2$  for TN in different months in the MGWR model.



**Figure S5.** Spatial variations in the local  $R^2$  for TP in different months in the MGWR model.