



Fig. S3 Relationships between *Chao 1* and biophysiochemical factors in lakes and reservoirs based on generalized additive models. a Water samples. b Sediment samples.

The shadings from the GAM models are the 95% confidence intervals. In figure (a), the abscissa unit is T (°C), TP (mg/L), NH_4^+-N (mg/L), TN (mg/L), NO_3^--N (mg/L), DO (mg/L), conductivity ($\mu S/cm$), chlorophylla ($\mu g/L$), and NO_2^--N (mg/L). In figure (b), the abscissa unit is T (°C), TP (mg/g), NH_4^+-N (mg/g), TN (mg/g), NO_3^--N (mg/g), and NO_2^--N (mg/g). * $0.01 < p < 0.05$, ** $0.001 < p \leq 0.01$, and *** $p \leq 0.001$.