

Article

Spatial–Temporal Variations for Pollution Assessment of Heavy Metals in Hengshui Lake of China

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Supplementary Material

Table S1. Standards for single factor pollution index and Nemero comprehensive pollution index.

Single factor pollution index (P_i)	Pollution level	Nemero comprehensive pollution index (P_n)	Pollution level
$P_i \leq 1$	Non pollution	$P_n \leq 1$	Non pollution
$1 < P_i \leq 2$	Light pollution	$1 < P_n \leq 2$	Light pollution
$2 < P_i \leq 3$	Medium pollution	$2 < P_n \leq 3$	Medium pollution
$P_i > 3$	Severe pollution	$P_n > 3$	Severe pollution

Table S2. Classes of enrichment factors.

Pollution level	EF	Enrichment degree
I	$EF \leq 1$	Non enrichment
II	$1 < EF \leq 2$	Light enrichment
III	$2 < EF \leq 5$	Medium enrichment
IV	$5 < EF \leq 20$	Significant enrichment
V	$20 < EF \leq 40$	Strong enrichment
	$EF > 40$	Very strong enrichment

Table S3. Classes of potential ecological risk indices of heavy metals.

Risk factor (E_r^i)	Potential ecological risk degree	Potential ecological risk index (PRI)	Ecological risk degree
$E_r^i < 40$	Low potential ecological risk	$PRI < 150$	Low ecological risk
$40 \leq E_r^i < 80$	Moderate potential ecological risk	$150 \leq PRI < 300$	Moderate ecological risk
$80 \leq E_r^i < 160$	Considerable potential ecological risk	$300 \leq PRI < 600$	Considerable ecological risk
$160 \leq E_r^i < 320$	High potential ecological risk	$PRI \geq 600$	Very high ecological risk
$E_r^i \geq 320$	Very high potential ecological risk		

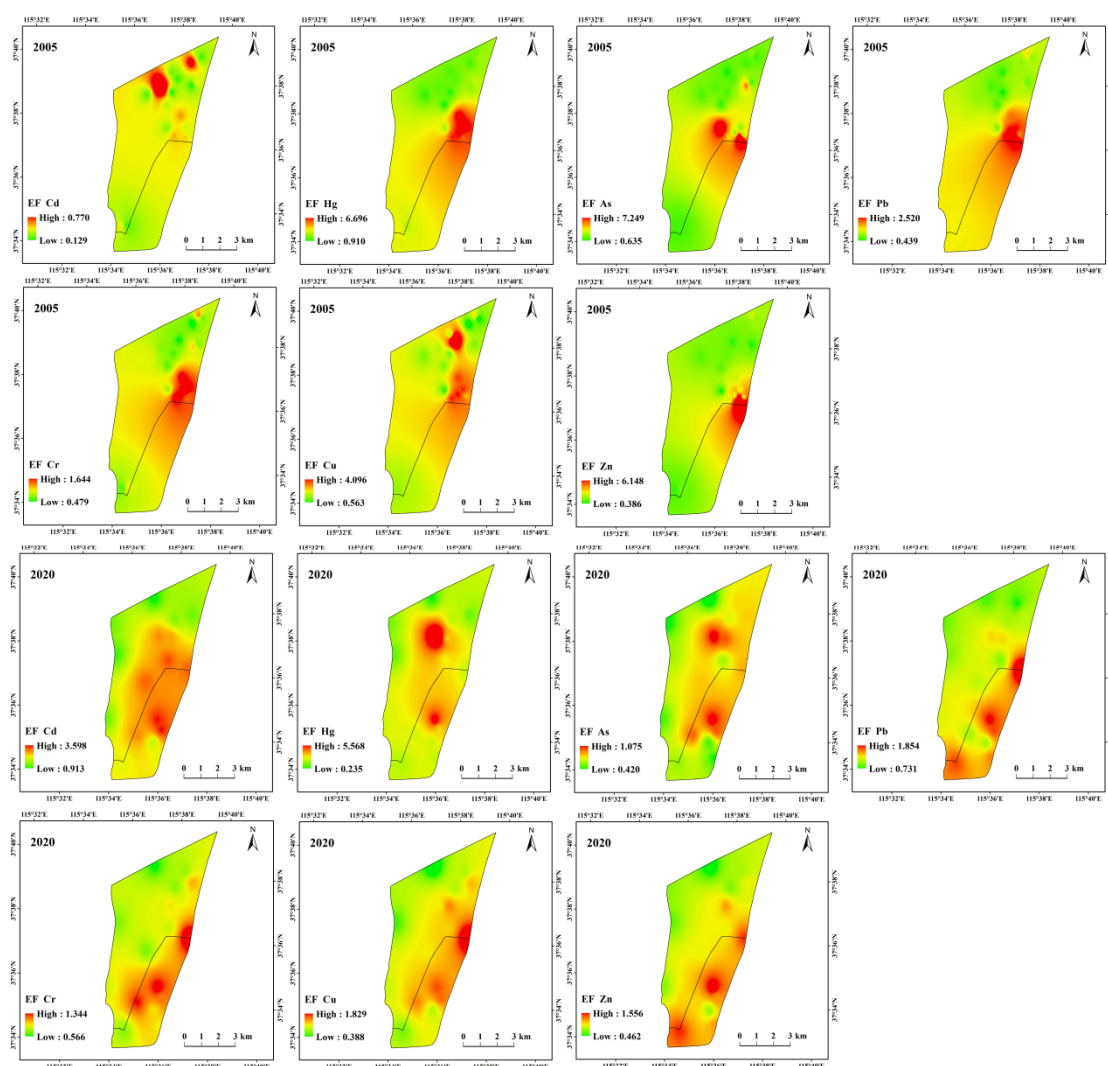


Figure S1. Distribution of enrichment factor for different heavy metal in Hengshui Lake.

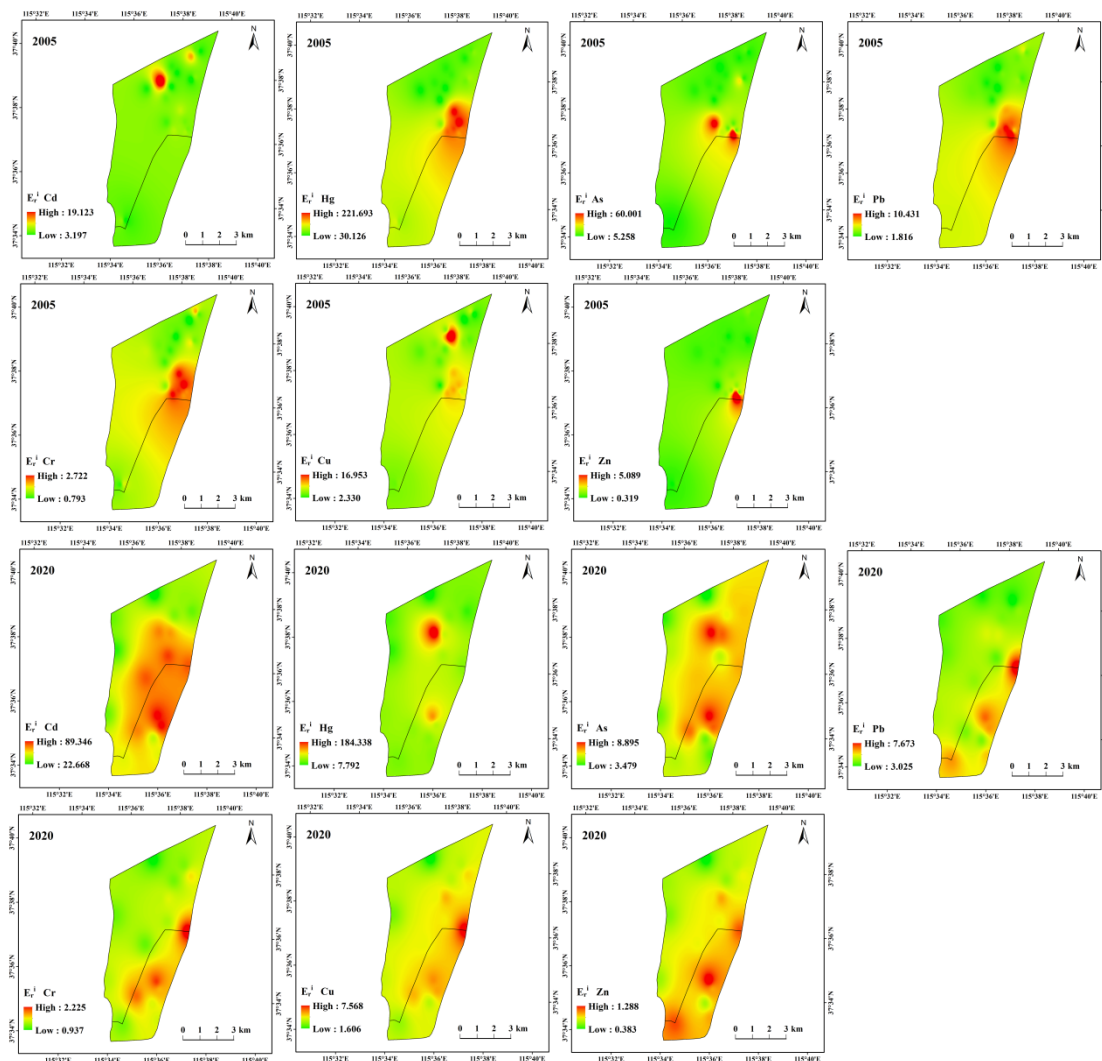


Figure S2. Distribution of risk factor for different heavy metal in Hengshui Lake.

Table S4. Index of the variables.

Variable	Meaning
RDA	Redundancy analysis
IDW	Inverse distance weighted
P_i	Single factor pollution index
P_n	Nemero comprehensive pollution index
C_i	The measured concentration of heavy metal
S_i	Standard value of heavy metal
EF	Enrichment factor
C_i/C_n	The concentration ratio of measured heavy metal i and reference heavy metal n
S	Sample values
B	Background values
PRI	Potential ecological risk index of multiple heavy metals
E_i^i	Risk factor of heavy metal
T_r^i	Toxic coefficient of heavy metal
C_i^B	Geochemical background value of heavy metal
CV	Coefficient of variation
VIFs	Variance inflation factors
R^2	Coefficient of determination