

Table S1. Descriptive statistics of main physicochemical properties of the studied soils

Horizon	Statistics	pH	EC, dS m ⁻¹	OM, g kg ⁻¹	CEC, cmolc kg ⁻¹	ESP	Particle size distribution, %			Fe	Mn
							Sand	Silt	Clay		
Surface	Min	7.00	0.40	4.90	1.90	1.26	12.90	0.95	0.95	1.03	0.61
	Max	8.65	23.63	35.27	50.85	50.85	98.10	44.80	57.76	3.28	2.41
	Mean	7.84	7.27	19.77	31.27	14.34	38.64	25.68	35.69	1.91	1.46
	SD	0.34	5.84	6.91	13.04	11.49	24.29	12.58	14.70	0.81	0.61
	CV, %	4.31	80.44	34.94	41.69	80.13	62.88	48.98	41.20	42.47	42.08
Subsurface	Min	7.17	0.40	0.93	1.70	2.07	11.60	0.98	0.97	0.52	0.44
	Max	8.47	23.46	28.50	57.81	50.68	98.05	42.20	66.45	3.26	2.19
	Mean	7.78	6.84	14.40	31.77	17.70	38.48	24.98	36.52	1.53	1.11
	SD	0.30	5.98	5.44	13.88	12.33	25.13	12.24	15.91	1.00	0.62
	CV, %	3.91	87.37	37.76	43.70	69.65	65.29	48.99	43.55	65.17	56.09
Deep	Min	6.95	0.40	0.70	1.80	1.31	6.72	0.90	0.90	0.34	0.29
	Max	8.40	23.32	19.80	67.29	50.47	98.20	48.74	77.35	2.77	1.87
	Mean	7.72	7.51	11.70	31.65	19.21	38.62	24.96	36.93	0.96	0.85
	SD	0.32	6.40	4.94	15.61	14.05	27.30	13.36	18.09	0.75	0.54
	CV, %	4.20	85.32	42.18	49.34	73.14	70.69	53.53	48.98	77.87	63.20

EC, electrical conductivity; OM, organic matter, CEC, cation exchange capacity; ESP, exchangeable sodium percentage; SD, standard deviation; CV, coefficient of variation

Table S2. Soil types according to the percentage of sand, silt, and clay based on the USDA (United States Department of Agriculture) texture triangle

Soil type	Frequency, % in horizons		
	Surface	Subsurface	Deep
Clay loam	24.24	22.73	18.18
Loam	1.52	3.03	4.55
Clay	48.48	50.00	53.03
Sandy clay loam	6.06	3.03	3.03
Sand	13.64	13.64	13.64
Loamy sand	0.00	1.52	1.52
Sandy clay	3.03	3.03	3.03
Silty clay	3.03	3.03	3.03
Total	100.00	100.00	100.00

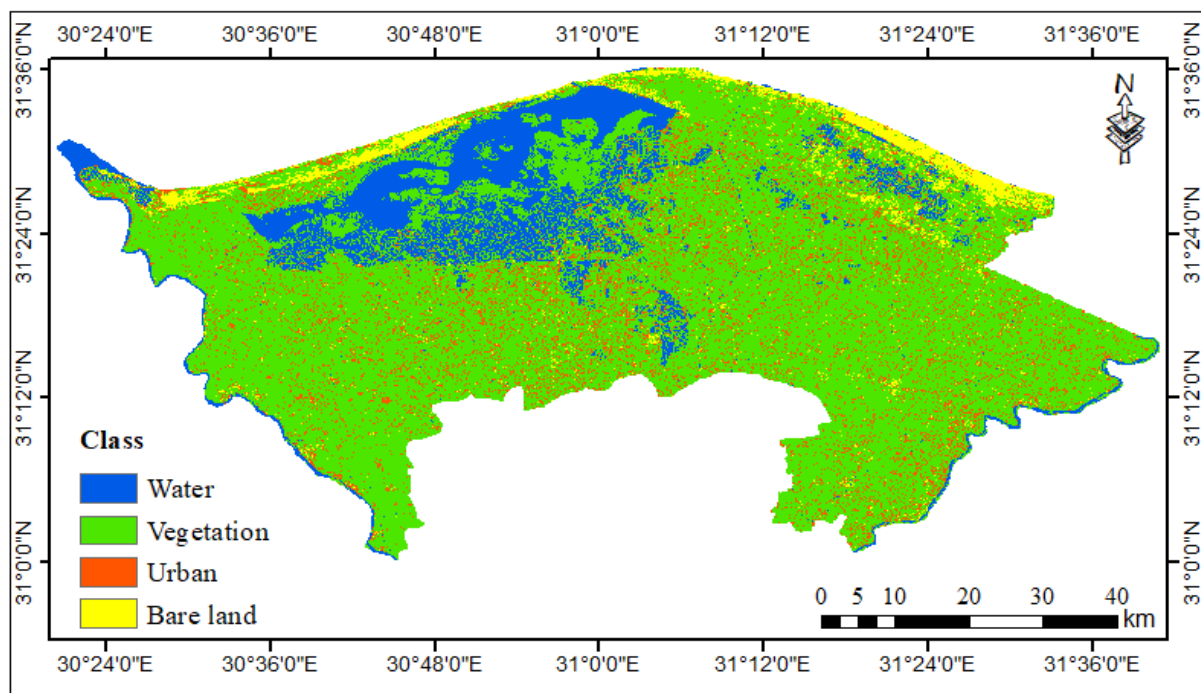


Figure. S1. Land use / land cover map of the studied area

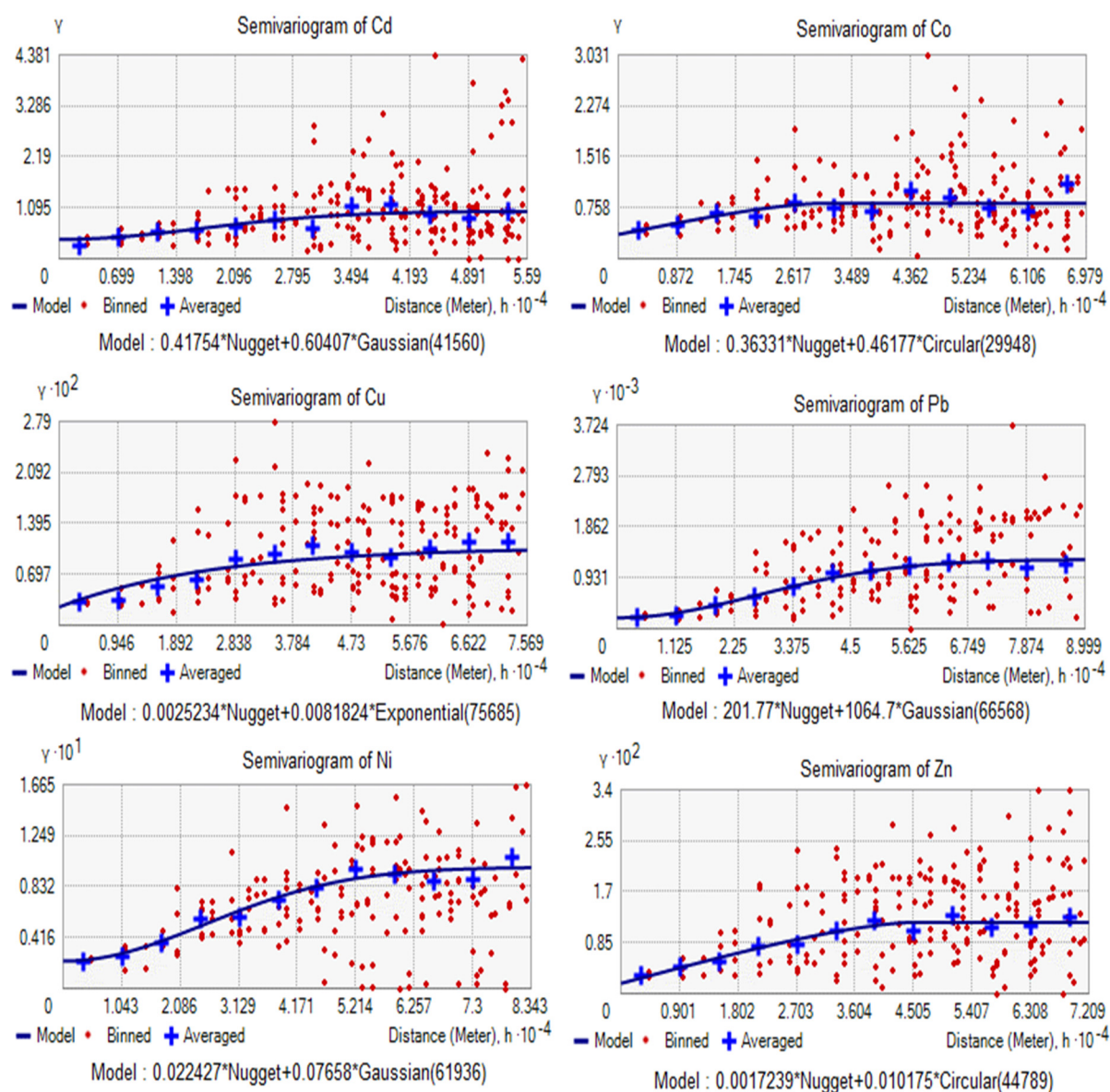


Figure S2. Experimental semivariograms and their best-fitted models for the studied metals

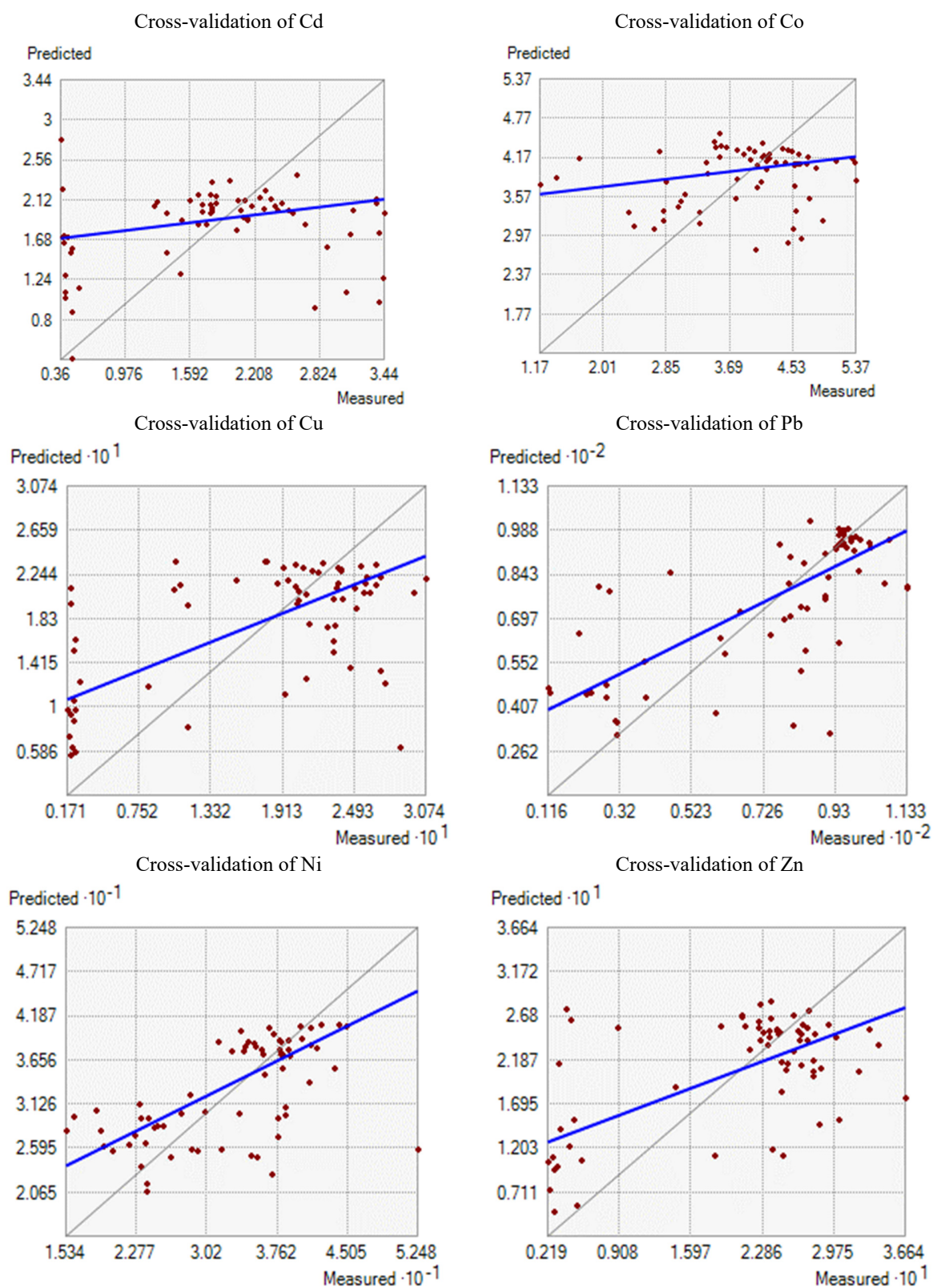


Figure S3. Cross-validation test of the applied ordinary kriging models

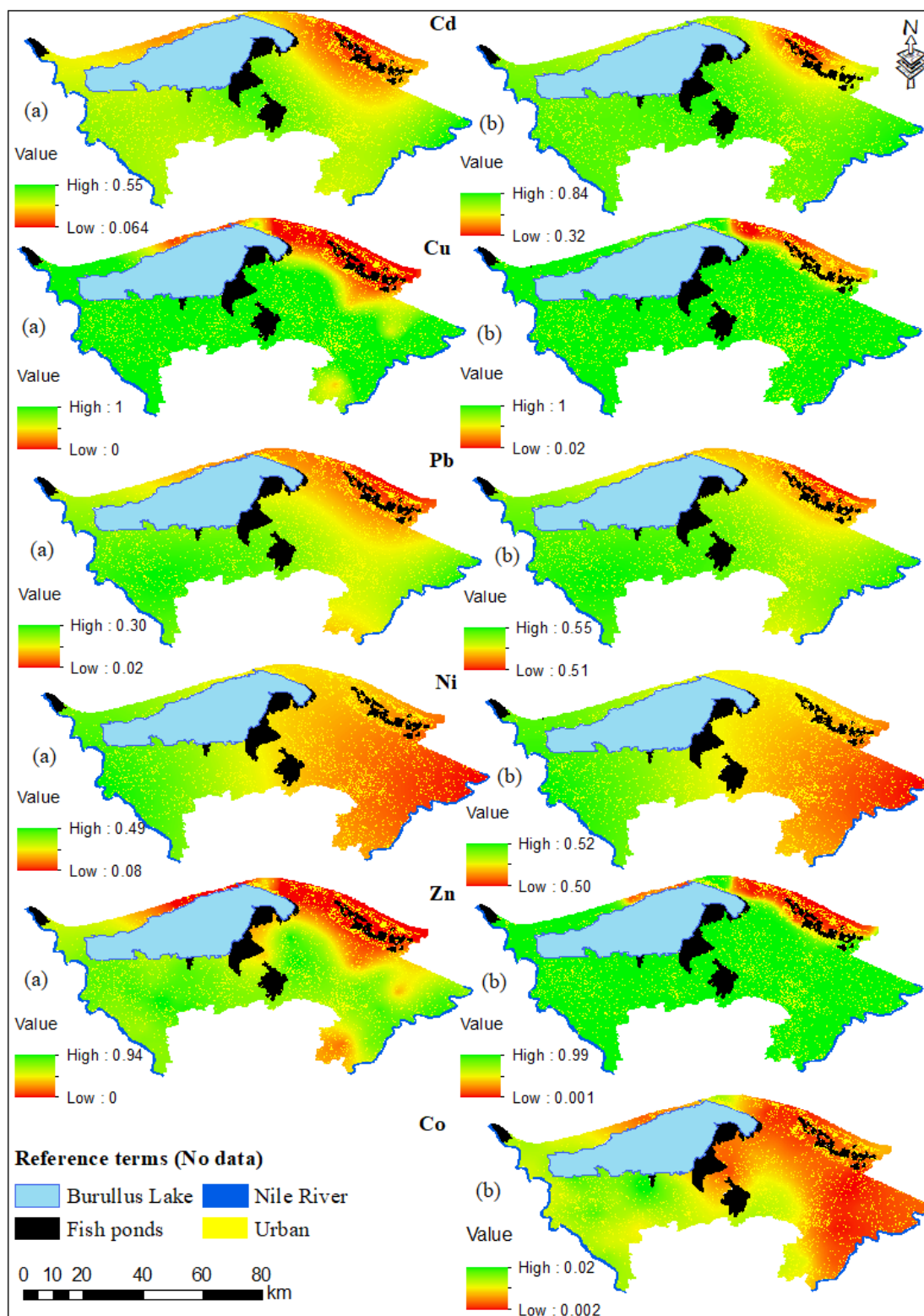


Figure S4. Linear (a) and non-linear (b) normalized maps of the studied metals