

**Urban soil geochemistry in Athens, Greece: The importance of local geology in
controlling the distribution of potentially harmful trace elements**

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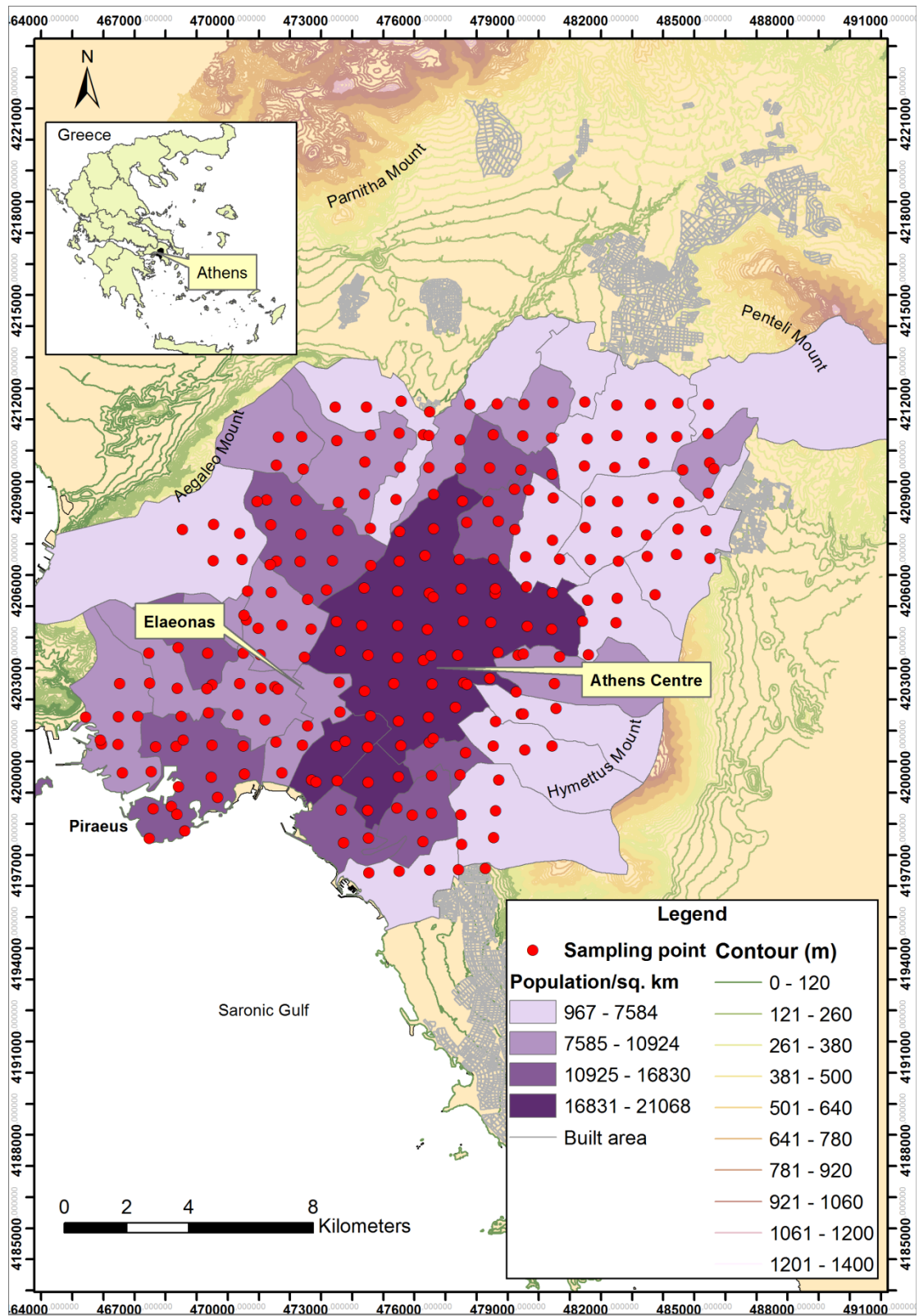
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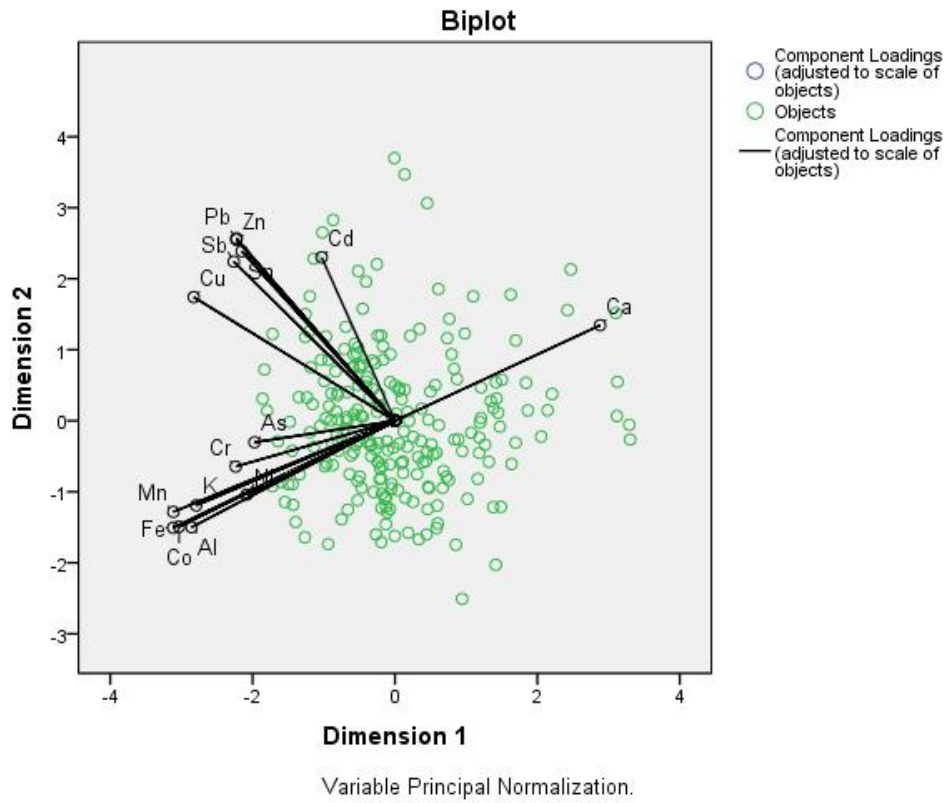
SUPPLEMENTARY MATERIAL

Supplementary Table S1. Analytical quality control data including recovery rates for NIST2709 and NIST2711 CRMs, mean relative percent difference of analytical duplicates, and instrumental and method detection limits. Concentrations are in mg/ kg except for Ca, K, Al and Fe in %. RPD = Relative Percent Difference of analytical duplicates. Instrumental detection limits as provided by the Acme Analytical Laboratories. Method detection limits were calculated as 3 times the standard deviation of measurements of seven reagent blank solutions.

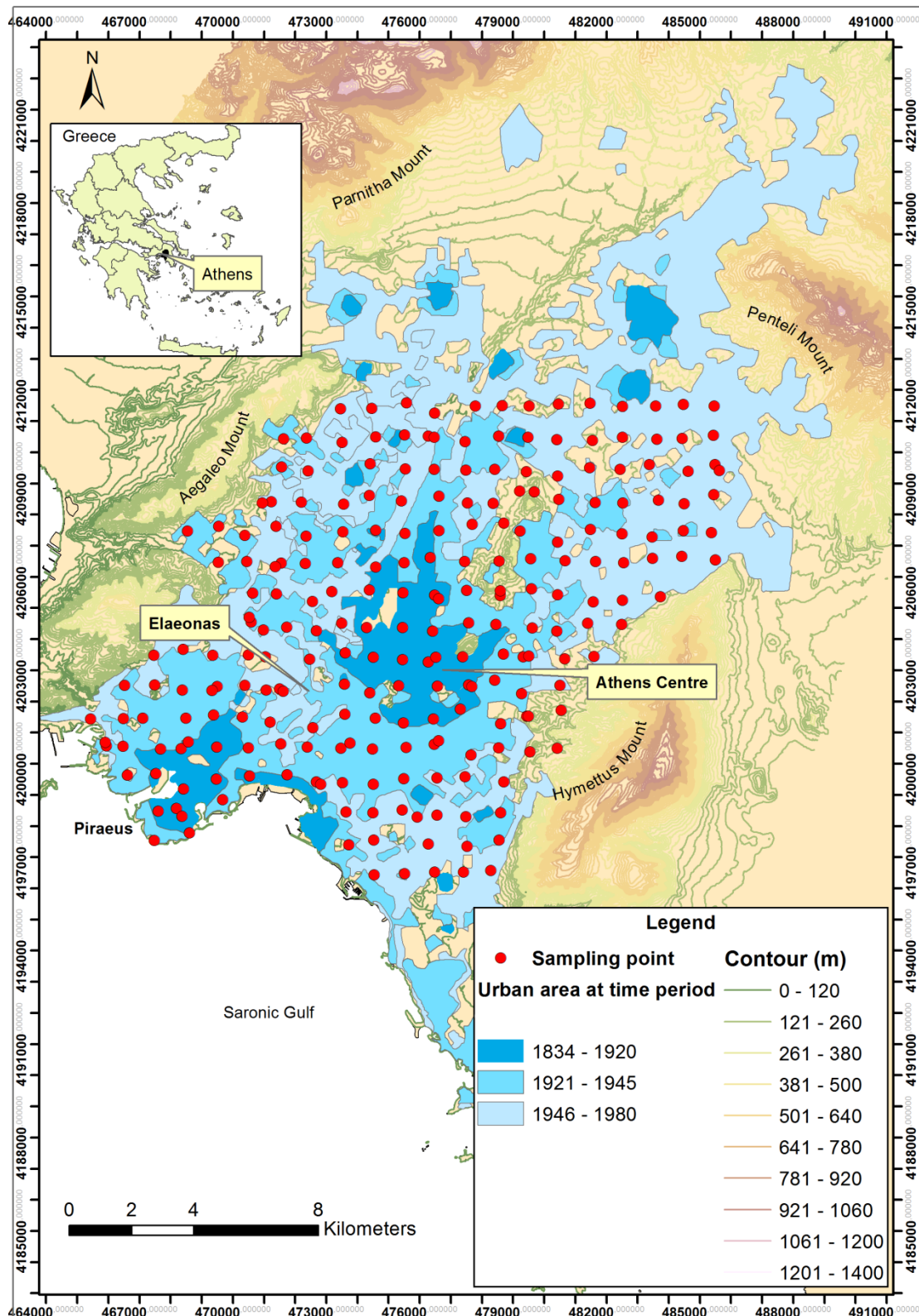
	NIST 2709			NIST 2711			Mean RPD Values (%)	Instrumental Detection Limit (ppm)	Method Detection Limit (ppm)
	Measured concentration	Certified concentration	Recovery Rate (%)	Measured concentration	Certified concentration	Recovery Rate (%)			
Ca	1.67	1.89	88	2.16	2.88	75	-0.1	0.01	0.087
K	1.91	2.03	94	2.36	2.45	96	0.1	0.01	<0.01
Al	6.88	7.50	92	6.41	6.53	98	0.5	0.01	<0.01
Fe	3.13	3.50	89	2.35	2.89	81	1.3	0.01	<0.01
Mn	480	538	89	617	638	97	0.9	1	5.66
Cu	34.2	34.6	99	135.7	114	119	0.5	0.1	0.77
Pb	20.2	18.9	107	1446	1162	124	1.3	0.1	0.32
Zn	98	106	92	373	350.4	106	1.1	1	<1
Ni	82.0	88	93	23.0	20.6	112	0.7	0.1	1.43
Cr	100	130	77	42	47	89	0.9	1	0.09
Co	13.0	13.4	97	9.5	10	95	2.6	0.2	<0.2
As	17	17.7	96	99	105	94	-0.6	1	<1
Sb	5.9	7.9	75	20.6	19.4	106	0.2	0.1	<0.1
Sn	1.8			4.6			-2.5	0.1	<0.1
Cd	0.4	0.38	105	53.4	41.7	128	16.3	0.1	<0.1



Supplementary Fig. S1. Map of the Athens Basin showing the sampling sites and the four categories (‘low’ to ‘very high’) of population density data disaggregated to municipality level.



Supplementary Fig. S2. Biplot of PCA results for 238 surface soil samples from Athens.



Supplementary Fig. S3. Map of the Athens Basin showing the sampling sites and the spatial extent of the urban net during three time periods: 1834-1920, 1920-1945 and 1945-1980.