Differentiation of the Athens Fine PM Profile during Economic Recession (March of 2008 versus March of 2013): Impact of Changes in Anthropogenic Emissions and the Associated Health Effect

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Table S1. A statistical summary of the primary PM$_{2.5}$ and PM$_1$ data (mass concentration, chemical composition), during the different sampling periods.

		2008				2013			
		Max	Min	Avg	St. Dev.	Max	Min	Avg	St. Dev.
PM$_{2.5}$	Mass	37.7	13.9	23.4	7.30	80.4	14.3	43.4	20.8
	OC	10.8	1.99	4.67	2.41	26.2	2.42	11.30	8.09
	EC	4.67	0.66	2.48	1.05	4.23	0.73	2.23	1.17
	NH4	4.43	0.15	0.92	0.93	2.35	0.35	1.20	0.67
	K	0.76	0.15	0.33	0.14	0.76	0.27	0.48	0.16
	Mg	0.15	0.05	0.09	0.03	0.65	0.05	0.16	0.16
	Ca	1.09	0.36	0.64	0.16	1.70	0.76	1.11	0.26
	Cl	1.48	0.37	0.71	0.26	1.68	0.33	0.77	0.41
	NO3	3.55	0.86	2.02	0.79	9.65	1.29	4.68	2.51
	SO4	6.98	1.88	3.90	1.50	9.08	2.03	5.13	2.28
		Max	Min	Avg	St. Dev.	Max	Min	Avg	St. Dev.
PM$_1$	Mass	29.7	10.8	20.7	7.0	54.9	8.2	26.9	16.4
	OC	9.07	2.30	4.22	2.01	17.8	1.74	6.73	4.93
	EC	2.90	0.50	1.77	0.75	2.90	0.48	1.53	0.84
	NH4	1.12	0.38	0.61	0.25	1.69	0.28	0.83	0.46
	K	0.41	0.14	0.24	0.09	0.58	0.22	0.37	0.11
	Mg	0.06	0.01	0.04	0.02	0.11	0.03	0.05	0.02
	Ca	0.55	0.17	0.36	0.10	0.64	0.47	0.55	0.12
	Cl	0.69	0.21	0.47	0.18	0.51	0.04	0.21	0.15
	NO3	2.04	0.77	1.34	0.42	4.48	0.32	2.00	1.51
	SO4	5.85	2.35	3.77	1.25	6.02	1.83	3.50	1.39

Table 2. A summary of the temporal differentiation of the average compositional PM$_{2.5}$ and PM$_1$ characteristics, the wind speed and the temperature values, during the different EPA- Health categories.

		(%)		m/sec	0C	µg/m³	% Contribution					µg/m³	% Contribution					
	EPA-Health Category	Frequency of occurance	PM2.5 EPA-AQI	WS	T	PM2.5	EC	POM	SIA	SS	UM	PM1	EC	POM	SIA	SS	UM	PM1/PM2.5
PM2.5 2008	Good[1]	3.57	45.0	2.50	13.8	13.9	7.80	25.8	24.9	7.59	33.8							
	Moderate[2]	96.4	68.7	2.01	14.5	24.5	10.7	34.0	29.6	5.00	20.6	22.0	8.56	36.1	26.7	3.74	24.9	0.90
PM2.5 2013	Good[1]	5.88	46.5	1.54	16.6	14.3	5.21	30.4	30.5	12.7	21.1	9.10	6.47	34.4	30.1	2.95	26.1	0.64
	Moderate[2]	58.8	76.4	1.09	15.2	28.4	4.47	32.0	29.9	4.22	29.4	12.9	7.69	41.1	32.0	1.61	17.6	0.46
	Unhealthy for sensitive groups[4]	23.5	126.59	0.69	12.4	53.5	5.41	53.3	21.7	1.35	18.3	38.6	5.19	46.0	20.8	1.04	27.0	0.72
	Unhealthy[5]	11.8	157.61	0.38	13.1	76.9	4.06	52.2	20.9	2.88	20.0	53.5	5.30	50.4	19.1	1.51	23.6	0.70

[1] Air quality is satisfactory and poses little or no health risk. Gorai et al. [34], [2] People who are unusually sensitive to ozone or particle pollution may experience respiratory symptoms. Gorai et al. [34], [3] People with heart or lung disease, older adults, and children are considered sensitive and therefore at greater risk. Gorai et al. [34], [4] Members of sensitive groups may experience more serious health effects. Gorai et al. [34], [5] Everyone may experience more serious health effects. Gorai et al. [34].
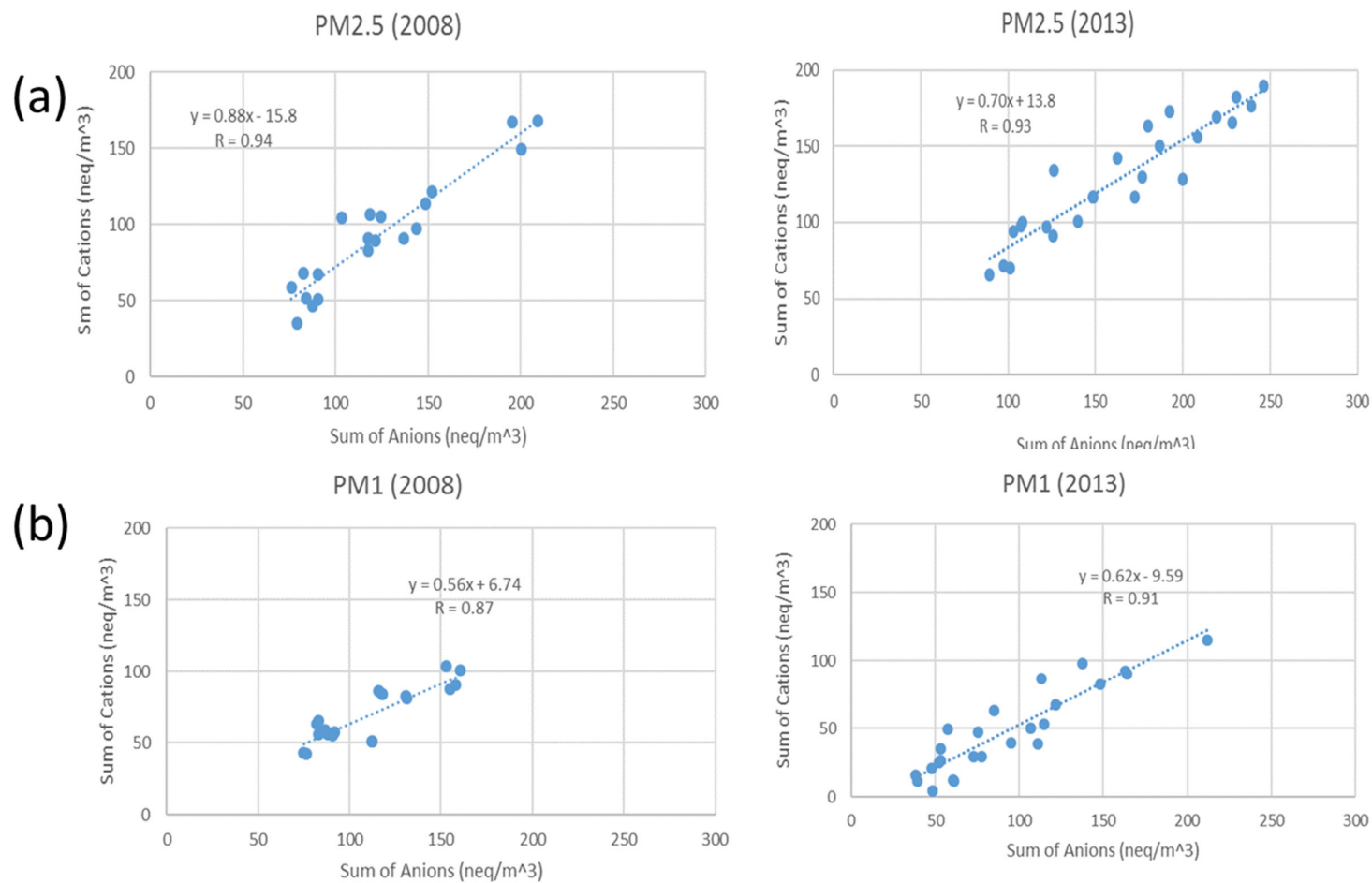
Figure S1. Sum of the anions vs sum of the cations regression analysis in (**a**) PM₂.₅ and (**b**) PM₁ samples of 2008 and 2013.
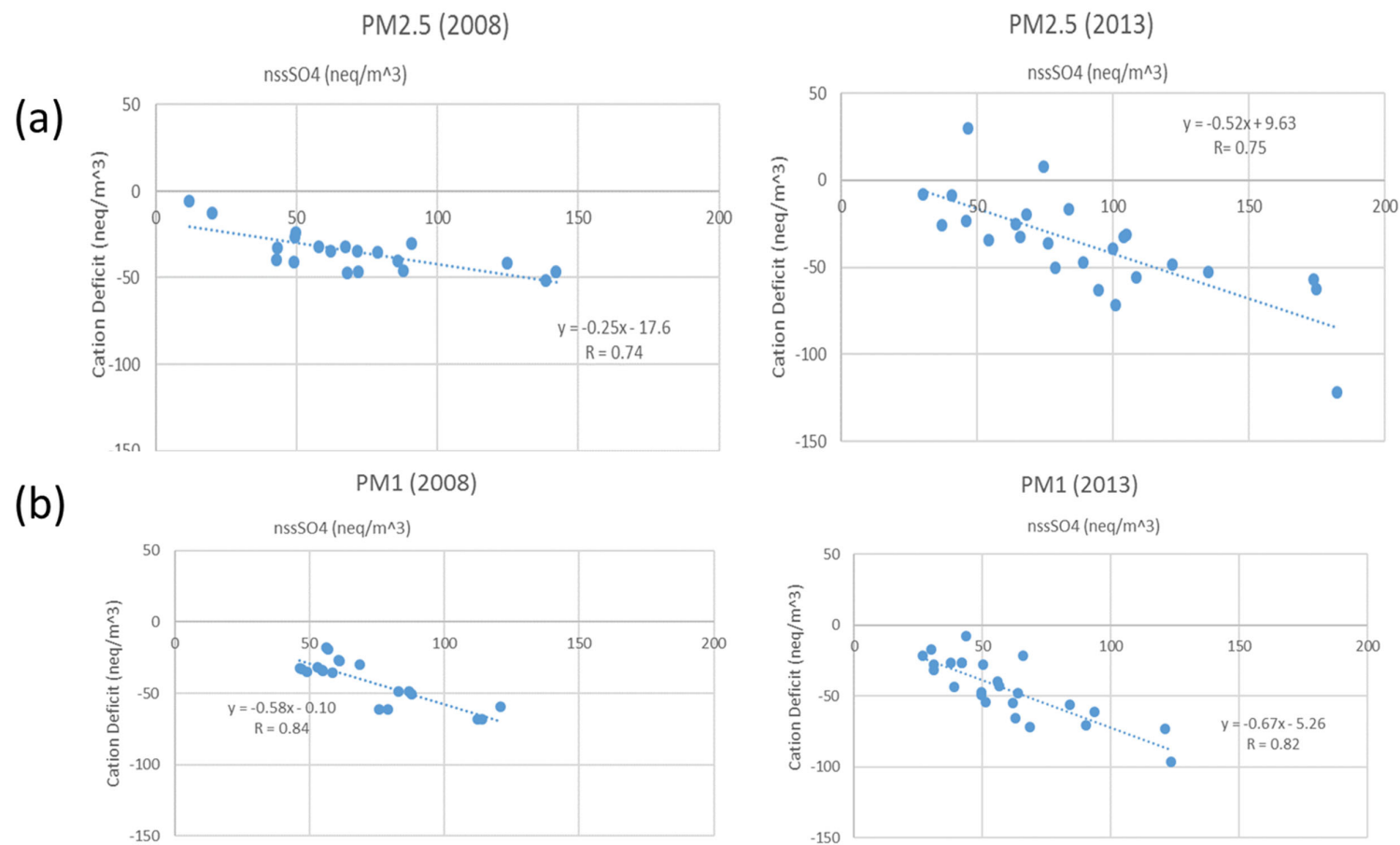
Figure S2. Differentiation of cation deficit versus the nssSO₄ concentrations in (**a**) PM₂.₅ and (**b**) PM₁ samples between 2008 and 2013.