

Table S1. Seasonal and annual RMSE (cm) for precipitation for the 12-km and 36-km CMAQ model simulations.

	CMAQ Domain	2002	2003	2004	2005	2006	Five-Year Average
Winter	12-km	7.6	7.4	6.6	7.9	5.6	7.02
	36-km East	7.4	7.9	6.7	5.7	6.4	6.82
	36-km West	14.7	11.8	11.3	7.6	11.0	11.3
Spring	12-km	8.3	9.8	8.1	8.8	7.1	8.42
	36-km East	7.2	9.5	7.6	8.9	7.0	8.04
	36-km West	7.8	14.9	7.4	10.3	10.4	10.2
Summer	12-km	18.4	13.1	17.0	15.4	13.9	15.6
	36-km East	17.0	13.2	14.4	13.4	11.5	13.9
	36-km West	11.2	9.5	9.0	9.6	4.5	8.76
Fall	12-km	10.8	8.7	10.9	10.6	9.5	10.1
	36-km East	10.4	9.4	10.1	10.8	10.5	10.2
	36-km West	7.9	7.8	10.1	10.0	8.0	8.76
Annual	12-km	25.9	24.0	24.2	24.4	22.8	24.3
	36-km East	23.2	25.3	23.6	23.2	25.1	24.1
	36-km West	32.5	36.1	31.7	29.1	27.1	31.3

Table S2. Seasonal and annual RMSE (kg/ha) for SO_4^- wet deposition for the 12-km and 36-km CMAQ model simulations.

	CMAQ Domain	2002	2003	2004	2005	2006	Five-Year Average
Winter	12-km	0.93	0.75	0.96	1.21	0.75	0.92
	36-km East	0.72	0.64	0.74	0.71	0.64	0.69
	36-km West	0.33	0.29	0.30	0.21	0.27	0.28
Spring	12-km	1.21	1.49	1.37	1.30	0.96	1.27
	36-km East	1.05	1.35	1.18	1.19	0.84	1.12
	36-km West	0.45	0.40	0.30	0.34	0.34	0.37
Summer	12-km	1.90	1.95	2.07	1.66	1.72	1.86
	36-km East	1.88	1.89	1.77	1.63	1.70	1.77
	36-km West	0.26	0.30	0.27	0.24	0.20	0.25
Fall	12-km	1.33	1.03	1.13	1.09	1.12	1.14
	36-km East	1.20	0.97	0.85	1.00	1.04	1.01
	36-km West	0.22	0.26	0.23	0.27	0.22	0.24
Annual	12-km	3.85	3.59	3.79	3.62	2.94	3.56
	36-km East	3.14	3.36	3.25	2.94	2.82	3.10
	36-km West	0.82	0.94	0.83	0.71	0.82	0.82

Table S3. Seasonal and annual RMSE (kg/ha) for NH_4^+ wet deposition for the 12-km and 36-km CMAQ model simulations.

	CMAQ Domain	2002	2003	2004	2005	2006	Five-Year Average
Winter	12-km	0.15	0.14	0.24	0.15	0.15	0.17
	36-km East	0.14	0.13	0.23	0.10	0.14	0.15
	36-km West	0.11	0.16	0.21	0.14	0.11	0.15
Spring	12-km	0.34	0.49	0.37	0.41	0.31	0.38
	36-km East	0.35	0.49	0.37	0.41	0.30	0.38
	36-km West	0.16	0.26	0.16	0.20	0.24	0.20
Summer	12-km	0.44	0.45	0.41	0.41	0.45	0.43
	36-km East	0.44	0.42	0.41	0.42	0.45	0.43
	36-km West	0.12	0.22	0.15	0.14	0.15	0.16
Fall	12-km	0.22	0.17	0.20	0.22	0.22	0.21
	36-km East	0.21	0.17	0.20	0.22	0.22	0.20
	36-km West	0.14	0.14	0.20	0.14	0.16	0.16
Annual	12-km	0.76	0.86	0.82	0.80	0.77	0.80
	36-km East	0.74	0.84	0.82	0.78	0.79	0.79
	36-km West	0.36	0.56	0.53	0.49	0.46	0.48

Table S4. Seasonal and annual RMSE (kg/ha) for NO₃⁻ wet deposition for the 12-km and 36-km CMAQ model simulations.

	CMAQ Domain	2002	2003	2004	2005	2006	Five-Year Average
Winter	12-km	1.10	0.86	1.10	1.14	0.81	1.00
	36-km East	0.90	0.80	0.80	0.67	0.68	0.77
	36-km West	0.26	0.32	0.39	0.28	0.34	0.32
Spring	12-km	0.83	1.02	0.90	0.90	0.76	0.88
	36-km East	0.88	1.08	0.98	0.97	0.83	0.95
	36-km West	0.26	0.45	0.22	0.37	0.61	0.38
Summer	12-km	1.56	1.55	1.40	1.27	1.54	1.46
	36-km East	1.62	1.64	1.48	1.34	1.62	1.54
	36-km West	0.46	0.49	0.50	0.35	0.55	0.47
Fall	12-km	1.10	0.74	0.80	0.59	0.69	0.78
	36-km East	0.91	0.75	0.72	0.56	0.70	0.73
	36-km West	0.31	0.31	0.32	0.26	0.26	0.29
Annual	12-km	2.76	2.63	2.45	2.43	2.42	2.54
	36-km East	2.75	2.95	2.62	2.40	2.76	2.70
	36-km West	0.80	1.11	1.00	0.90	1.19	1.00