

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: ABT147</i>																		
NH4	WIN	11	0.78	0.8	0.63	2.73	30.14	0.02	0.23	0.08	3.99	-3.12	0.03	32.76	32.03	0.3	0.29	0.39
NH4	SPR	13	0.52	0.64	0.6	23.08	32.24	0.12	0.17	0.04	35.75	19.83	0.23	44.36	30.14	0.32	0.24	0.36
NH4	SUM	7	0.86	0.79	0.12	-8.41	59.7	-0.07	0.51	0.4	-2.49	-24.81	-0.09	54.4	63.17	0.65	0.64	0.01
NH4	FAL	13	0.55	0.63	0.73	14.79	47.9	0.08	0.26	0.09	11.01	-6.94	0.15	49.22	51.1	0.48	0.32	0.53
NH4	ALL	44	0.65	0.7	0.45	8.24	41.33	0.05	0.27	0.13	14.42	-0.92	0.08	44.49	42.06	0.41	0.36	0.2
NO3	WIN	11	1.35	1.8	0	33.36	74.7	0.45	1.01	1.24	45.44	16.91	0.33	78.46	60.26	0.75	1.2	0
NO3	SPR	13	0.55	0.79	0.06	44.06	94.38	0.24	0.52	0.31	95.9	12.57	0.44	142.46	90.6	0.94	0.61	0
NO3	SUM	7	0.25	0.29	0.63	18.34	128.98	0.05	0.32	0.13	100.26	-33.54	0.18	192.55	125.39	1.29	0.37	0.4
NO3	FAL	13	0.75	0.83	0.66	10.01	63.96	0.08	0.48	0.41	36.7	-18.57	0.1	96.28	75.14	0.64	0.65	0.44
NO3	ALL	44	0.76	0.97	0.55	28.01	78.56	0.21	0.6	0.57	66.49	-2.88	0.28	120.79	83.98	0.79	0.78	0.3
SO4	WIN	11	1.6	0.96	0.51	-39.63	39.63	-0.63	0.63	0.23	-37.19	-49.65	-0.66	37.19	49.65	0.66	0.79	0.26
SO4	SPR	13	1.58	1.54	0.54	-2.14	32.4	-0.03	0.51	0.54	1.82	-8.44	-0.02	33.6	31.53	0.33	0.74	0.29
SO4	SUM	7	2.39	2.45	0.1	2.8	71.75	0.07	1.71	4.61	9.3	-18.67	0.03	64.99	66.57	0.72	2.15	0.01
SO4	FAL	13	1.37	1.37	0.79	0.2	39.31	0	0.54	0.43	-2.15	-16.12	0	41.63	46.21	0.39	0.65	0.63
SO4	ALL	44	1.65	1.49	0.41	-9.5	44.91	-0.16	0.74	1.15	-7.92	-22.64	-0.11	41.86	45.97	0.5	1.09	0.17
<i>CASTNET Monitoring Station: ACA416</i>																		
NH4	WIN	11	0.37	0.38	0.22	1.62	45.63	0.01	0.17	0.05	9.97	-5.05	0.02	47.37	43.96	0.46	0.22	0.05
NH4	SPR	14	0.25	0.32	0.08	28.25	57.12	0.07	0.14	0.03	62.24	23.9	0.28	82.14	49.92	0.57	0.19	0.01
NH4	SUM	13	0.39	0.43	0.62	9.03	48.99	0.04	0.19	0.08	9.97	-3.26	0.09	43.03	43.92	0.49	0.28	0.39
NH4	FAL	12	0.36	0.37	0.18	2.98	57.41	0.01	0.21	0.05	12.4	-13.53	0.03	63.35	68.68	0.57	0.23	0.03
NH4	ALL	50	0.34	0.37	0.41	9.66	52	0.03	0.18	0.05	25.19	1.49	0.1	59.81	51.55	0.52	0.23	0.17
NO3	WIN	11	0.64	0.67	0.33	6.06	69.54	0.04	0.44	0.27	34.25	-6.33	0.06	84.96	71.49	0.7	0.52	0.11
NO3	SPR	14	0.28	0.34	0.38	22.6	107.19	0.06	0.3	0.16	69.97	-34.8	0.23	153.65	105.26	1.07	0.4	0.14
NO3	SUM	13	0.2	0.07	0.24	-65.49	85.97	-0.13	0.17	0.04	-40.9	-97.83	-1.9	81.7	124.82	2.49	0.23	0.06
NO3	FAL	12	0.59	0.37	0.42	-37.43	78.21	-0.22	0.46	0.26	-37.73	-94.17	-0.6	84.57	122.51	1.25	0.56	0.18
NO3	ALL	50	0.41	0.35	0.46	-14.97	81.69	-0.06	0.34	0.19	7.44	-59.17	-0.18	103.25	107.06	0.96	0.44	0.21
SO4	WIN	11	1.15	0.76	0.08	-34.41	45.86	-0.4	0.53	0.27	-27.89	-41.43	-0.52	41.63	52.77	0.7	0.66	0.01
SO4	SPR	14	1.03	1.45	0.23	40.59	71.49	0.42	0.74	0.91	54.88	16.64	0.41	83.71	52.74	0.71	1.04	0.05
SO4	SUM	13	1.39	1.88	0.39	35.16	89.69	0.49	1.25	2.53	33.47	-1.69	0.35	81.95	68.75	0.9	1.66	0.15
SO4	FAL	12	1.22	1.34	0.67	9.88	51.27	0.12	0.62	0.7	7	-11.9	0.1	51.44	54	0.51	0.85	0.45
SO4	ALL	50	1.2	1.38	0.4	15.57	66.63	0.19	0.8	1.25	19.61	-7.75	0.16	66.25	57.21	0.67	1.14	0.16

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: ALC188</i>																		
NH4	WIN	5	0.51	0.94	0.66	83.49	86.47	0.43	0.44	0.09	83.05	50.77	0.83	86.75	54.64	0.86	0.53	0.43
NH4	SPR	10	0.65	0.37	0.57	-42.84	48.62	-0.28	0.32	0.04	-44.91	-67.86	-0.75	50.06	72.43	0.85	0.35	0.32
NH4	SUM	12	0.57	0.25	0.37	-56.12	65.99	-0.32	0.38	0.1	-55.27	-91.01	-1.28	62.57	97	1.5	0.45	0.14
NH4	FAL	4	0.56	0.65	0.73	15.4	43.72	0.09	0.25	0.09	29.98	11.47	0.15	53.98	40.72	0.44	0.31	0.54
NH4	ALL	31	0.59	0.45	0.18	-22.75	59.88	-0.13	0.35	0.16	-18.62	-47.45	-0.29	61.32	74.98	0.78	0.42	0.03
NO3	WIN	5	0.92	1.15	0.72	25.39	100.57	0.23	0.92	1.03	74.11	-0.29	0.25	132.34	93.69	1.01	1.04	0.52
NO3	SPR	10	1.16	0.23	0.66	-80.04	98.01	-0.93	1.14	0.56	53.11	-131.41	-4.01	213.17	166.18	4.91	1.19	0.44
NO3	SUM	12	0.97	0.04	0.38	-95.51	95.51	-0.93	0.93	0.11	-93.1	-176.24	-21.29	93.1	176.24	21.29	0.98	0.14
NO3	FAL	4	0.71	0.15	0.84	-78.66	78.66	-0.56	0.56	0.16	-69.65	-114.12	-3.69	69.65	114.12	3.69	0.68	0.71
NO3	ALL	31	0.99	0.3	0.3	-70	95.66	-0.69	0.95	0.59	-15.94	-125.38	-2.33	135.14	151.67	3.19	1.03	0.09
SO4	WIN	5	2.48	2.43	0.88	-1.8	21.31	-0.04	0.53	0.38	-5.66	-10.28	-0.02	22.2	25.19	0.22	0.62	0.78
SO4	SPR	10	3.76	1.66	0.42	-55.85	55.85	-2.1	2.1	0.87	-55.66	-82.16	-1.26	55.66	82.16	1.26	2.3	0.17
SO4	SUM	12	2.7	1.03	0.01	-61.82	71.8	-1.67	1.94	1.29	-59.52	-100.41	-1.62	72.01	109.5	1.88	2.02	0
SO4	FAL	4	2.68	2.05	0.16	-23.44	33.52	-0.63	0.9	1.07	-15.67	-23.39	-0.31	30.56	36.35	0.44	1.21	0.03
SO4	ALL	31	3.01	1.59	0.25	-47.02	54.25	-1.41	1.63	1.54	-43.93	-70.05	-0.89	53.35	77.64	1.02	1.88	0.06
<i>CASTNET Monitoring Station: ALH157</i>																		
NH4	WIN	11	1.83	1.39	0.19	-24.22	50.32	-0.44	0.92	1.09	-5.82	-27.7	-0.32	55.75	53.98	0.66	1.13	0.04
NH4	SPR	14	1.15	1.11	0.63	-4.07	35.94	-0.05	0.41	0.27	-6.57	-20.27	-0.04	38.1	45.77	0.37	0.52	0.4
NH4	SUM	12	1.13	0.92	0.02	-18.22	54.43	-0.21	0.61	0.49	-4.93	-24.75	-0.22	55.72	60.3	0.67	0.73	0
NH4	FAL	13	0.85	1.09	0.28	27.64	79.16	0.24	0.67	0.83	59.63	10.99	0.28	93.17	57.86	0.79	0.94	0.08
NH4	ALL	50	1.22	1.12	0.19	-8.12	52.65	-0.1	0.64	0.71	11.2	-14.85	-0.09	60.53	54.21	0.57	0.85	0.04
NO3	WIN	11	4.13	3.45	0.18	-16.46	57.24	-0.68	2.36	7.61	7.87	-21.43	-0.2	69.31	61.44	0.69	2.84	0.03
NO3	SPR	14	1.54	1.86	0.61	20.93	71.24	0.32	1.09	2.12	13.8	-21.45	0.21	73.07	74.67	0.71	1.49	0.38
NO3	SUM	12	0.53	0.22	0.6	-59.57	59.57	-0.32	0.32	0.03	-58.75	-88.96	-1.47	58.75	88.96	1.47	0.36	0.36
NO3	FAL	13	1.42	1.84	0.2	29.21	80.62	0.42	1.15	2.3	40.45	-6.53	0.29	94.24	72.42	0.81	1.57	0.04
NO3	ALL	50	1.84	1.81	0.55	-1.51	65.39	-0.03	1.2	3.07	2.01	-33.77	-0.02	74.31	74.6	0.66	1.75	0.3
SO4	WIN	11	2.16	1.33	0.39	-38.67	51.95	-0.84	1.12	0.8	-28.27	-48.85	-0.63	57.04	64.91	0.85	1.22	0.15
SO4	SPR	14	2.6	1.67	0.1	-35.66	45	-0.93	1.17	0.95	-33.66	-49.99	-0.55	43.6	58.47	0.7	1.35	0.01
SO4	SUM	12	3.62	2.6	0.06	-28.28	57.33	-1.02	2.08	5.05	-18.54	-39.65	-0.39	55.76	68.45	0.8	2.47	0
SO4	FAL	13	1.97	1.63	0.12	-17.17	57.19	-0.34	1.13	1.88	-7.61	-27.99	-0.21	54.45	61.98	0.69	1.41	0.01
SO4	ALL	50	2.58	1.81	0.18	-30.06	52.84	-0.78	1.37	2.21	-22.07	-41.54	-0.43	52.3	63.2	0.76	1.68	0.03

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: ANA115</i>																		
NH4	WIN	11	1.56	1.1	0.23	-29.43	53.43	-0.46	0.83	0.81	-29.56	-52.51	-0.42	51.51	67.21	0.76	1.01	0.05
NH4	SPR	12	0.97	0.83	0.21	-15.16	42.24	-0.15	0.41	0.24	-6.32	-23.9	-0.18	46.82	49.64	0.5	0.51	0.04
NH4	SUM	13	0.96	0.83	0.28	-14.21	56.39	-0.14	0.54	0.44	-3	-27.56	-0.17	55.48	63.74	0.66	0.68	0.08
NH4	FAL	13	0.8	1.11	0.01	38.55	90.82	0.31	0.73	0.58	51.34	6.19	0.39	97.11	80.41	0.91	0.82	0
NH4	ALL	49	1.06	0.96	0.08	-8.82	59.16	-0.09	0.63	0.58	4.64	-23.31	-0.1	63.51	65.49	0.65	0.77	0.01
NO3	WIN	11	3.22	2.6	0.13	-19.23	72.15	-0.62	2.33	8.06	-13.47	-46.38	-0.24	68.09	79.39	0.89	2.91	0.02
NO3	SPR	12	1.2	1.26	0.76	5.06	52.68	0.06	0.63	0.63	7.76	-22.81	0.05	67.56	68.89	0.53	0.8	0.58
NO3	SUM	13	0.25	0.52	0.3	113.74	167	0.28	0.41	0.37	107.57	13.37	1.14	147.62	75.02	1.67	0.67	0.09
NO3	FAL	13	1.09	1.82	0.53	67.31	112.12	0.73	1.22	2.23	83.4	14.36	0.67	124.5	88.1	1.12	1.66	0.28
NO3	ALL	49	1.37	1.51	0.45	10.48	80.9	0.14	1.11	2.88	49.54	-8.64	0.1	104.03	77.97	0.81	1.7	0.2
SO4	WIN	11	2.1	0.97	0.3	-53.62	54.1	-1.12	1.13	0.49	-52.23	-75.65	-1.16	52.72	76.13	1.17	1.32	0.09
SO4	SPR	12	2.2	1.28	0.24	-41.94	48.67	-0.92	1.07	0.74	-33.19	-50.44	-0.72	47.03	60.22	0.84	1.26	0.06
SO4	SUM	13	2.85	1.93	0.19	-32.27	52.59	-0.92	1.5	2.43	-24.16	-46.6	-0.48	49.77	66.09	0.78	1.81	0.04
SO4	FAL	13	1.82	1.76	0.1	-3.78	60.01	-0.07	1.09	2.06	8	-21.19	-0.04	61.12	66.09	0.62	1.44	0.01
SO4	ALL	49	2.25	1.51	0.05	-32.93	53.56	-0.74	1.21	1.65	-24.14	-47.32	-0.49	52.77	66.91	0.8	1.48	0
<i>CASTNET Monitoring Station: ARE128</i>																		
NH4	WIN	8	1.35	1.09	0.4	-18.87	38.86	-0.25	0.52	0.27	-19.28	-32.7	-0.23	42.05	50.23	0.48	0.58	0.16
NH4	SPR	12	1.17	1.08	0.3	-7.81	64.69	-0.09	0.76	0.78	11.76	-16.33	-0.08	69.09	66.89	0.7	0.89	0.09
NH4	SUM	9	1.36	0.91	0.45	-33.34	58.02	-0.45	0.79	0.57	-36.96	-62.31	-0.5	58.11	76.65	0.87	0.88	0.2
NH4	FAL	12	0.87	1.11	0.31	26.9	77.67	0.23	0.68	0.56	48.34	6.39	0.27	92.13	72	0.78	0.78	0.1
NH4	ALL	41	1.16	1.05	0.01	-9.24	59.98	-0.11	0.7	0.63	5.71	-22.97	-0.1	68.15	67.28	0.66	0.8	0
NO3	WIN	8	2.5	2.42	0.18	-3.05	52.4	-0.08	1.31	2.37	2.74	-21.9	-0.03	58.96	61.82	0.54	1.54	0.03
NO3	SPR	12	1.2	1.9	0.25	58.11	124.03	0.7	1.49	5.41	199.05	5.43	0.58	246.34	78.94	1.24	2.43	0.06
NO3	SUM	9	0.26	0.64	0.17	148.95	246.77	0.38	0.63	2	217.87	-44.31	1.49	308.65	95.14	2.47	1.47	0.03
NO3	FAL	12	1.16	1.63	0.28	40.87	84.97	0.47	0.99	1.47	128.68	15.35	0.41	168.31	68.03	0.85	1.3	0.08
NO3	ALL	41	1.24	1.65	0.24	33.39	90.65	0.41	1.12	2.99	144.28	-7.92	0.33	200.62	75.96	0.91	1.78	0.06
SO4	WIN	8	2.1	1.2	0.29	-43.18	46.8	-0.91	0.98	0.24	-43.1	-60.15	-0.76	47.15	63.9	0.82	1.03	0.08
SO4	SPR	12	2.69	1.53	0.06	-43.04	55.01	-1.16	1.48	1.52	-33.02	-54.86	-0.76	54.74	68.15	0.97	1.69	0
SO4	SUM	9	3.77	1.99	0.61	-47.08	49.25	-1.77	1.86	1.22	-48.69	-72.05	-0.89	50.53	73.81	0.93	2.09	0.37
SO4	FAL	12	1.86	1.85	0.07	-0.61	59.36	-0.01	1.1	2.52	8.13	-17.12	-0.01	57.96	57.71	0.6	1.59	0
SO4	ALL	41	2.57	1.66	0.24	-35.38	52.77	-0.91	1.36	1.91	-26.38	-48.62	-0.55	53.28	65.51	0.82	1.66	0.06

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: ASH135</i>																		
NH4	WIN	11	0.4	0.4	0.09	-2.12	56.5	-0.01	0.23	0.15	16.01	-18.83	-0.02	66.95	49.39	0.58	0.38	0.01
NH4	SPR	14	0.28	0.36	0.1	28.75	51.11	0.08	0.14	0.03	39.78	17.92	0.29	59.55	42	0.51	0.2	0.01
NH4	SUM	13	0.29	0.24	0.14	-18.76	60.04	-0.05	0.18	0.04	-11.23	-33.8	-0.23	57.54	63.76	0.74	0.21	0.02
NH4	FAL	13	0.37	0.34	0.26	-8.03	53.59	-0.03	0.2	0.06	-2.37	-23.49	-0.09	56.25	61.63	0.58	0.24	0.07
NH4	ALL	51	0.33	0.33	0.15	-0.51	55.23	0	0.18	0.07	10.9	-13.75	-0.01	59.79	54.14	0.56	0.26	0.02
NO3	WIN	11	0.37	0.65	0.07	78.74	118.61	0.29	0.43	0.8	138.24	-0.64	0.79	183.41	67.11	1.19	0.94	0.01
NO3	SPR	14	0.16	0.19	0.56	15.8	56.68	0.03	0.09	0.01	18.75	-17.21	0.16	69.61	68.04	0.57	0.12	0.31
NO3	SUM	13	0.08	0.02	0.34	-78.77	78.77	-0.06	0.06	0	-80.05	-142.83	-3.71	80.05	142.83	3.71	0.07	0.12
NO3	FAL	13	0.23	0.24	0.77	0.38	86.48	0	0.2	0.06	-12.99	-68.19	0	88.37	113.52	0.86	0.25	0.59
NO3	ALL	51	0.2	0.26	0.42	26.08	91.53	0.05	0.19	0.21	11.25	-58.65	0.26	101.6	98.5	0.92	0.46	0.18
SO4	WIN	11	1.04	0.65	0.04	-37.33	50.02	-0.39	0.52	0.28	-26.84	-43.01	-0.6	44.01	54.68	0.8	0.66	0
SO4	SPR	14	0.86	1	0.09	17.02	40.81	0.15	0.35	0.22	27.01	11.41	0.17	47.49	37.52	0.41	0.49	0.01
SO4	SUM	13	0.82	0.74	0.06	-9.96	64.43	-0.08	0.53	0.38	-2.99	-25.96	-0.11	60.71	64.03	0.72	0.62	0
SO4	FAL	13	0.98	0.97	0.1	-1.58	54.6	-0.02	0.54	0.55	10.24	-14.45	-0.02	60.3	54.49	0.55	0.74	0.01
SO4	ALL	51	0.92	0.85	0	-7.44	52.2	-0.07	0.48	0.39	3.47	-16.45	-0.08	53.38	52.3	0.56	0.63	0
<i>CASTNET Monitoring Station: BBE401</i>																		
NH4	WIN	11	0.49	0.24	0.16	-50.9	58.94	-0.25	0.29	0.08	-43.14	-67.45	-1.04	50.58	73.85	1.2	0.37	0.02
NH4	SPR	14	0.65	0.27	0.35	-58.91	60.01	-0.39	0.39	0.05	-57.39	-85.73	-1.43	58.5	86.8	1.46	0.44	0.12
NH4	SUM	13	0.62	0.27	0.3	-56.68	56.68	-0.35	0.35	0.03	-55.85	-82.2	-1.31	55.85	82.2	1.31	0.39	0.09
NH4	FAL	13	0.6	0.26	0.42	-56.91	58.16	-0.34	0.35	0.03	-58.07	-90.12	-1.32	59.28	91.28	1.35	0.39	0.17
NH4	ALL	51	0.6	0.26	0.29	-56.39	58.46	-0.34	0.35	0.05	-54.1	-82	-1.29	56.32	83.98	1.34	0.4	0.09
NO3	WIN	11	0.48	0.02	0.25	-95.22	95.22	-0.46	0.46	0.11	-92.87	-176.63	-19.94	92.87	176.63	19.94	0.56	0.06
NO3	SPR	14	0.8	0.02	0.07	-97.04	97.04	-0.77	0.77	0.06	-96.82	-187.76	-32.73	96.82	187.76	32.73	0.81	0.01
NO3	SUM	13	0.63	0.01	0.22	-98.98	98.98	-0.63	0.63	0.04	-98.97	-195.93	-97.4	98.97	195.93	97.4	0.66	0.05
NO3	FAL	13	0.57	0.01	0.54	-97.93	97.93	-0.56	0.56	0.06	-97.87	-191.7	-47.35	97.87	191.7	47.35	0.61	0.3
NO3	ALL	51	0.63	0.02	0.01	-97.45	97.45	-0.61	0.61	0.08	-96.78	-188.45	-38.14	96.78	188.45	38.14	0.67	0
SO4	WIN	11	1.39	0.94	0.11	-31.85	70.78	-0.44	0.98	1.87	-22.62	-49.26	-0.47	57.92	69.05	1.04	1.44	0.01
SO4	SPR	14	2.04	1.08	0.54	-47.02	50.11	-0.96	1.02	0.54	-45.38	-65.91	-0.89	48.59	68.8	0.95	1.21	0.29
SO4	SUM	13	1.87	0.89	0.04	-52.31	53.64	-0.98	1.01	0.31	-50.98	-75.65	-1.1	52.48	77.08	1.12	1.13	0
SO4	FAL	13	1.66	0.84	0.43	-49.24	51.78	-0.81	0.86	0.27	-50.14	-75.23	-0.97	52.35	77.37	1.02	0.97	0.19
SO4	ALL	51	1.76	0.94	0.29	-46.41	54.98	-0.82	0.97	0.75	-43.11	-67.18	-0.87	52.56	73.15	1.03	1.19	0.08

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: BEL116</i>																		
NH4	WIN	9	1.05	1.34	0.46	28.36	48.69	0.3	0.51	0.29	31.81	15.42	0.28	54.56	45.07	0.49	0.62	0.22
NH4	SPR	13	0.89	0.79	0.31	-11.13	53.58	-0.1	0.48	0.29	-4.33	-27.29	-0.13	56.89	60.97	0.6	0.54	0.1
NH4	SUM	9	1.24	1.01	0.36	-18.34	41.54	-0.23	0.51	0.24	-17.36	-32.13	-0.22	44.23	54.11	0.51	0.54	0.13
NH4	FAL	13	0.64	0.88	0.18	38.69	89.48	0.25	0.57	0.39	52.09	11.02	0.39	95.85	74.28	0.89	0.67	0.03
NH4	ALL	44	0.92	0.98	0.29	6.32	56.49	0.06	0.52	0.36	17.07	-8.23	0.06	65.33	60.25	0.56	0.6	0.09
NO3	WIN	9	1.57	2.95	0.21	87.51	118.1	1.37	1.85	3.5	221.28	49.16	0.88	247.78	88.34	1.18	2.32	0.05
NO3	SPR	13	0.76	0.79	0.39	4.42	71.12	0.03	0.54	0.54	14.78	-16.36	0.04	67.59	65.79	0.71	0.74	0.16
NO3	SUM	9	0.24	0.14	0.3	-41.36	77.95	-0.1	0.19	0.06	-16.11	-51.61	-0.71	72	85.42	1.33	0.26	0.09
NO3	FAL	13	0.62	1.37	0.06	121.16	167.74	0.75	1.04	1.92	167.05	49.21	1.21	189.88	81.62	1.68	1.57	0
NO3	ALL	44	0.78	1.27	0.37	63.29	113.69	0.49	0.88	1.77	95.69	9.21	0.63	141.48	79.09	1.14	1.42	0.14
SO4	WIN	9	2.1	1.68	0.72	-19.88	24.73	-0.42	0.52	0.29	-20.08	-27.34	-0.25	25.32	32.32	0.31	0.68	0.52
SO4	SPR	13	2.63	1.75	0.27	-33.63	53.1	-0.88	1.4	1.7	-29.1	-49.43	-0.51	52.43	66.61	0.8	1.58	0.07
SO4	SUM	9	3.75	2.87	0.42	-23.59	41.25	-0.89	1.55	1.83	-23.68	-38.72	-0.31	43.46	55.92	0.54	1.62	0.17
SO4	FAL	13	1.73	1.66	0.22	-3.89	49.48	-0.07	0.86	1.33	-2.23	-18.91	-0.04	47.41	49.92	0.51	1.16	0.05
SO4	ALL	44	2.49	1.94	0.47	-22.03	43.79	-0.55	1.09	1.46	-18.21	-33.7	-0.28	43.57	52.48	0.56	1.33	0.22
<i>CASTNET Monitoring Station: BFT142</i>																		
NH4	WIN	10	0.7	0.47	0.21	-32.21	46.53	-0.23	0.33	0.12	-22.61	-45.57	-0.48	45.93	63.26	0.69	0.41	0.04
NH4	SPR	13	0.7	0.51	0.28	-26.13	55.51	-0.18	0.39	0.17	-11.98	-46.13	-0.35	66.61	81.16	0.75	0.45	0.08
NH4	SUM	11	0.55	0.5	0.33	-8.54	56.15	-0.05	0.31	0.15	-5.51	-38.15	-0.09	63	77.32	0.61	0.4	0.11
NH4	FAL	10	0.41	0.48	0.2	16.78	105.69	0.07	0.43	0.33	23.97	-46.41	0.17	110.73	110.89	1.06	0.58	0.04
NH4	ALL	44	0.6	0.49	0.22	-16.99	61.09	-0.1	0.36	0.2	-4.61	-44.07	-0.2	71.04	82.89	0.74	0.46	0.05
NO3	WIN	10	1.27	0.62	0.07	-51.36	51.36	-0.65	0.65	0.2	-50.41	-80.11	-1.06	50.41	80.11	1.06	0.79	0.01
NO3	SPR	13	1.22	0.56	0.58	-53.76	54.68	-0.65	0.66	0.15	-54.68	-85.87	-1.16	55.9	87.04	1.18	0.76	0.34
NO3	SUM	11	0.76	0.26	0.48	-65.94	81.89	-0.5	0.62	0.23	-45.18	-102.3	-1.94	83.83	127.32	2.4	0.69	0.23
NO3	FAL	10	0.78	0.44	0.43	-43.81	64.73	-0.34	0.51	0.22	-23.63	-56.73	-0.78	66.7	87.15	1.15	0.59	0.18
NO3	ALL	44	1.02	0.47	0.3	-53.62	60.6	-0.55	0.62	0.21	-44.28	-82.05	-1.16	64.09	95.56	1.31	0.71	0.09
SO4	WIN	10	2.08	1.23	0.29	-41.09	41.09	-0.86	0.86	0.31	-40.23	-54.65	-0.7	40.23	54.65	0.7	1.02	0.09
SO4	SPR	13	2.82	1.91	0.41	-32.16	37.94	-0.91	1.07	0.73	-31.32	-46.08	-0.47	38.06	51.87	0.56	1.24	0.17
SO4	SUM	11	3.28	1.93	0.29	-41.24	46.53	-1.35	1.53	1.35	-40.82	-62.28	-0.7	46.65	67.62	0.79	1.79	0.08
SO4	FAL	10	1.57	1.58	0.41	0.56	61.08	0.01	0.96	1.61	-2.25	-26.28	0.01	57.46	62.35	0.61	1.27	0.17
SO4	ALL	44	2.48	1.68	0.36	-32.17	44.7	-0.8	1.11	1.22	-29.11	-47.58	-0.47	45.11	58.82	0.66	1.36	0.13

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: BVL130</i>																		
NH4	WIN	11	2.04	1.33	0.39	-34.63	45.03	-0.71	0.92	0.69	-23.91	-38.91	-0.53	45.99	52.65	0.69	1.09	0.15
NH4	SPR	12	1.14	1.6	0.21	41.22	69.08	0.47	0.78	1.3	43.98	9.5	0.41	73.17	51.11	0.69	1.23	0.04
NH4	SUM	12	1.24	0.79	0.05	-36.61	52.35	-0.45	0.65	0.4	-28.14	-49	-0.58	51.26	64.63	0.83	0.78	0
NH4	FAL	13	0.94	1.15	0.26	22.42	76.75	0.21	0.72	0.75	52.48	11.58	0.22	89.02	67.14	0.77	0.89	0.07
NH4	ALL	48	1.32	1.21	0.1	-7.72	58.07	-0.1	0.76	1.01	12.69	-15.66	-0.08	65.76	59.18	0.63	1.01	0.01
NO3	WIN	11	4.68	3.48	0.11	-25.6	41.82	-1.2	1.96	7.12	-5.96	-25.93	-0.34	46.84	45.18	0.56	2.93	0.01
NO3	SPR	12	1.67	2.84	0.46	69.93	105.6	1.17	1.76	5.85	71.43	8.23	0.7	112.46	73.92	1.06	2.69	0.21
NO3	SUM	12	0.71	0.2	0.48	-71.66	71.66	-0.51	0.51	0.06	-70.14	-111.04	-2.53	70.14	111.04	2.53	0.56	0.23
NO3	FAL	13	1.63	2.11	0.21	29.49	77.94	0.48	1.27	2	54.16	3.31	0.29	101.69	80.19	0.78	1.5	0.04
NO3	ALL	48	2.11	2.13	0.44	1	64.52	0.02	1.36	4.45	13.62	-30.75	0.01	83.93	78.31	0.65	2.11	0.2
SO4	WIN	11	2.47	1.13	0.76	-54.14	54.61	-1.34	1.35	0.6	-50.74	-72.09	-1.18	51.69	73.03	1.19	1.55	0.57
SO4	SPR	12	2.43	2.2	0.06	-9.57	54.39	-0.23	1.32	2.66	-3.43	-25.41	-0.11	57.42	55.82	0.6	1.65	0
SO4	SUM	12	3.91	2.25	0.01	-42.5	54.83	-1.66	2.14	3.76	-36.51	-59.41	-0.74	52.42	71.87	0.95	2.55	0
SO4	FAL	13	2.04	1.62	0.02	-20.7	59.91	-0.42	1.22	2.68	-14.09	-38.07	-0.26	55.47	61.28	0.76	1.69	0
SO4	ALL	48	2.7	1.81	0.15	-33.09	55.72	-0.9	1.51	2.83	-25.43	-48.04	-0.49	54.33	65.26	0.83	1.91	0.02
<i>CASTNET Monitoring Station: BWR139</i>																		
NH4	WIN	9	1.2	1.13	0.18	-5.72	41.84	-0.07	0.5	0.33	7.25	-8.4	-0.06	47.85	49.77	0.44	0.57	0.03
NH4	SPR	13	0.85	0.97	0.27	14.08	52.61	0.12	0.45	0.26	23.55	-0.29	0.14	63.28	52.47	0.53	0.53	0.07
NH4	SUM	12	1.24	0.92	0.71	-26.1	38.61	-0.32	0.48	0.2	-21.85	-34.5	-0.35	42.35	48.93	0.52	0.55	0.5
NH4	FAL	11	0.66	0.95	0.03	44.49	81.7	0.29	0.54	0.57	57.05	5.19	0.44	96.08	70.08	0.82	0.81	0
NH4	ALL	45	0.98	0.98	0.29	0.61	50.01	0.01	0.49	0.39	16.37	-9.7	0.01	62.63	55.29	0.5	0.62	0.08
NO3	WIN	9	1.88	2.44	0.33	29.67	78.68	0.56	1.48	2.97	92.57	14.59	0.3	133.87	70.22	0.79	1.81	0.11
NO3	SPR	13	1.03	1.3	0.24	25.9	73.47	0.27	0.76	0.86	39.96	-1.81	0.26	86.51	70.96	0.73	0.97	0.06
NO3	SUM	12	0.42	0.1	0.25	-75.99	87.66	-0.32	0.37	0.08	-11.73	-101.94	-3.16	120.74	136.53	3.65	0.43	0.06
NO3	FAL	11	0.89	1.95	0	119.95	166.05	1.06	1.47	4.44	141.15	21.88	1.2	186.53	82.79	1.66	2.36	0
NO3	ALL	45	1	1.37	0.31	36.16	97	0.36	0.97	2.2	61.43	-19.44	0.36	129.56	91.19	0.97	1.53	0.1
SO4	WIN	9	2.19	1.38	0.59	-36.97	39.03	-0.81	0.85	0.38	-33.03	-42.43	-0.59	35.9	45.12	0.62	1.02	0.35
SO4	SPR	13	2.54	1.97	0.21	-22.31	46.61	-0.57	1.18	1.29	-17.74	-33.14	-0.29	47.66	56.07	0.6	1.27	0.04
SO4	SUM	12	3.79	2.87	0.73	-24.38	39.66	-0.92	1.5	1.82	-23.68	-37.75	-0.32	45	52.89	0.52	1.63	0.54
SO4	FAL	11	1.82	1.7	0.35	-6.46	33.19	-0.12	0.6	0.43	-4.25	-11.58	-0.07	33.61	36.19	0.35	0.67	0.13
SO4	ALL	45	2.63	2.03	0.67	-22.86	40.39	-0.6	1.06	1.13	-19.08	-30.96	-0.3	41.16	48.17	0.52	1.22	0.45

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: CAD150</i>																		
NH4	WIN	10	1.02	0.9	0.61	-11.54	35.84	-0.12	0.37	0.17	-5.82	-16.16	-0.13	39.62	43.02	0.41	0.43	0.37
NH4	SPR	13	0.79	0.55	0.41	-30.57	40.8	-0.24	0.32	0.09	-24.68	-39.77	-0.44	40.13	53.39	0.59	0.39	0.17
NH4	SUM	13	0.84	0.47	0.72	-43.77	43.77	-0.37	0.37	0.03	-45.23	-63.16	-0.78	45.23	63.16	0.78	0.41	0.51
NH4	FAL	13	0.52	0.51	0.59	-2.87	41.04	-0.02	0.22	0.07	-4.14	-16.9	-0.03	40.08	46.46	0.42	0.26	0.35
NH4	ALL	49	0.78	0.59	0.58	-24.32	40.37	-0.19	0.31	0.1	-20.83	-35.09	-0.32	41.36	52.03	0.53	0.37	0.34
NO3	WIN	10	1.25	1.59	0.65	27.05	57.68	0.34	0.72	0.63	80.32	21.59	0.27	109.65	56.8	0.58	0.86	0.43
NO3	SPR	13	0.59	0.28	0.34	-52.71	75.77	-0.31	0.44	0.28	-38.45	-85.18	-1.11	75.93	107.65	1.6	0.62	0.11
NO3	SUM	13	0.22	0.04	0.27	-82.36	84.21	-0.18	0.18	0.05	-63.74	-109.88	-4.67	69.72	114.89	4.77	0.29	0.07
NO3	FAL	13	0.41	0.37	0.67	-9.15	58.84	-0.04	0.24	0.09	-14.08	-42.63	-0.1	62.58	72.91	0.65	0.31	0.45
NO3	ALL	49	0.58	0.51	0.73	-12.19	65.42	-0.07	0.38	0.3	-14.46	-58.65	-0.14	77.62	89.98	0.74	0.55	0.53
SO4	WIN	10	2.08	1.37	0.33	-34.34	41.16	-0.71	0.86	0.61	-32.54	-46.33	-0.52	38.23	51.6	0.63	1.06	0.11
SO4	SPR	13	2.87	1.5	0.02	-47.75	47.95	-1.37	1.38	0.59	-45.8	-64.76	-0.91	46.07	65.03	0.92	1.57	0
SO4	SUM	13	2.87	1.38	0.67	-51.98	51.98	-1.49	1.49	0.29	-52.73	-76.15	-1.08	52.73	76.15	1.08	1.59	0.44
SO4	FAL	13	1.68	1.4	0.66	-16.41	36.22	-0.28	0.61	0.38	-18.63	-27.88	-0.2	35.95	42.72	0.43	0.67	0.44
SO4	ALL	49	2.39	1.41	0.33	-40.89	45.85	-0.98	1.1	0.71	-37.72	-54.24	-0.69	43.55	59.32	0.78	1.29	0.11
<i>CASTNET Monitoring Station: CAT175</i>																		
NH4	WIN	2	0.73	0.73	1	0.68	66.79	0	0.49	0.24	-1.64	-27.49	0.01	66.85	76.66	0.67	0.49	1
NH4	SPR	9	0.57	0.57	0.16	-0.33	47.55	0	0.27	0.13	5.17	-13	0	47.68	49.39	0.48	0.36	0.03
NH4	SUM	13	0.87	0.41	0.05	-52.6	64.46	-0.46	0.56	0.2	-49.14	-84.41	-1.11	61.5	94.73	1.36	0.64	0
NH4	FAL	12	0.6	0.53	0.47	-10.93	42.67	-0.07	0.25	0.11	-13.47	-29.15	-0.12	40.81	49.84	0.48	0.34	0.22
NH4	ALL	36	0.7	0.51	0.06	-26.94	54.92	-0.19	0.38	0.2	-21.03	-44.98	-0.37	51.44	67.43	0.75	0.48	0
NO3	WIN	2	1.06	1.42	1	33.41	87.78	0.36	0.93	0.87	29.12	-3.47	0.33	86.33	76.67	0.88	1	1
NO3	SPR	9	0.49	0.39	0.36	-19.84	59.54	-0.1	0.29	0.14	-15.83	-46.16	-0.25	57.76	79.95	0.74	0.39	0.13
NO3	SUM	13	0.13	0.02	0.24	-81.31	81.44	-0.1	0.1	0	-78.15	-137.68	-4.35	78.37	137.91	4.36	0.12	0.06
NO3	FAL	12	0.6	0.4	0.5	-32.32	59.67	-0.19	0.36	0.18	-26.12	-59.61	-0.48	60.98	84.2	0.88	0.46	0.25
NO3	ALL	36	0.42	0.32	0.63	-24.83	65.86	-0.11	0.28	0.16	-39.26	-81.32	-0.33	67.86	102.11	0.88	0.41	0.4
SO4	WIN	2	1.33	1.45	1	9.34	91.23	0.12	1.21	1.46	15.99	-26.66	0.09	92.38	96.94	0.91	1.22	1
SO4	SPR	9	1.54	1.67	0.06	7.85	51.39	0.12	0.79	1.29	17.28	-0.69	0.08	48.19	42.64	0.51	1.14	0
SO4	SUM	13	2.36	1.39	0.08	-41.11	66.56	-0.97	1.57	2.29	-35.75	-69.41	-0.7	62.81	89.97	1.13	1.8	0.01
SO4	FAL	12	1.42	1.72	0.36	21.22	64.23	0.3	0.91	1.54	18.87	-4.26	0.21	59.1	52.2	0.64	1.28	0.13
SO4	ALL	36	1.78	1.57	0.04	-11.92	63.68	-0.21	1.14	2.07	-1.41	-28.14	-0.14	59.56	65.93	0.72	1.46	0

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: CDR119</i>																		
NH4	WIN	8	0.83	0.4	0.28	-51.27	51.27	-0.42	0.42	0.08	-45.73	-69.03	-1.05	45.73	69.03	1.05	0.51	0.08
NH4	SPR	13	0.86	0.44	0.46	-48.92	48.92	-0.42	0.42	0.06	-47.37	-69.04	-0.96	47.37	69.04	0.96	0.49	0.21
NH4	SUM	13	1.6	0.69	0.41	-57.03	57.03	-0.91	0.91	0.19	-55.76	-80.66	-1.33	55.76	80.66	1.33	1.01	0.17
NH4	FAL	13	0.6	0.52	0.09	-12.73	56.02	-0.08	0.34	0.19	-5.74	-26.24	-0.15	51.78	60.11	0.64	0.44	0.01
NH4	ALL	47	0.99	0.53	0.38	-46.8	54.09	-0.46	0.53	0.23	-37.9	-60.41	-0.88	50.63	69.78	1.02	0.67	0.14
NO3	WIN	8	0.7	0.33	0.71	-52.92	58.43	-0.37	0.41	0.13	-33.44	-60.51	-1.12	52.42	74.27	1.24	0.52	0.5
NO3	SPR	13	0.18	0.17	0.53	-9.49	62.93	-0.02	0.12	0.04	-16.91	-40.93	-0.1	54.06	61.77	0.7	0.2	0.28
NO3	SUM	13	0.06	0.06	0.15	3.03	57.46	0	0.04	0	6.56	-15.57	0.03	55.67	53.68	0.57	0.05	0.02
NO3	FAL	13	0.2	0.29	0.12	47.83	151.99	0.09	0.3	0.4	133.4	-55.32	0.48	232.66	104.88	1.52	0.64	0.01
NO3	ALL	47	0.24	0.2	0.28	-17.09	80.36	-0.04	0.19	0.17	28.34	-41.23	-0.21	103.63	73.58	0.97	0.41	0.08
SO4	WIN	8	2.1	1.15	0.14	-45.18	45.43	-0.95	0.96	0.88	-40.04	-59.47	-0.82	40.28	59.71	0.83	1.33	0.02
SO4	SPR	13	2.57	1.42	0.71	-44.58	44.58	-1.15	1.15	0.31	-45.09	-63.47	-0.8	45.09	63.47	0.8	1.27	0.51
SO4	SUM	13	4.98	3.39	0.36	-31.89	48.4	-1.59	2.41	5.15	-31.92	-48.15	-0.47	47.29	60.1	0.71	2.77	0.13
SO4	FAL	13	1.73	1.79	0	3.73	51.46	0.06	0.89	1.73	10.86	-6.52	0.04	46.03	46.58	0.51	1.32	0
SO4	ALL	47	2.92	2.02	0.54	-30.79	47.61	-0.9	1.39	2.54	-25.11	-42.8	-0.44	45.14	57.22	0.69	1.83	0.3
<i>CASTNET Monitoring Station: CDZ171</i>																		
NH4	WIN	11	1.53	1	0.67	-34.55	36.47	-0.53	0.56	0.25	-29.91	-41.36	-0.53	33.03	44.3	0.56	0.73	0.45
NH4	SPR	13	1.14	0.9	0.17	-20.64	59.59	-0.23	0.68	0.61	-16.69	-39.77	-0.26	58.16	68.96	0.75	0.81	0.03
NH4	SUM	8	1.33	0.97	0.6	-27.47	49.11	-0.37	0.66	0.39	-21.22	-52.08	-0.38	66.16	76.07	0.68	0.72	0.36
NH4	FAL	9	0.54	0.5	0.6	-6.62	38.56	-0.04	0.21	0.07	-5.77	-15.19	-0.07	35.93	39.03	0.41	0.27	0.36
NH4	ALL	41	1.15	0.85	0.51	-25.71	46.81	-0.3	0.54	0.38	-18.72	-37.2	-0.35	48.1	57.16	0.63	0.68	0.26
NO3	WIN	11	2.61	1.85	0.55	-29.15	45.12	-0.76	1.18	1.93	-11.92	-28.39	-0.41	47.76	54.88	0.64	1.58	0.31
NO3	SPR	13	0.84	1.21	0.01	43.77	154.6	0.37	1.3	4.16	64.17	-38.46	0.44	150.11	108.69	1.55	2.07	0
NO3	SUM	8	0.3	0.16	0.13	-46.27	70.51	-0.14	0.21	0.06	-17.06	-60.34	-0.86	70.53	94.87	1.31	0.27	0.02
NO3	FAL	9	0.65	0.55	0.45	-15.47	50.35	-0.1	0.33	0.16	-4.17	-29.5	-0.18	52.25	68.87	0.6	0.41	0.2
NO3	ALL	41	1.17	1.03	0.43	-11.63	72.08	-0.14	0.84	2.07	12.9	-38.06	-0.13	85.64	82.82	0.82	1.44	0.18
SO4	WIN	11	2.48	1.53	0.5	-38.42	44.17	-0.95	1.1	0.48	-34.76	-49.79	-0.62	45.41	58.02	0.72	1.18	0.25
SO4	SPR	13	3.01	1.67	0.43	-44.52	45.86	-1.34	1.38	0.8	-43.28	-60.3	-0.8	45.03	61.96	0.83	1.61	0.18
SO4	SUM	8	4.04	2.84	0.65	-29.82	48.72	-1.21	1.97	3.02	-27.52	-54.56	-0.42	59.94	75.52	0.69	2.11	0.42
SO4	FAL	9	1.5	1.08	0.48	-27.9	40.1	-0.42	0.6	0.42	-24.25	-40.81	-0.39	43.98	55.87	0.56	0.77	0.23
SO4	ALL	41	2.74	1.73	0.65	-36.8	45.58	-1.01	1.25	1.18	-33.74	-52.08	-0.58	47.81	62.21	0.72	1.48	0.43

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: CHE185</i>																		
NH4	WIN	11	1.6	1.38	0.48	-13.49	42.28	-0.22	0.68	0.67	-4.07	-20.58	-0.16	45.55	51.4	0.49	0.84	0.23
NH4	SPR	13	1.08	0.81	0.52	-24.83	33.9	-0.27	0.37	0.16	-17.91	-29.29	-0.33	34.22	43.24	0.45	0.48	0.27
NH4	SUM	12	0.9	0.46	0.61	-48.43	48.43	-0.44	0.44	0.05	-49.29	-71.96	-0.94	49.29	71.96	0.94	0.49	0.37
NH4	FAL	13	0.62	0.58	0.45	-7.43	37	-0.05	0.23	0.07	-0.61	-10.41	-0.08	37.76	40.07	0.4	0.27	0.2
NH4	ALL	49	1.03	0.79	0.64	-23.14	40.42	-0.24	0.42	0.24	-17.9	-32.78	-0.3	41.39	51.26	0.53	0.55	0.41
NO3	WIN	11	3.35	2.83	0.59	-15.44	41.38	-0.52	1.39	2.59	-4.94	-21.95	-0.18	48.33	52.82	0.49	1.69	0.35
NO3	SPR	13	1.16	0.89	0.25	-23.86	64.39	-0.28	0.75	1.11	17.69	-41.32	-0.31	91.21	80.4	0.85	1.09	0.06
NO3	SUM	12	0.49	0.04	0.28	-90.89	90.89	-0.45	0.45	0.06	-88.72	-160.65	-9.98	88.72	160.65	9.98	0.51	0.08
NO3	FAL	13	0.91	0.51	0.89	-44.44	44.44	-0.41	0.41	0.07	-51.72	-81.25	-0.8	51.72	81.25	0.8	0.48	0.79
NO3	ALL	49	1.42	1.02	0.78	-28.56	51.07	-0.41	0.73	0.92	-31.86	-76.79	-0.4	70.5	94.09	0.71	1.04	0.61
SO4	WIN	11	2.28	1.63	0.36	-28.31	47.36	-0.65	1.08	1.68	-26.84	-46.72	-0.39	45.44	59.03	0.66	1.45	0.13
SO4	SPR	13	3.02	1.69	0.01	-43.94	50.6	-1.33	1.53	1.2	-39.21	-58.46	-0.78	48.31	66.35	0.9	1.72	0
SO4	SUM	12	2.66	1.32	0.61	-50.34	50.34	-1.34	1.34	0.35	-50.81	-73.99	-1.01	50.81	73.99	1.01	1.47	0.38
SO4	FAL	13	1.62	1.31	0.18	-19.33	41.34	-0.31	0.67	0.48	-16.33	-29.43	-0.24	41.16	50.52	0.51	0.76	0.03
SO4	ALL	49	2.39	1.49	0.29	-37.92	48.18	-0.91	1.15	1.11	-33.2	-51.92	-0.61	46.38	62.38	0.78	1.39	0.09
<i>CASTNET Monitoring Station: CKT136</i>																		
NH4	WIN	10	1.14	0.63	0.43	-45.02	47.43	-0.51	0.54	0.23	-38.15	-56.56	-0.82	42.64	60.6	0.86	0.7	0.19
NH4	SPR	10	0.88	0.59	0.19	-33.28	44.53	-0.29	0.39	0.11	-27.8	-43.57	-0.5	42.56	55.47	0.67	0.45	0.04
NH4	SUM	10	1.44	0.87	0.73	-39.64	39.64	-0.57	0.57	0.1	-40.33	-53.79	-0.66	40.33	53.79	0.66	0.65	0.53
NH4	FAL	10	0.56	0.54	0.48	-4.37	44.74	-0.02	0.25	0.08	-4.34	-18.53	-0.05	42.16	49.37	0.47	0.29	0.23
NH4	ALL	40	1.01	0.65	0.55	-34.87	43.63	-0.35	0.44	0.18	-27.65	-43.11	-0.54	41.92	54.8	0.67	0.55	0.3
NO3	WIN	10	0.97	0.55	0.65	-43.17	48.94	-0.42	0.47	0.25	-38.54	-57.68	-0.76	46.41	64.72	0.86	0.65	0.42
NO3	SPR	10	0.3	0.36	0.47	20.22	91.96	0.06	0.27	0.12	20.29	-31.69	0.2	97.77	91.7	0.92	0.36	0.22
NO3	SUM	10	0.15	0.06	0.68	-56.4	70.86	-0.08	0.1	0.01	-25.98	-60.4	-1.29	63.65	85.33	1.63	0.14	0.46
NO3	FAL	10	0.5	0.45	0.41	-10.05	84.19	-0.05	0.42	0.28	-22.08	-70.7	-0.11	83.63	106.29	0.94	0.53	0.16
NO3	ALL	40	0.48	0.35	0.52	-25.77	66.45	-0.12	0.32	0.2	-16.58	-55.12	-0.35	72.86	87.01	0.9	0.46	0.27
SO4	WIN	10	2.72	1.58	0.41	-42.02	44.88	-1.14	1.22	1.24	-37.65	-54.52	-0.72	40.16	56.88	0.77	1.59	0.17
SO4	SPR	10	2.82	1.53	0.11	-45.98	48.02	-1.3	1.36	0.96	-40.35	-59.63	-0.85	43.61	62.75	0.89	1.63	0.01
SO4	SUM	10	4.96	3.58	0.79	-27.85	32.77	-1.38	1.63	1.66	-30.26	-39.48	-0.39	33.74	42.69	0.45	1.89	0.62
SO4	FAL	10	1.64	1.35	0.25	-18.04	38.76	-0.3	0.64	0.62	-17.54	-32.42	-0.22	38.03	47.81	0.47	0.84	0.06
SO4	ALL	40	3.04	2.01	0.74	-33.91	39.83	-1.03	1.21	1.31	-31.45	-46.51	-0.51	38.89	52.53	0.6	1.54	0.55

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: CND125</i>																		
NH4	WIN	11	1.06	1.02	0.51	-3.99	30.08	-0.04	0.32	0.17	2.31	-4.1	-0.04	31.24	31.11	0.31	0.42	0.26
NH4	SPR	14	0.9	0.64	0.23	-28.43	45.91	-0.26	0.41	0.18	-23.32	-39.69	-0.4	43.7	56.47	0.64	0.49	0.05
NH4	SUM	12	1.27	0.89	0.26	-30.2	32.69	-0.38	0.42	0.16	-25.98	-36.36	-0.43	29.84	39.97	0.47	0.56	0.07
NH4	FAL	12	0.61	0.84	0.32	39.54	85.75	0.24	0.52	0.41	60.37	9.23	0.4	100.16	69.95	0.86	0.68	0.1
NH4	ALL	49	0.95	0.84	0.21	-12.35	43.84	-0.12	0.42	0.28	2.28	-18.9	-0.14	51.33	50.04	0.5	0.55	0.05
NO3	WIN	11	1.45	1.93	0.27	33.24	71.39	0.48	1.04	1.34	50.71	21.06	0.33	78.83	57.19	0.71	1.25	0.07
NO3	SPR	14	0.46	0.29	0.34	-35.49	58.39	-0.16	0.27	0.09	-11.36	-37.55	-0.55	57.78	64.4	0.91	0.34	0.12
NO3	SUM	12	0.17	0.09	0.08	-47.17	64.93	-0.08	0.11	0.03	-6	-30.2	-0.89	51.5	61.85	1.23	0.2	0.01
NO3	FAL	12	0.49	1.15	0.11	133.85	183.24	0.66	0.9	1.69	188.32	26.8	1.34	232.02	88.34	1.83	1.46	0.01
NO3	ALL	49	0.62	0.82	0.54	32.95	90.04	0.2	0.56	0.87	52.79	-6.83	0.33	103.64	68.02	0.9	0.96	0.29
SO4	WIN	11	2.16	1.79	0.17	-17.1	32.82	-0.37	0.71	0.67	-13.15	-20.04	-0.21	30.54	34.28	0.4	0.9	0.03
SO4	SPR	14	2.83	1.83	0.2	-35.3	42.14	-1	1.19	1	-32.43	-46.82	-0.55	39.87	53.41	0.65	1.42	0.04
SO4	SUM	12	3.82	2.42	0.39	-36.71	38.27	-1.4	1.46	1.06	-34.24	-46.69	-0.58	36.69	48.97	0.6	1.74	0.15
SO4	FAL	12	1.76	1.82	0.36	3.83	55.39	0.07	0.97	1.42	13.39	-10.71	0.04	59.5	56.29	0.55	1.2	0.13
SO4	ALL	49	2.66	1.96	0.29	-26.15	41.23	-0.7	1.1	1.36	-17.32	-31.93	-0.35	41.81	48.73	0.56	1.36	0.08
<i>CASTNET Monitoring Station: CNT169</i>																		
NH4	WIN	7	0.08	0.12	0.73	56.29	56.29	0.04	0.04	0	72.69	43.95	0.56	72.69	43.95	0.56	0.06	0.53
NH4	SPR	11	0.17	0.11	0.24	-34.25	37.23	-0.06	0.06	0.01	-28.75	-39.66	-0.52	32.55	43.26	0.57	0.09	0.06
NH4	SUM	12	0.22	0.1	0.27	-53.28	53.54	-0.12	0.12	0	-51.94	-77.41	-1.14	52.23	77.7	1.15	0.13	0.07
NH4	FAL	11	0.15	0.13	0.14	-14.46	42.73	-0.02	0.07	0.01	5.75	-8.38	-0.17	47.07	45.05	0.5	0.08	0.02
NH4	ALL	41	0.17	0.12	0.13	-29.4	46.49	-0.05	0.08	0.01	-8.96	-28.04	-0.42	49.06	53.94	0.66	0.1	0.02
NO3	WIN	7	0.04	0.05	0.36	49.3	144.84	0.02	0.05	0.01	112.94	-41.52	0.49	197.96	89.79	1.45	0.1	0.13
NO3	SPR	11	0.16	0.04	0.22	-74.23	79.74	-0.12	0.13	0.01	-64.51	-116.25	-2.88	74.64	124.17	3.09	0.15	0.05
NO3	SUM	12	0.14	0.01	0.5	-92.35	92.35	-0.13	0.13	0	-91.4	-169.21	-12.08	91.4	169.21	12.08	0.13	0.25
NO3	FAL	11	0.1	0.04	0.38	-61.03	91.17	-0.06	0.1	0.01	-21.68	-79.02	-1.57	88.24	112.55	2.34	0.13	0.14
NO3	ALL	41	0.12	0.03	0.27	-70.61	90.22	-0.08	0.11	0.01	-30.59	-109	-2.4	104.25	128.36	3.07	0.13	0.07
SO4	WIN	7	0.21	0.41	0.35	97.79	97.79	0.2	0.2	0.01	116.56	66.52	0.98	116.56	66.52	0.98	0.22	0.13
SO4	SPR	11	0.52	0.37	0.47	-30.04	32.26	-0.16	0.17	0.04	-25.42	-34.59	-0.43	28.74	37.7	0.46	0.25	0.22
SO4	SUM	12	0.53	0.3	0.11	-43.07	44.73	-0.23	0.24	0.02	-42.59	-60.79	-0.76	44.33	62.48	0.79	0.27	0.01
SO4	FAL	11	0.37	0.39	0.38	5.69	43.25	0.02	0.16	0.04	29.31	8.65	0.06	56.86	43.09	0.43	0.2	0.15
SO4	ALL	41	0.43	0.36	0.05	-16.12	44.68	-0.07	0.19	0.05	8.48	-13.39	-0.19	55.84	51.32	0.53	0.24	0

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: COW137</i>																		
NH4	WIN	10	0.47	0.45	0.33	-3.79	33.82	-0.02	0.16	0.04	-1.82	-10.48	-0.04	35.77	36.47	0.35	0.19	0.11
NH4	SPR	14	0.76	0.55	0	-27.75	41.81	-0.21	0.32	0.11	-19.61	-34.19	-0.38	39.81	49.83	0.58	0.4	0
NH4	SUM	13	1.09	0.69	0.19	-36.53	39.14	-0.4	0.43	0.12	-33	-46.16	-0.58	36.56	49.52	0.62	0.53	0.04
NH4	FAL	13	0.5	0.52	0.41	4.31	39.27	0.02	0.19	0.05	11.07	-3.04	0.04	45.3	40.16	0.39	0.23	0.17
NH4	ALL	50	0.72	0.56	0.36	-22.34	39.26	-0.16	0.28	0.11	-11.56	-24.46	-0.29	39.59	44.56	0.51	0.37	0.13
NO3	WIN	10	0.21	0.47	0.15	123.16	152.13	0.26	0.32	0.13	237.25	48.62	1.23	264.76	91.03	1.52	0.45	0.02
NO3	SPR	14	0.26	0.2	0.4	-23.59	72.66	-0.06	0.19	0.05	36.22	-31.1	-0.31	116.45	93.5	0.95	0.22	0.16
NO3	SUM	13	0.07	0.05	0.54	-35.05	51.39	-0.02	0.04	0	-33.93	-56.41	-0.54	54.23	72.04	0.79	0.04	0.29
NO3	FAL	13	0.24	0.33	0.76	33.97	67.42	0.08	0.16	0.04	23.81	-11.49	0.34	78.64	71.99	0.67	0.22	0.57
NO3	ALL	50	0.2	0.25	0.46	25.82	86.24	0.05	0.17	0.06	54.96	-16.64	0.26	120.11	81.84	0.86	0.26	0.22
SO4	WIN	10	1.28	1.43	0.05	11.2	44.9	0.14	0.58	0.77	24.21	6.73	0.11	47.24	34.49	0.45	0.89	0
SO4	SPR	14	2.31	1.76	0.05	-23.91	45.75	-0.55	1.06	1.12	-14.96	-28.86	-0.31	45.65	51.28	0.6	1.19	0
SO4	SUM	13	3.33	2.34	0.53	-29.61	32.68	-0.99	1.09	0.72	-28.05	-37.62	-0.42	32.8	41.86	0.46	1.3	0.28
SO4	FAL	13	1.43	1.51	0.31	5.73	47.88	0.08	0.69	0.66	10.83	-6.22	0.06	52.72	47.72	0.48	0.82	0.1
SO4	ALL	50	2.14	1.78	0.44	-16.86	40.74	-0.36	0.87	1.04	-3.82	-18.13	-0.2	44.47	44.55	0.49	1.08	0.2
<i>CASTNET Monitoring Station: CTH110</i>																		
NH4	WIN	11	0.91	0.72	0.8	-20.37	24.13	-0.18	0.22	0.05	-22.49	-29.57	-0.26	25.15	32.15	0.3	0.29	0.64
NH4	SPR	14	0.78	0.82	0.33	5.07	33.95	0.04	0.26	0.15	8.68	-0.21	0.05	33.17	30	0.34	0.39	0.11
NH4	SUM	12	1.07	0.82	0.05	-23.88	54.22	-0.26	0.58	0.41	-17.56	-42.73	-0.31	54.6	69.83	0.71	0.69	0
NH4	FAL	13	0.64	0.81	0.31	27.1	60.53	0.17	0.39	0.21	38.03	12.51	0.27	67.78	51.02	0.61	0.49	0.09
NH4	ALL	50	0.84	0.8	0.12	-5.46	43.1	-0.05	0.36	0.24	3.16	-13.57	-0.06	45.55	45.5	0.46	0.49	0.02
NO3	WIN	11	1.29	1.48	0.47	14.85	46.42	0.19	0.6	0.58	30.66	4.28	0.15	61.97	50.23	0.46	0.78	0.22
NO3	SPR	14	0.66	0.96	0.19	47.18	100.95	0.31	0.66	0.71	158.32	26.49	0.47	193.46	74.01	1.01	0.9	0.04
NO3	SUM	12	0.2	0.23	0.4	14.07	72.53	0.03	0.15	0.03	31.4	-19.81	0.14	96.89	81.83	0.73	0.19	0.16
NO3	FAL	13	0.58	0.95	0.42	62.77	79.84	0.37	0.47	0.46	95.66	12.27	0.63	129.54	62.94	0.8	0.77	0.18
NO3	ALL	50	0.67	0.9	0.51	34.55	70.9	0.23	0.47	0.47	83.48	6.79	0.35	124.74	67.78	0.71	0.72	0.26
SO4	WIN	11	1.83	0.99	0.52	-46.1	46.1	-0.85	0.85	0.28	-44.84	-61.89	-0.86	44.84	61.89	0.86	1	0.27
SO4	SPR	14	1.93	1.59	0.45	-17.28	42.23	-0.33	0.81	1.1	-16.72	-27.38	-0.21	36.95	42.22	0.51	1.1	0.21
SO4	SUM	12	2.92	2.29	0.02	-21.62	55.68	-0.63	1.62	3.24	-14.45	-39	-0.28	56.05	68.87	0.71	1.91	0
SO4	FAL	13	1.51	1.65	0.03	9.74	50.83	0.15	0.77	1.05	16.74	-1.62	0.1	53.14	45.72	0.51	1.03	0
SO4	ALL	50	2.03	1.64	0.29	-19.28	49.28	-0.39	1	1.56	-13.66	-31.06	-0.24	47.48	53.85	0.61	1.31	0.08

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: CVL151</i>																		
NH4	WIN	10	0.77	0.68	0.74	-12.18	25.05	-0.09	0.19	0.04	-13.07	-18.79	-0.14	25.91	29.96	0.29	0.23	0.54
NH4	SPR	14	0.91	0.65	0.01	-28.54	41.55	-0.26	0.38	0.17	-21.03	-36.63	-0.4	41.18	52.32	0.58	0.49	0
NH4	SUM	12	0.79	0.49	0.71	-38.46	44.75	-0.31	0.35	0.08	-45.04	-73.92	-0.62	50.11	78.4	0.73	0.41	0.51
NH4	FAL	13	0.6	0.56	0.48	-7.66	40.9	-0.05	0.25	0.07	-7.69	-23.17	-0.08	44.55	51.13	0.44	0.27	0.23
NH4	ALL	49	0.77	0.59	0.39	-23.37	38.85	-0.18	0.3	0.11	-21.75	-38.55	-0.3	41.14	53.83	0.51	0.38	0.15
NO3	WIN	10	0.66	1.04	0.59	57.35	81.39	0.38	0.54	0.3	68.31	31.81	0.57	89.89	59.26	0.81	0.67	0.35
NO3	SPR	14	0.68	0.28	0.32	-58.11	61.87	-0.39	0.42	0.09	-56.38	-95.44	-1.39	61.16	99.84	1.48	0.5	0.1
NO3	SUM	12	0.24	0.04	0.06	-83.42	83.42	-0.2	0.2	0.05	-65.64	-111.83	-5.03	65.64	111.83	5.03	0.31	0
NO3	FAL	13	0.45	0.41	0.43	-10.1	64.24	-0.05	0.29	0.12	-12.67	-44.92	-0.11	67.66	80.07	0.71	0.35	0.18
NO3	ALL	49	0.51	0.41	0.49	-19.1	70.14	-0.1	0.36	0.21	-21.6	-60.08	-0.24	69.84	89.25	0.87	0.47	0.24
SO4	WIN	10	1.99	1.33	0.16	-33.37	37.3	-0.67	0.74	0.42	-31.9	-44.72	-0.5	35.69	48.18	0.56	0.93	0.02
SO4	SPR	14	2.96	1.95	0.12	-34.18	41.59	-1.01	1.23	1.34	-31.7	-47.56	-0.52	39.97	55.16	0.63	1.54	0.02
SO4	SUM	12	2.68	1.58	0.6	-41.29	52.15	-1.11	1.4	1.21	-46.69	-77.47	-0.7	55.67	84.54	0.89	1.56	0.36
SO4	FAL	13	1.76	1.44	0.5	-18.13	37.63	-0.32	0.66	0.45	-17.03	-28.34	-0.22	39.92	45.54	0.46	0.74	0.25
SO4	ALL	49	2.38	1.6	0.41	-32.86	43	-0.78	1.02	0.99	-31.52	-49.21	-0.49	42.93	58.38	0.64	1.26	0.17
<i>CASTNET Monitoring Station: DCP114</i>																		
NH4	WIN	11	1.84	1.34	0.21	-27.14	53.89	-0.5	0.99	1.17	-24.08	-45.22	-0.37	54.06	61.65	0.74	1.19	0.04
NH4	SPR	14	1.19	1.55	0.3	30.04	50.94	0.36	0.61	0.51	39.16	17.84	0.3	59.33	42.47	0.51	0.8	0.09
NH4	SUM	13	1.79	0.99	0.01	-44.82	48.78	-0.8	0.87	0.44	-38.61	-57.25	-0.81	44.76	62.98	0.88	1.04	0
NH4	FAL	13	0.93	1.1	0.36	17.72	67.6	0.17	0.63	0.47	30.22	4.31	0.18	69.71	64.26	0.68	0.7	0.13
NH4	ALL	51	1.42	1.24	0.04	-12.12	53.87	-0.17	0.76	0.85	3.42	-18.35	-0.14	57.13	57.39	0.61	0.94	0
NO3	WIN	11	3.42	3.12	0.03	-8.53	63.5	-0.29	2.17	11.96	4.89	-29.55	-0.09	66.45	56.32	0.69	3.47	0
NO3	SPR	14	1.1	2.6	0.64	136.89	140.31	1.5	1.54	1.26	218.89	81.69	1.37	224.23	88	1.4	1.88	0.41
NO3	SUM	13	0.42	0.61	0.32	44.34	83.6	0.19	0.35	0.18	62.18	25.22	0.44	90.61	64.16	0.84	0.46	0.1
NO3	FAL	13	1.05	1.82	0.07	73.09	134.81	0.77	1.42	2.58	130.69	27.07	0.73	169.83	90.73	1.35	1.78	0
NO3	ALL	51	1.41	2.01	0.36	41.94	94.92	0.59	1.34	4.07	110.31	29.38	0.42	142.27	75.79	0.95	2.1	0.13
SO4	WIN	11	2.81	1.26	0.57	-55.04	55.04	-1.55	1.55	0.83	-53.53	-77.02	-1.22	53.53	77.02	1.22	1.79	0.32
SO4	SPR	14	2.74	2.23	0.12	-18.48	44.46	-0.51	1.22	1.65	-13.3	-29.71	-0.23	47.82	52.38	0.55	1.38	0.02
SO4	SUM	13	4.92	2.38	0.03	-51.54	53.78	-2.53	2.64	3.55	-45.44	-68.66	-1.06	48.39	71.48	1.11	3.16	0
SO4	FAL	13	2.14	1.76	0.13	-17.94	48.56	-0.38	1.04	1.47	-14.22	-30.55	-0.22	46.7	55.56	0.59	1.27	0.02
SO4	ALL	51	3.16	1.94	0.24	-38.53	50.9	-1.22	1.61	2.69	-30.4	-50.06	-0.63	48.91	63.37	0.83	2.04	0.06

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: EGB181</i>																		
NH4	WIN	11	1.46	1.24	0.25	-14.62	54.84	-0.21	0.8	0.88	-7.2	-28.17	-0.17	56.11	61.31	0.64	0.96	0.06
NH4	SPR	13	0.7	0.88	0	25.5	81.71	0.18	0.57	1	47.92	-2.19	0.25	90.2	57.85	0.82	1.02	0
NH4	SUM	13	0.71	0.64	0.03	-10.91	83.35	-0.08	0.59	0.49	-2.27	-47.41	-0.12	87.5	91.77	0.94	0.7	0
NH4	FAL	13	0.82	1.5	0.24	83.36	149.15	0.68	1.22	2.14	94.3	1.47	0.83	158.25	105.08	1.49	1.61	0.06
NH4	ALL	50	0.9	1.06	0.19	17.36	88.37	0.16	0.8	1.25	34.8	-18.71	0.17	99.69	79.71	0.88	1.13	0.03
NO3	WIN	11	3.43	2.97	0.23	-13.47	61.33	-0.46	2.1	6.14	-4.49	-34.99	-0.16	66.97	74.35	0.71	2.52	0.05
NO3	SPR	13	1.01	1.47	0.03	44.6	125.72	0.45	1.28	4.97	146.42	-28.71	0.45	226.48	99.44	1.26	2.28	0
NO3	SUM	13	0.36	0.53	0.09	46.12	142.89	0.17	0.51	0.6	57.69	-42.97	0.46	153.79	105.73	1.43	0.79	0.01
NO3	FAL	13	1.47	3.24	0.42	121.11	185.88	1.78	2.73	11.89	160.31	4.36	1.21	226.77	123.01	1.86	3.88	0.18
NO3	ALL	50	1.49	2.01	0.37	34.89	109.62	0.52	1.64	6.55	93.76	-25.2	0.35	172.56	101.69	1.1	2.61	0.14
SO4	WIN	11	1.8	1.09	0.13	-39.55	51.39	-0.71	0.93	0.77	-32.72	-50.84	-0.65	46.52	60.84	0.85	1.13	0.02
SO4	SPR	13	1.6	1.35	0.11	-15.79	45.73	-0.25	0.73	1.22	-10.78	-26.72	-0.19	40.77	43.37	0.54	1.14	0.01
SO4	SUM	13	1.97	1.41	0.12	-28.29	64.97	-0.56	1.28	1.79	-23.66	-55.9	-0.39	67.22	84.45	0.91	1.45	0.01
SO4	FAL	13	1.54	1.64	0.12	6.52	76.75	0.1	1.18	1.94	12.53	-22.64	0.07	77.13	79.93	0.77	1.4	0.01
SO4	ALL	50	1.72	1.38	0.09	-19.79	59.93	-0.34	1.03	1.55	-12.89	-38.55	-0.25	58.36	67.4	0.75	1.29	0.01
<i>CASTNET Monitoring Station: ESP127</i>																		
NH4	WIN	10	0.92	0.83	0.24	-9.53	24.37	-0.09	0.22	0.1	-7.14	-14.15	-0.11	22.87	27.87	0.27	0.32	0.06
NH4	SPR	13	1.03	0.74	0.32	-28.72	38.93	-0.3	0.4	0.14	-22.96	-34.09	-0.4	37.47	45.42	0.55	0.48	0.1
NH4	SUM	13	1.13	0.87	0.48	-23.52	34.98	-0.27	0.4	0.13	-20.29	-31.96	-0.31	38.95	44.7	0.46	0.45	0.23
NH4	FAL	13	0.53	0.63	0.11	18.97	72.99	0.1	0.38	0.17	33.57	-2.01	0.19	80.57	73.79	0.73	0.43	0.01
NH4	ALL	49	0.9	0.76	0.37	-15.62	39.84	-0.14	0.36	0.16	-4.02	-20.94	-0.19	46.32	49.18	0.47	0.43	0.14
NO3	WIN	10	1	1.24	0.3	23.94	64.47	0.24	0.64	0.49	66.94	24.14	0.24	94.99	66.19	0.64	0.74	0.09
NO3	SPR	13	0.36	0.53	0.23	44.88	97.75	0.16	0.35	0.19	101.1	30.6	0.45	134.76	83.2	0.98	0.47	0.05
NO3	SUM	13	0.1	0.1	0.54	-0.26	82.61	0	0.08	0.01	34.22	-15.31	0	98.66	77.52	0.83	0.1	0.29
NO3	FAL	13	0.31	0.54	0.63	75.38	104.56	0.23	0.32	0.12	85.85	24.54	0.75	119.36	68.08	1.05	0.42	0.39
NO3	ALL	49	0.41	0.56	0.63	37.54	81.51	0.15	0.33	0.2	72.34	15.49	0.38	112.98	74.21	0.82	0.47	0.4
SO4	WIN	10	2.14	1.55	0.18	-27.34	30.54	-0.58	0.65	0.43	-24.87	-33.75	-0.38	28.12	36.85	0.42	0.88	0.03
SO4	SPR	13	3.24	1.92	0.44	-40.75	41.94	-1.32	1.36	0.87	-35.69	-48.98	-0.69	37.87	51.08	0.71	1.61	0.19
SO4	SUM	13	3.49	2.96	0.62	-15.34	38.2	-0.54	1.33	2.08	-16.89	-27.56	-0.18	39.31	44.18	0.45	1.54	0.39
SO4	FAL	13	1.72	1.67	0.15	-3.04	59.2	-0.05	1.02	1.72	0.08	-26.86	-0.03	59.34	66.52	0.61	1.31	0.02
SO4	ALL	49	2.68	2.05	0.5	-23.34	41.73	-0.63	1.12	1.54	-19	-34.32	-0.3	41.96	50.44	0.54	1.39	0.25

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: EVE419</i>																		
NH4	WIN	11	0.31	0.24	0.11	-21.29	81.37	-0.07	0.25	0.08	-13.21	-73.01	-0.27	91.18	115.42	1.03	0.3	0.01
NH4	SPR	14	0.39	0.24	0.01	-37.14	57.47	-0.14	0.22	0.05	-30.8	-67.01	-0.59	60.98	88.53	0.91	0.26	0
NH4	SUM	13	0.23	0.03	0.06	-87.95	87.95	-0.2	0.2	0	-87.93	-162.07	-7.3	87.93	162.07	7.3	0.22	0
NH4	FAL	12	0.27	0.09	0.46	-64.71	64.71	-0.17	0.17	0.01	-67.49	-114.56	-1.83	67.49	114.56	1.83	0.2	0.21
NH4	ALL	50	0.3	0.15	0.29	-49.56	70.56	-0.15	0.21	0.04	-50.59	-104.46	-0.98	76.19	119.81	1.4	0.25	0.09
NO3	WIN	11	1.33	0.62	0.07	-53.08	58.32	-0.71	0.77	0.47	-48.55	-90.42	-1.13	58.52	98.49	1.24	0.98	0
NO3	SPR	14	1.37	0.29	0.05	-78.68	78.68	-1.08	1.08	0.26	-78.13	-137.73	-3.69	78.13	137.73	3.69	1.19	0
NO3	SUM	13	0.71	0.31	0.2	-55.88	74.97	-0.4	0.53	0.15	-56.23	-107.64	-1.27	76.16	122.51	1.7	0.56	0.04
NO3	FAL	12	0.89	0.52	0.44	-41.28	62.37	-0.37	0.56	0.29	-39.51	-89.13	-0.7	68.48	111.31	1.06	0.66	0.19
NO3	ALL	50	1.07	0.43	0.17	-60.38	69.26	-0.65	0.74	0.37	-56.66	-107.83	-1.52	70.99	118.8	1.75	0.89	0.03
SO4	WIN	11	2.12	2.01	0.32	-5.02	39.44	-0.11	0.84	1.23	-4.03	-15.72	-0.05	38.46	40.92	0.42	1.12	0.1
SO4	SPR	14	2.8	1.69	0.12	-39.51	42.83	-1.11	1.2	0.67	-38.1	-54.31	-0.65	42.37	58.08	0.71	1.37	0.01
SO4	SUM	13	1.65	0.43	0.81	-73.7	73.7	-1.22	1.22	0.06	-75.43	-123.99	-2.8	75.43	123.99	2.8	1.24	0.65
SO4	FAL	12	1.71	0.72	0.25	-57.59	57.59	-0.98	0.98	0.14	-57.04	-84.21	-1.36	57.04	84.21	1.36	1.05	0.06
SO4	ALL	50	2.09	1.2	0.52	-42.39	51.31	-0.89	1.07	0.69	-44.86	-71.11	-0.74	53.63	77.71	0.89	1.21	0.27
<i>CASTNET Monitoring Station: GAS153</i>																		
NH4	WIN	10	0.78	0.78	0.39	1.26	33.19	0.01	0.26	0.14	0.92	-9.22	0.01	33.37	33.87	0.33	0.37	0.15
NH4	SPR	14	0.98	0.66	0.1	-32.31	40.02	-0.32	0.39	0.19	-26.82	-42.99	-0.48	36.79	51.41	0.59	0.54	0.01
NH4	SUM	13	1.2	0.74	0.36	-38.41	43.6	-0.46	0.53	0.14	-37.91	-55.83	-0.62	45.09	61.64	0.71	0.6	0.13
NH4	FAL	13	0.61	0.55	0.27	-9.16	47	-0.06	0.29	0.12	-2.41	-17.36	-0.1	45.73	48.73	0.52	0.36	0.07
NH4	ALL	50	0.9	0.68	0.24	-24.59	41.32	-0.22	0.37	0.19	-17.81	-32.91	-0.33	40.59	49.87	0.55	0.49	0.06
NO3	WIN	10	0.67	1.06	0.38	59.2	106.8	0.39	0.71	0.91	170.72	24.42	0.59	205.75	81.8	1.07	1.03	0.14
NO3	SPR	14	0.5	0.35	0.44	-30.26	50.67	-0.15	0.25	0.08	-2.24	-38.79	-0.43	72	67.89	0.73	0.32	0.2
NO3	SUM	13	0.18	0.05	0.01	-74.14	78.49	-0.13	0.14	0.02	-50.92	-89.26	-2.87	63.17	98.39	3.03	0.2	0
NO3	FAL	13	0.49	0.43	0.6	-12.78	47.79	-0.06	0.23	0.08	-8.31	-23.3	-0.15	45.99	53.2	0.55	0.29	0.35
NO3	ALL	50	0.45	0.43	0.33	-3.31	69.45	-0.01	0.31	0.27	18.12	-35.24	-0.03	89.69	74.78	0.72	0.52	0.11
SO4	WIN	10	2.15	1.69	0.4	-21.77	35.68	-0.47	0.77	0.66	-20.63	-28.55	-0.28	33.4	39.36	0.46	0.94	0.16
SO4	SPR	14	3.16	1.96	0	-37.79	40.28	-1.19	1.27	1.2	-34.14	-47.86	-0.61	37.31	50.91	0.65	1.62	0
SO4	SUM	13	3.9	2.33	0.55	-40.12	41.58	-1.56	1.62	0.84	-41.39	-58.36	-0.67	43.22	60.09	0.69	1.81	0.3
SO4	FAL	13	1.84	1.46	0.3	-20.23	34.54	-0.37	0.63	0.58	-17.03	-27.28	-0.25	32.08	39.98	0.43	0.85	0.09
SO4	ALL	50	2.8	1.87	0.47	-33.18	39.07	-0.93	1.1	1.09	-28.87	-41.38	-0.5	36.71	48.15	0.58	1.4	0.22

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: GRS420</i>																		
NH4	WIN	11	0.64	0.53	0.25	-17.43	28.5	-0.11	0.18	0.04	-13.07	-21.3	-0.21	28.26	34.12	0.35	0.24	0.06
NH4	SPR	13	0.86	0.68	0.25	-20.89	52.93	-0.18	0.45	0.27	-7.63	-27.44	-0.26	50.64	59.16	0.67	0.55	0.06
NH4	SUM	7	1.04	0.84	0.59	-19.65	35.32	-0.2	0.37	0.12	-18.1	-27.76	-0.24	36.88	43.78	0.44	0.4	0.35
NH4	FAL	5	0.31	0.36	0.5	13.33	38.92	0.04	0.12	0.02	19.52	5.99	0.13	47.12	41.86	0.39	0.14	0.25
NH4	ALL	36	0.75	0.62	0.39	-17.67	41.02	-0.13	0.31	0.14	-7.56	-20.98	-0.21	40.63	46.11	0.5	0.4	0.15
NO3	WIN	11	0.54	0.45	0.6	-15.34	46.84	-0.08	0.25	0.11	6.09	-16.6	-0.18	60.02	59.58	0.55	0.34	0.36
NO3	SPR	13	0.33	0.31	0.11	-4.52	88.52	-0.01	0.29	0.13	77.48	-37.93	-0.05	167.88	102.3	0.93	0.36	0.01
NO3	SUM	7	0.09	0.04	0.53	-56.1	58.93	-0.05	0.05	0	-39.22	-61.91	-1.28	48.78	70.09	1.34	0.07	0.28
NO3	FAL	5	0.34	0.12	0.54	-64.23	64.23	-0.22	0.22	0.01	-61.93	-97.98	-1.8	61.93	97.98	1.8	0.24	0.3
NO3	ALL	36	0.35	0.28	0.52	-20.38	64.06	-0.07	0.22	0.09	13.61	-44.42	-0.26	97.05	82.38	0.8	0.3	0.27
SO4	WIN	11	1.77	1.43	0.03	-19.35	39.14	-0.34	0.69	0.62	-14.24	-23.89	-0.24	36.17	40.83	0.49	0.86	0
SO4	SPR	13	2.84	1.87	0.04	-34.25	50.08	-0.97	1.42	1.63	-26.3	-43.33	-0.52	48.15	61.74	0.76	1.61	0
SO4	SUM	7	3.56	2.67	0.72	-24.92	34.44	-0.89	1.23	0.98	-26.75	-38.55	-0.33	36.99	47.81	0.46	1.33	0.51
SO4	FAL	5	1.37	1.25	0.03	-8.24	49.74	-0.11	0.68	0.53	1.79	-18.55	-0.09	58.03	57.52	0.54	0.73	0
SO4	ALL	36	2.45	1.81	0.5	-26.3	43.21	-0.64	1.06	1.16	-18.8	-33.02	-0.36	43.69	52.05	0.59	1.26	0.25
<i>CASTNET Monitoring Station: GTH161</i>																		
NH4	WIN	10	0.09	0.13	0.41	42.69	50.63	0.04	0.04	0	52.11	36.93	0.43	57.31	42.92	0.51	0.05	0.17
NH4	SPR	12	0.17	0.07	0.11	-58	58	-0.1	0.1	0.01	-52.81	-78.08	-1.38	52.81	78.08	1.38	0.12	0.01
NH4	SUM	13	0.22	0.08	0.44	-62.15	62.15	-0.13	0.13	0	-62.49	-96.51	-1.64	62.49	96.51	1.64	0.14	0.19
NH4	FAL	12	0.17	0.13	0.26	-24.26	48.95	-0.04	0.08	0.01	-22.32	-38.27	-0.32	46.89	54.53	0.65	0.1	0.07
NH4	ALL	47	0.16	0.1	0	-39.18	56.28	-0.06	0.09	0.01	-25.38	-48.54	-0.64	54.93	69.68	0.93	0.11	0
NO3	WIN	10	0.06	0.06	0.28	-5.1	125.7	0	0.08	0.01	93.78	-61.88	-0.05	206.96	134.75	1.32	0.1	0.08
NO3	SPR	12	0.17	0.03	0.5	-83.07	83.07	-0.15	0.15	0	-83.9	-147.51	-4.91	83.9	147.51	4.91	0.16	0.25
NO3	SUM	13	0.13	0.01	0.43	-95.09	95.09	-0.12	0.12	0	-94.95	-181.2	-19.35	94.95	181.2	19.35	0.13	0.18
NO3	FAL	12	0.09	0.07	0.08	-16.41	123.98	-0.01	0.11	0.03	-10.05	-119.66	-0.2	137.92	150.06	1.48	0.16	0.01
NO3	ALL	47	0.12	0.04	0.09	-65	99.49	-0.07	0.11	0.01	-30.3	-131.5	-1.86	126.93	154.76	2.84	0.14	0.01
SO4	WIN	10	0.22	0.4	0.16	78.76	84.98	0.17	0.19	0.02	106.92	56.28	0.79	111.07	60.91	0.85	0.23	0.02
SO4	SPR	12	0.47	0.24	0.32	-48.69	51.33	-0.23	0.24	0.04	-42.4	-62.48	-0.95	46.32	65.99	1	0.3	0.1
SO4	SUM	13	0.54	0.25	0.52	-53.64	53.64	-0.29	0.29	0.01	-54.22	-80.66	-1.16	54.22	80.66	1.16	0.31	0.28
SO4	FAL	12	0.43	0.34	0.39	-19.44	36.21	-0.08	0.15	0.03	-13.88	-22.31	-0.24	34.12	38.87	0.45	0.19	0.15
SO4	ALL	47	0.43	0.3	0.03	-28.82	52	-0.12	0.22	0.06	-6.62	-31.98	-0.4	59.16	62.04	0.73	0.27	0

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: HOW132</i>																		
NH4	WIN	11	0.38	0.39	0.15	3.22	54.63	0.01	0.2	0.08	11.25	-7.83	0.03	55.92	48.56	0.55	0.28	0.02
NH4	SPR	11	0.28	0.37	0.5	35.64	54.23	0.1	0.15	0.02	72.52	41.56	0.36	82.29	52.92	0.54	0.18	0.25
NH4	SUM	9	0.41	0.28	0.34	-31.83	40.38	-0.13	0.17	0.04	-29.35	-43.25	-0.47	37.3	50.55	0.59	0.23	0.12
NH4	FAL	13	0.36	0.37	0.45	4.18	49.47	0.01	0.18	0.04	4.55	-15.85	0.04	52.41	59.03	0.49	0.2	0.21
NH4	ALL	44	0.35	0.36	0.26	1.44	49.59	0.01	0.17	0.05	16.28	-5.1	0.01	57.66	53.15	0.5	0.22	0.07
NO3	WIN	11	0.31	0.66	0.04	114.12	149.72	0.35	0.46	0.33	142.25	35.69	1.14	175.26	82.53	1.5	0.68	0
NO3	SPR	11	0.19	0.26	0.41	35.92	105.84	0.07	0.2	0.07	44.15	-17.62	0.36	105.77	95.39	1.06	0.27	0.17
NO3	SUM	9	0.07	0.01	0.11	-82.92	82.92	-0.06	0.06	0	-81.87	-145.78	-4.85	81.87	145.78	4.85	0.07	0.01
NO3	FAL	13	0.25	0.26	0.58	3.08	82.61	0.01	0.21	0.1	-6.18	-66.76	0.03	90.67	109.49	0.83	0.31	0.33
NO3	ALL	44	0.21	0.31	0.47	44.12	111.87	0.09	0.24	0.15	28.03	-45.03	0.44	113.79	106.65	1.12	0.4	0.22
SO4	WIN	11	1.05	0.7	0.08	-33.39	50.39	-0.35	0.53	0.27	-24.03	-38.36	-0.5	44.99	54.58	0.76	0.63	0.01
SO4	SPR	11	0.98	1.24	0.54	27	46.75	0.26	0.46	0.19	45.43	28.94	0.27	58.68	43.67	0.47	0.51	0.29
SO4	SUM	9	1.13	1.04	0.18	-8.17	52.45	-0.09	0.59	0.68	-3.13	-21.46	-0.09	47.77	50.95	0.57	0.83	0.03
SO4	FAL	13	0.97	1.13	0.52	15.71	51.58	0.15	0.5	0.65	13.18	-7.44	0.16	51.42	48.59	0.52	0.82	0.27
SO4	ALL	44	1.03	1.03	0.29	0.48	50.32	0	0.52	0.51	8.6	-8.94	0	50.88	49.34	0.5	0.71	0.08
<i>CASTNET Monitoring Station: HOW191</i>																		
NH4	WIN	3	0.34	0.68	0.85	101.62	101.62	0.34	0.34	0.08	94.85	56.16	1.02	94.85	56.16	1.02	0.44	0.72
NH4	FAL	7	0.37	0.47	0.2	25.43	50.79	0.1	0.19	0.04	36.68	18.81	0.25	56.17	48.4	0.51	0.22	0.04
NH4	ALL	10	0.36	0.53	0.17	46.69	64.97	0.17	0.24	0.06	54.13	30.01	0.47	67.78	50.72	0.65	0.3	0.03
NO3	WIN	3	0.27	1.31	0.46	390.49	390.49	1.04	1.04	0.35	384.73	122.71	3.9	384.73	122.71	3.9	1.2	0.21
NO3	FAL	7	0.35	0.45	0.43	29.24	78.28	0.1	0.27	0.15	35.64	-29.08	0.29	105.4	84.81	0.78	0.41	0.19
NO3	ALL	10	0.32	0.71	0.16	118.41	155.35	0.38	0.5	0.4	140.37	16.46	1.18	189.2	96.18	1.55	0.74	0.03
SO4	WIN	3	0.86	1.09	0.77	26.66	42.65	0.23	0.37	0.09	24.22	16.06	0.27	42.38	37.08	0.43	0.38	0.6
SO4	FAL	7	1.01	1.08	0.26	7.52	38.46	0.08	0.39	0.18	20.74	8.45	0.08	45.09	40.19	0.38	0.43	0.07
SO4	ALL	10	0.96	1.08	0.3	12.63	39.58	0.12	0.38	0.16	21.78	10.73	0.13	44.28	39.25	0.4	0.42	0.09

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: HOX148</i>																		
NH4	WIN	11	0.9	0.61	0.09	-32.13	72.35	-0.29	0.65	0.41	-27.21	-64.15	-0.47	69.95	96.56	1.07	0.7	0.01
NH4	SPR	14	0.67	0.52	0.14	-21.64	43.24	-0.14	0.29	0.13	-16.47	-32.79	-0.28	37.61	50.08	0.55	0.39	0.02
NH4	SUM	13	0.71	0.66	0.18	-6.94	70.37	-0.05	0.5	0.31	5.71	-26.11	-0.07	76.77	74.08	0.76	0.56	0.03
NH4	FAL	13	0.6	0.69	0.05	14.96	81.56	0.09	0.49	0.35	23.24	-12.11	0.15	82.87	75.53	0.82	0.6	0
NH4	ALL	51	0.71	0.62	0.03	-12.89	66.36	-0.09	0.47	0.31	-3.01	-32.58	-0.15	66.11	72.71	0.76	0.56	0
NO3	WIN	11	1.64	1.45	0.29	-11.65	118.91	-0.19	1.95	4.73	20.15	-60.04	-0.13	127.9	132.65	1.35	2.18	0.09
NO3	SPR	14	0.53	0.61	0.68	15.58	87.99	0.08	0.46	0.46	0.59	-59.09	0.16	93.67	104.73	0.88	0.68	0.46
NO3	SUM	13	0.14	0.17	0.3	22.18	101.39	0.03	0.14	0.05	12.81	-36.48	0.22	87.03	85.71	1.01	0.23	0.09
NO3	FAL	13	0.65	0.93	0.37	43.68	108.1	0.28	0.7	1.37	58.49	-22.74	0.44	131.63	100.79	1.08	1.21	0.14
NO3	ALL	51	0.7	0.76	0.31	8.76	109.09	0.06	0.76	1.54	22.68	-44.26	0.09	109.04	104.9	1.09	1.24	0.1
SO4	WIN	11	1.43	0.8	0.19	-44.01	53.29	-0.63	0.76	0.31	-42.56	-63.47	-0.79	52.12	71.03	0.95	0.84	0.04
SO4	SPR	14	1.62	1.07	0.25	-34.09	36.7	-0.55	0.59	0.44	-26.84	-39.32	-0.52	31.4	43.25	0.56	0.86	0.06
SO4	SUM	13	2.01	1.82	0.14	-9.52	70.53	-0.19	1.42	2.35	2.14	-28.36	-0.11	75.23	75.24	0.78	1.54	0.02
SO4	FAL	13	1.36	1.38	0.02	1.63	78.88	0.02	1.07	1.66	8.92	-20.94	0.02	73.01	73.69	0.79	1.29	0
SO4	ALL	51	1.61	1.28	0.06	-20.48	59.71	-0.33	0.96	1.28	-13.73	-37.05	-0.26	57.65	65.16	0.75	1.18	0
<i>CASTNET Monitoring Station: HWF187</i>																		
NH4	WIN	10	0.51	0.38	0.28	-25.81	54.78	-0.13	0.28	0.09	-22.76	-44.13	-0.35	55.89	65.09	0.74	0.32	0.08
NH4	SPR	12	0.43	0.37	0.3	-15.57	37.66	-0.07	0.16	0.04	-11.55	-20.71	-0.18	33.75	39.14	0.45	0.2	0.09
NH4	SUM	13	0.52	0.41	0.26	-21.35	69.94	-0.11	0.36	0.17	-20.62	-47.52	-0.27	65.2	76.94	0.89	0.43	0.07
NH4	FAL	13	0.43	0.48	0.24	11.44	48.82	0.05	0.21	0.09	21.04	-4.22	0.11	57.04	42.8	0.49	0.31	0.06
NH4	ALL	48	0.47	0.41	0.24	-12.96	53.88	-0.06	0.25	0.1	-7.52	-28.38	-0.15	53.19	55.78	0.62	0.33	0.06
NO3	WIN	10	0.36	0.59	0.2	64.63	128.31	0.23	0.46	0.59	129.65	-6.99	0.65	187.95	71.8	1.28	0.8	0.04
NO3	SPR	12	0.17	0.22	0.29	29.59	92.2	0.05	0.16	0.03	59.68	0.71	0.3	112.87	83.33	0.92	0.19	0.09
NO3	SUM	13	0.06	0.03	0.39	-58.38	75.57	-0.04	0.05	0	-59.98	-108.59	-1.4	78.28	120.07	1.82	0.05	0.15
NO3	FAL	13	0.19	0.42	0.54	120.57	184.56	0.23	0.35	0.4	77.24	-22.38	1.21	153.09	104.38	1.85	0.67	0.29
NO3	ALL	48	0.19	0.3	0.32	61.25	130.95	0.11	0.24	0.25	46.6	-36.75	0.61	130.04	96.58	1.31	0.52	0.1
SO4	WIN	10	1.31	0.69	0.48	-47.65	47.65	-0.63	0.63	0.23	-44.02	-61.16	-0.91	44.02	61.16	0.91	0.79	0.23
SO4	SPR	12	1.22	0.99	0.4	-18.78	36.58	-0.23	0.45	0.25	-16.04	-24.35	-0.23	33.43	38.6	0.45	0.55	0.16
SO4	SUM	13	1.51	1.36	0.2	-10.26	78.41	-0.16	1.18	2.5	-7.76	-39.28	-0.11	70.78	75.57	0.87	1.59	0.04
SO4	FAL	13	1.13	1.25	0.11	10.7	48.96	0.12	0.55	0.7	25.49	-2.87	0.11	61.18	41.76	0.49	0.85	0.01
SO4	ALL	48	1.29	1.1	0.21	-15.21	55.07	-0.2	0.71	1.04	-8.38	-30.25	-0.18	53.27	54.17	0.65	1.04	0.05

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: IRL141</i>																		
NH4	WIN	10	0.52	0.5	0.6	-3.5	61.32	-0.02	0.32	0.14	-17.2	-60.25	-0.04	67.26	97.75	0.64	0.37	0.36
NH4	SPR	14	0.68	0.25	0.2	-63.19	69.8	-0.43	0.47	0.07	-60.52	-110.07	-1.72	72.39	118.46	1.9	0.51	0.04
NH4	SUM	13	0.48	0.1	0.07	-79.62	79.62	-0.38	0.38	0.03	-78.42	-139.55	-3.91	78.42	139.55	3.91	0.42	0.01
NH4	FAL	12	0.36	0.13	0.3	-63.7	71.28	-0.23	0.26	0.03	-63.41	-117	-1.75	73.35	124.66	1.96	0.28	0.09
NH4	ALL	49	0.52	0.23	0.35	-55.07	70.74	-0.28	0.37	0.09	-57.14	-109.42	-1.23	73.18	121.35	1.57	0.41	0.12
NO3	WIN	10	1.87	0.78	0.04	-58.56	60.57	-1.1	1.13	0.42	-54.25	-84.62	-1.41	57.64	87.75	1.46	1.27	0
NO3	SPR	14	1.89	0.39	0.15	-79.34	79.34	-1.5	1.5	0.32	-77.8	-132.24	-3.84	77.8	132.24	3.84	1.6	0.02
NO3	SUM	13	1.26	0.37	0.17	-71.02	71.02	-0.89	0.89	0.19	-70.73	-121.54	-2.45	70.73	121.54	2.45	0.99	0.03
NO3	FAL	12	1.22	0.52	0.03	-57.9	69.62	-0.71	0.85	0.48	-55.52	-104.41	-1.38	66.48	113.32	1.65	0.99	0
NO3	ALL	49	1.56	0.49	0.1	-68.33	71.08	-1.06	1.11	0.44	-65.66	-112.87	-2.16	69.04	115.69	2.24	1.25	0.01
SO4	WIN	10	2.68	1.78	0.34	-33.61	44.14	-0.9	1.18	0.8	-33.4	-47.02	-0.51	43.44	55.05	0.66	1.27	0.11
SO4	SPR	14	3.23	1.57	0.48	-51.37	51.37	-1.66	1.66	0.48	-51.97	-76.89	-1.06	51.97	76.89	1.06	1.8	0.23
SO4	SUM	13	2.13	0.64	0.72	-69.77	69.77	-1.48	1.48	0.14	-70.38	-111.29	-2.31	70.38	111.29	2.31	1.53	0.51
SO4	FAL	12	2.18	0.85	0.43	-60.92	62.67	-1.33	1.37	0.37	-62.2	-99.25	-1.56	63.98	100.95	1.6	1.46	0.18
SO4	ALL	49	2.57	1.19	0.58	-53.61	56.22	-1.38	1.44	0.5	-55.57	-85.4	-1.16	58.06	87.45	1.21	1.55	0.34
<i>CASTNET Monitoring Station: KEF112</i>																		
NH4	WIN	11	0.89	0.64	0.71	-28.23	29.88	-0.25	0.27	0.05	-29.32	-40.33	-0.39	30.82	41.77	0.42	0.34	0.51
NH4	SPR	14	0.76	0.59	0.2	-22.63	41	-0.17	0.31	0.1	-18.17	-28.73	-0.29	38.78	45.66	0.53	0.37	0.04
NH4	SUM	13	1.16	0.66	0.18	-43.13	51.51	-0.5	0.6	0.22	-41.47	-62.49	-0.76	49.5	69.7	0.91	0.68	0.03
NH4	FAL	13	0.66	0.59	0.07	-10.05	54.75	-0.07	0.36	0.15	-6.01	-25.7	-0.11	55.56	62.48	0.61	0.39	0
NH4	ALL	51	0.86	0.62	0.25	-28.46	44.77	-0.25	0.39	0.16	-23.42	-39.06	-0.4	44.07	55.24	0.63	0.47	0.06
NO3	WIN	11	0.82	1.27	0.21	54.51	106.76	0.45	0.88	1.44	135.76	27.92	0.55	167.69	73.27	1.07	1.28	0.05
NO3	SPR	14	0.37	0.56	0.05	49.73	98.29	0.19	0.37	0.2	136.72	31.61	0.5	169.06	79.45	0.98	0.48	0
NO3	SUM	13	0.1	0.11	0.35	7.31	59.65	0.01	0.06	0.01	17.15	-8.12	0.07	61.71	55.71	0.6	0.08	0.12
NO3	FAL	13	0.49	0.45	0.46	-6.84	56.72	-0.03	0.28	0.14	15.39	-22.08	-0.07	76.47	72.03	0.61	0.37	0.21
NO3	ALL	51	0.43	0.57	0.33	32.83	87.46	0.14	0.38	0.44	75.11	7	0.33	117.8	70.17	0.87	0.67	0.11
SO4	WIN	11	2.24	1.06	0.55	-52.8	52.8	-1.18	1.18	0.51	-51.25	-72.57	-1.12	51.25	72.57	1.12	1.38	0.3
SO4	SPR	14	2.12	1.41	0.15	-33.33	52.62	-0.71	1.11	1.06	-28.11	-45.62	-0.5	50.08	62.88	0.79	1.25	0.02
SO4	SUM	13	3.73	2.23	0.18	-40.01	47.51	-1.49	1.77	2.67	-37.32	-57.21	-0.67	44.44	63.5	0.79	2.21	0.03
SO4	FAL	13	1.77	1.65	0.19	-7	48.44	-0.12	0.86	1.16	-5.43	-22.03	-0.08	47.92	50.86	0.52	1.08	0.04
SO4	ALL	51	2.47	1.61	0.33	-34.9	49.92	-0.86	1.23	1.65	-29.67	-48.37	-0.54	48.34	62.06	0.77	1.55	0.11

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: KNZ184</i>																		
NH4	WIN	9	1.37	0.92	0.13	-32.38	60.6	-0.44	0.83	0.74	-14.18	-41.31	-0.48	64	70.57	0.9	0.97	0.02
NH4	SPR	14	0.85	0.86	0.29	0.56	55.31	0	0.47	0.38	22.58	-8.08	0.01	68.06	58.11	0.55	0.61	0.08
NH4	SUM	12	0.57	0.46	0.27	-18.97	37.76	-0.11	0.22	0.08	-16.44	-32.76	-0.23	36.3	49.54	0.47	0.3	0.07
NH4	FAL	7	0.33	0.41	0.43	24.67	69.46	0.08	0.23	0.06	25.39	4.01	0.25	67.96	60.75	0.69	0.26	0.19
NH4	ALL	42	0.8	0.69	0.34	-13.91	54.63	-0.11	0.43	0.35	4.02	-20.24	-0.16	58.1	58.77	0.63	0.6	0.12
NO3	WIN	9	3.71	2.15	0.02	-41.97	58.25	-1.56	2.16	4.12	-28.06	-55.17	-0.72	57.35	76.26	1	2.56	0
NO3	SPR	14	1.91	1.5	0.46	-21.39	62.51	-0.41	1.19	2.28	-20.69	-61.36	-0.27	69.76	95.3	0.8	1.56	0.21
NO3	SUM	12	0.89	0.07	0.18	-91.89	91.89	-0.82	0.82	0.08	-90.69	-167.8	-11.33	90.69	167.8	11.33	0.87	0.03
NO3	FAL	7	0.69	0.3	0.49	-56.88	82.95	-0.39	0.58	0.22	-45.41	-104.03	-1.32	83.12	131.19	1.92	0.61	0.24
NO3	ALL	42	1.8	1.03	0.56	-42.73	66.1	-0.77	1.19	1.9	-46.39	-97.56	-0.75	75.31	117.92	1.15	1.58	0.31
SO4	WIN	9	1.63	0.86	0.41	-47.28	57.99	-0.77	0.94	0.55	-47.21	-70.93	-0.9	54.98	77.54	1.1	1.07	0.17
SO4	SPR	14	2.27	1.27	0.09	-43.93	46.61	-1	1.06	0.55	-39.55	-57.78	-0.78	43.52	61.45	0.83	1.24	0.01
SO4	SUM	12	2.31	1.26	0.47	-45.47	46.68	-1.05	1.08	0.48	-45.91	-69.96	-0.83	47.38	71.37	0.86	1.26	0.22
SO4	FAL	7	1.12	0.94	0.63	-16.07	36.52	-0.18	0.41	0.21	-19.1	-29.61	-0.19	37.76	43.68	0.44	0.49	0.39
SO4	ALL	42	1.95	1.12	0.41	-42.4	47.7	-0.83	0.93	0.57	-39.6	-59.38	-0.74	46.12	64.77	0.83	1.12	0.17
<i>CASTNET Monitoring Station: LRL117</i>																		
NH4	WIN	11	1.01	0.6	0.36	-40.74	44.51	-0.41	0.45	0.1	-37.28	-52.66	-0.69	42.22	57.28	0.75	0.52	0.13
NH4	SPR	13	0.91	0.61	0.2	-33.23	45.58	-0.3	0.41	0.16	-29.2	-48.26	-0.5	44.56	59.88	0.68	0.5	0.04
NH4	SUM	13	1.61	0.79	0.55	-50.77	52.46	-0.82	0.84	0.13	-50.21	-71.72	-1.03	52.52	73.87	1.07	0.89	0.31
NH4	FAL	13	0.75	0.67	0.19	-10.54	66.25	-0.08	0.49	0.35	-0.96	-30.24	-0.12	62.85	72.83	0.74	0.59	0.04
NH4	ALL	50	1.07	0.67	0.26	-37.53	51.79	-0.4	0.55	0.26	-29.1	-50.64	-0.6	50.87	66.31	0.83	0.65	0.07
NO3	WIN	11	0.9	0.9	0.34	0.99	90.21	0.01	0.81	0.96	122.32	3	0.01	183.25	90.84	0.9	0.98	0.11
NO3	SPR	13	0.41	0.58	0.68	42.4	69.52	0.17	0.28	0.15	64.15	7.63	0.42	102.36	65.97	0.7	0.42	0.46
NO3	SUM	13	0.09	0.13	0.13	52.15	93.04	0.05	0.08	0.01	81.98	18.67	0.52	118.46	71.12	0.93	0.11	0.02
NO3	FAL	13	0.36	0.61	0.22	69.07	162.66	0.25	0.59	0.72	212.95	-12.24	0.69	287.36	103.57	1.63	0.89	0.05
NO3	ALL	50	0.42	0.54	0.22	29.49	101.42	0.12	0.43	0.45	120.27	4.32	0.29	172.44	82.56	1.01	0.68	0.05
SO4	WIN	11	2.5	1.23	0.59	-50.95	50.95	-1.28	1.28	0.54	-48.57	-67.73	-1.04	48.57	67.73	1.04	1.47	0.35
SO4	SPR	13	2.56	1.45	0.23	-43.13	53.31	-1.1	1.36	1.04	-39.13	-62.14	-0.76	54.4	72.34	0.94	1.5	0.05
SO4	SUM	13	5.02	3.04	0.59	-39.53	41.68	-1.98	2.09	1.79	-40.07	-56.3	-0.65	42.32	58.46	0.69	2.39	0.35
SO4	FAL	13	2.08	1.7	0.04	-18.5	55.96	-0.39	1.17	2.3	-11.94	-35.91	-0.23	52.84	63.58	0.69	1.57	0
SO4	ALL	50	3.06	1.88	0.58	-38.64	48.4	-1.18	1.48	1.79	-34.38	-55.03	-0.63	49.57	65.44	0.79	1.79	0.34

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: MAC426</i>																		
NH4	WIN	11	1.71	1.07	0.21	-37.05	44.26	-0.63	0.76	0.53	-30	-43.43	-0.59	39.87	51.93	0.7	0.96	0.04
NH4	SPR	14	1.11	0.87	0.26	-22.05	40.68	-0.25	0.45	0.21	-18.95	-31.03	-0.28	40.45	47.6	0.52	0.52	0.07
NH4	SUM	13	1.38	0.94	0.69	-31.74	32.48	-0.44	0.45	0.12	-31.19	-41.75	-0.46	31.99	42.52	0.48	0.56	0.47
NH4	FAL	13	0.7	0.71	0.04	0.59	60.3	0	0.42	0.23	4.22	-16.32	0.01	58.85	61.94	0.6	0.48	0
NH4	ALL	51	1.2	0.89	0.41	-26.1	42.28	-0.31	0.51	0.31	-18.55	-32.69	-0.35	42.86	50.9	0.57	0.64	0.16
NO3	WIN	11	2.9	1.94	0.14	-32.99	53.26	-0.96	1.54	2.98	-11.96	-34.44	-0.49	53.66	60.55	0.79	1.97	0.02
NO3	SPR	14	0.63	0.91	0.35	44.94	86.13	0.28	0.54	0.81	48.57	5.14	0.45	84.68	55.24	0.86	0.94	0.12
NO3	SUM	13	0.26	0.13	0.19	-49.31	75.32	-0.13	0.19	0.04	-24.57	-70.22	-0.97	78.78	98.21	1.49	0.23	0.03
NO3	FAL	13	0.59	0.68	0.1	15.24	80.88	0.09	0.48	0.4	29.74	-12.72	0.15	86.26	68.27	0.81	0.64	0.01
NO3	ALL	51	1.01	0.88	0.56	-13.6	64.39	-0.14	0.65	1.18	12.07	-27.16	-0.16	76.89	70.66	0.75	1.1	0.31
SO4	WIN	11	2.61	1.57	0.39	-40.04	40.04	-1.05	1.05	0.57	-36.85	-49.68	-0.67	36.85	49.68	0.67	1.29	0.15
SO4	SPR	14	3.06	1.81	0.42	-40.93	42.09	-1.25	1.29	0.58	-40.06	-54.34	-0.69	41.43	55.65	0.71	1.47	0.17
SO4	SUM	13	4.07	2.62	0.74	-35.62	36	-1.45	1.47	0.9	-35.13	-46.78	-0.55	35.58	47.22	0.56	1.73	0.55
SO4	FAL	13	1.86	1.51	0.07	-18.5	53.84	-0.34	1	1.38	-16.02	-38.31	-0.23	52.83	64.88	0.66	1.22	0
SO4	ALL	51	2.92	1.89	0.59	-35.23	41.43	-1.03	1.21	1.04	-31.98	-47.32	-0.54	41.86	54.57	0.64	1.45	0.35
<i>CASTNET Monitoring Station: MCK131</i>																		
NH4	WIN	11	1.6	1.06	0.48	-33.68	39.44	-0.54	0.63	0.45	-26.24	-36.92	-0.51	34.16	44.25	0.59	0.86	0.23
NH4	SPR	14	1.06	0.88	0.26	-17.41	38.15	-0.19	0.41	0.2	-10.55	-23.12	-0.21	39.87	45.28	0.46	0.48	0.07
NH4	SUM	12	1.5	0.89	0.3	-40.53	45.37	-0.61	0.68	0.27	-38.57	-55.79	-0.68	43.2	59.85	0.76	0.8	0.09
NH4	FAL	13	0.68	0.69	0.23	1.54	57.43	0.01	0.39	0.22	1.92	-17.76	0.02	55.04	59.01	0.57	0.47	0.05
NH4	ALL	50	1.19	0.87	0.39	-26.43	43.6	-0.31	0.52	0.34	-17.48	-32.6	-0.36	43.36	52.12	0.59	0.66	0.15
NO3	WIN	11	2.59	1.93	0.42	-25.45	44.47	-0.66	1.15	1.88	-10.15	-24.56	-0.34	44.26	52.17	0.6	1.52	0.18
NO3	SPR	14	0.62	0.96	0.4	54.32	96.28	0.34	0.6	0.63	67.21	9.99	0.54	108.06	70.09	0.96	0.86	0.16
NO3	SUM	12	0.34	0.13	0.63	-62.58	79.36	-0.21	0.27	0.04	-47.11	-99.24	-1.67	79.45	119.11	2.12	0.29	0.4
NO3	FAL	13	0.58	0.62	0.07	7.1	91.37	0.04	0.53	0.51	19.38	-33.79	0.07	98.87	85.72	0.91	0.72	0
NO3	ALL	50	0.97	0.88	0.62	-9.2	63.86	-0.09	0.62	0.86	10.32	-35.21	-0.1	84.77	81.98	0.7	0.93	0.38
SO4	WIN	11	2.63	1.52	0.42	-42.17	43.78	-1.11	1.15	0.8	-38.21	-52.39	-0.73	39.92	54.02	0.76	1.42	0.17
SO4	SPR	14	2.88	1.76	0.33	-38.86	39.98	-1.12	1.15	0.64	-35.67	-48.79	-0.64	37.85	50.81	0.65	1.38	0.11
SO4	SUM	12	4.18	2.52	0.22	-39.7	46.67	-1.66	1.95	2.62	-36.8	-54.63	-0.66	44.09	60.61	0.77	2.32	0.05
SO4	FAL	13	1.78	1.52	0.15	-14.19	51.75	-0.25	0.92	1.41	-13.57	-34.95	-0.17	49.57	61.09	0.6	1.21	0.02
SO4	ALL	50	2.85	1.83	0.4	-35.83	45.01	-1.02	1.28	1.61	-30.75	-47.38	-0.56	42.85	56.54	0.7	1.63	0.16

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: MCK231</i>																		
NH4	WIN	11	1.63	1.06	0.47	-34.64	39.55	-0.56	0.64	0.48	-26.84	-37.84	-0.53	33.45	44.02	0.61	0.89	0.22
NH4	SPR	14	1.1	0.88	0.31	-20.41	34.5	-0.23	0.38	0.17	-17.6	-28.27	-0.26	33.69	41.68	0.43	0.47	0.1
NH4	SUM	12	1.55	0.89	0.28	-42.23	46.68	-0.65	0.72	0.3	-40.08	-58.1	-0.73	44.39	61.91	0.81	0.85	0.08
NH4	FAL	13	0.69	0.69	0.22	0.7	57.29	0	0.39	0.23	2.73	-16.12	0.01	53.12	56.81	0.57	0.48	0.05
NH4	ALL	50	1.22	0.87	0.39	-28.15	43.05	-0.34	0.52	0.35	-19.74	-34.37	-0.39	41.26	50.99	0.6	0.68	0.15
NO3	WIN	11	2.65	1.93	0.42	-27.15	44.49	-0.72	1.18	2.06	-11.91	-26.11	-0.37	42.78	51.57	0.61	1.61	0.18
NO3	SPR	14	0.67	0.96	0.43	43.65	86.35	0.29	0.58	0.61	54.19	3.93	0.44	97.24	67.45	0.86	0.83	0.19
NO3	SUM	12	0.38	0.13	0.52	-66.58	78.25	-0.25	0.29	0.04	-55.46	-106.83	-1.99	76.01	121.11	2.34	0.33	0.27
NO3	FAL	13	0.59	0.62	0.07	4.44	88.96	0.03	0.53	0.54	19.22	-34.23	0.04	97.34	83.51	0.89	0.73	0.01
NO3	ALL	50	1.01	0.88	0.61	-12.76	61.98	-0.13	0.63	0.91	4.24	-39.18	-0.15	80.19	81.01	0.71	0.96	0.37
SO4	WIN	11	2.68	1.52	0.41	-43.23	44.93	-1.16	1.21	0.87	-38.8	-53.63	-0.76	40.95	55.72	0.79	1.49	0.16
SO4	SPR	14	3.01	1.76	0.31	-41.41	41.41	-1.24	1.24	0.58	-39.76	-53.91	-0.71	39.76	53.91	0.71	1.46	0.1
SO4	SUM	12	4.32	2.52	0.21	-41.7	47.68	-1.8	2.06	2.8	-38.87	-57.37	-0.72	45.03	62.58	0.82	2.46	0.04
SO4	FAL	13	1.79	1.52	0.19	-14.93	51.06	-0.27	0.91	1.4	-14.32	-34.36	-0.18	48.18	59.44	0.6	1.21	0.03
SO4	ALL	50	2.93	1.83	0.4	-37.68	45.87	-1.11	1.35	1.69	-32.72	-49.6	-0.6	43.48	57.83	0.74	1.71	0.16
<i>CASTNET Monitoring Station: MKG113</i>																		
NH4	WIN	10	1.34	1.07	0.48	-20.28	44.81	-0.27	0.6	0.55	-22.1	-41.37	-0.25	45.35	56.43	0.56	0.79	0.23
NH4	SPR	13	0.9	0.72	0.14	-19.53	37.64	-0.18	0.34	0.14	-12.89	-24.12	-0.24	37.68	43.62	0.47	0.41	0.02
NH4	SUM	13	1.28	1.03	0.05	-19.63	49.53	-0.25	0.64	0.49	-10.06	-28.33	-0.24	48.18	60.25	0.62	0.74	0
NH4	FAL	13	0.78	0.98	0.13	25.33	55.61	0.2	0.43	0.21	28.23	9.67	0.25	59.22	51.48	0.56	0.5	0.02
NH4	ALL	49	1.06	0.94	0.27	-11	46.82	-0.12	0.5	0.37	-3.11	-19.79	-0.12	47.75	52.73	0.53	0.62	0.07
NO3	WIN	10	1.93	2.33	0.29	20.63	77.57	0.4	1.5	4.71	17.28	-16.21	0.21	71.05	67.11	0.78	2.21	0.08
NO3	SPR	13	0.62	0.82	0.17	31.58	90.69	0.2	0.56	0.38	124.39	18.31	0.32	167.75	90.84	0.91	0.65	0.03
NO3	SUM	13	0.19	0.36	0.52	96.32	132.21	0.18	0.24	0.07	125.2	33.04	0.96	159.53	81.17	1.32	0.32	0.27
NO3	FAL	13	0.73	1.26	0.37	71.92	104.93	0.53	0.77	0.7	117.72	25.59	0.72	154.63	83.43	1.05	0.99	0.14
NO3	ALL	49	0.8	1.12	0.55	39.91	90.23	0.32	0.72	1.29	100.98	17.1	0.4	142.35	81.47	0.9	1.18	0.3
SO4	WIN	10	2.71	1.27	0.41	-53	53.51	-1.44	1.45	1.05	-50.33	-73.05	-1.13	50.93	73.64	1.14	1.76	0.17
SO4	SPR	13	2.33	1.46	0.35	-37.6	46.93	-0.88	1.09	0.65	-33.37	-48.31	-0.6	46.38	58.96	0.75	1.19	0.12
SO4	SUM	13	3.95	3.01	0.06	-23.97	47.53	-0.95	1.88	4.5	-18.75	-37.92	-0.32	43.47	58.52	0.63	2.32	0
SO4	FAL	13	2.01	1.91	0.07	-4.74	47.18	-0.1	0.95	1.22	-1.28	-16.68	-0.05	48.94	49.13	0.5	1.11	0
SO4	ALL	49	2.75	1.95	0.34	-29.14	48.53	-0.8	1.34	2.13	-24.44	-42.21	-0.41	47.22	59.23	0.68	1.66	0.12

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: OXF122</i>																		
NH4	WIN	5	1.7	1.48	0.27	-12.73	68.94	-0.22	1.17	1.7	-4.14	-30.05	-0.15	66.62	71.37	0.79	1.32	0.07
NH4	SPR	6	1.11	1.06	0.82	-4.04	20.99	-0.04	0.23	0.07	-6.77	-9.88	-0.04	21.06	22.29	0.22	0.27	0.67
NH4	SUM	7	1.73	1.24	0.17	-28.34	46.9	-0.49	0.81	0.86	-21.34	-39.13	-0.4	42.32	55.39	0.65	1.05	0.03
NH4	FAL	13	0.88	0.98	0.17	11.17	54.17	0.1	0.48	0.3	21.99	3.23	0.11	54.91	53.09	0.54	0.56	0.03
NH4	ALL	31	1.25	1.14	0.1	-9.02	49.44	-0.11	0.62	0.66	2.42	-14.24	-0.1	47.4	50.6	0.54	0.82	0.01
NO3	WIN	5	3.13	3.41	0.36	8.94	85.59	0.28	2.68	9.84	28.48	-9.96	0.09	90.85	76.22	0.86	3.15	0.13
NO3	SPR	6	1	1.89	0.79	88.7	88.7	0.89	0.89	0.43	98.45	54.27	0.89	98.45	54.27	0.89	1.1	0.63
NO3	SUM	7	0.38	0.72	0.51	88.47	156.77	0.34	0.6	0.69	64.68	-15.05	0.88	140.15	87.94	1.57	0.9	0.26
NO3	FAL	13	1.02	1.42	0.09	39.05	91.76	0.4	0.93	1.16	71.78	21.36	0.39	105.45	73.94	0.92	1.15	0.01
NO3	ALL	31	1.21	1.67	0.4	37.96	93.33	0.46	1.13	2.36	68.36	14.46	0.38	109.58	73.66	0.93	1.6	0.16
SO4	WIN	5	2.46	1.27	0.17	-48.31	52.17	-1.19	1.28	1.66	-42.43	-64.1	-0.93	46.34	67.83	1.01	1.75	0.03
SO4	SPR	6	2.7	1.44	0.19	-46.77	46.77	-1.26	1.26	0.56	-44.7	-61.89	-0.88	44.7	61.89	0.88	1.47	0.04
SO4	SUM	7	4.91	3.15	0.01	-35.85	43.81	-1.76	2.15	5.04	-31.24	-47.94	-0.56	40.96	56.25	0.68	2.85	0
SO4	FAL	13	2.18	1.64	0.05	-24.74	41.67	-0.54	0.91	1.28	-19.86	-37.1	-0.33	39.94	52.48	0.55	1.25	0
SO4	ALL	31	2.94	1.88	0.38	-36.02	44.8	-1.06	1.32	2.29	-30.88	-48.7	-0.56	42.12	57.63	0.7	1.85	0.15
<i>CASTNET Monitoring Station: PAL190</i>																		
NH4	WIN	10	0.73	0.44	0.27	-39.27	58.43	-0.29	0.43	0.26	-7.99	-33.33	-0.65	59.06	62.63	0.96	0.58	0.07
NH4	SPR	13	0.48	0.5	0.18	4.02	61.32	0.02	0.29	0.16	7.88	-18.3	0.04	61.7	58.52	0.61	0.4	0.03
NH4	SUM	12	0.58	0.36	0.51	-37.53	45.35	-0.22	0.26	0.04	95.22	-33.29	-0.6	168.82	62.89	0.73	0.29	0.26
NH4	FAL	13	0.43	0.41	0.28	-5.52	47.88	-0.02	0.21	0.06	52.17	-2.76	-0.06	98.13	57.39	0.51	0.26	0.08
NH4	ALL	48	0.54	0.43	0.06	-21.15	53.37	-0.11	0.29	0.14	38.4	-20.97	-0.27	97.8	60.16	0.68	0.39	0
NO3	WIN	10	1.63	0.93	0.03	-43.12	52.63	-0.7	0.86	0.77	-32.45	-48.64	-0.76	45.85	58.68	0.93	1.12	0
NO3	SPR	13	1.04	0.47	0.06	-55	79.99	-0.57	0.83	0.49	-44.46	-99.88	-1.22	84.68	125.7	1.78	0.91	0
NO3	SUM	12	0.78	0.03	0.13	-95.66	95.89	-0.74	0.74	0.07	-84.1	-165.9	-22.05	91.76	172.13	22.1	0.79	0.02
NO3	FAL	13	0.86	0.32	0.62	-62.29	68.65	-0.54	0.59	0.18	-51.32	-103.76	-1.65	76.83	121.76	1.82	0.68	0.39
NO3	ALL	48	1.05	0.42	0.43	-60.31	71.56	-0.63	0.75	0.37	-53.73	-106.76	-1.52	76.23	122.28	1.8	0.88	0.19
SO4	WIN	10	1.19	0.58	0.18	-51.14	61.3	-0.61	0.73	0.52	-39.63	-63.66	-1.05	51.56	72.85	1.25	0.94	0.03
SO4	SPR	13	1.72	1.11	0.02	-35.69	56.8	-0.61	0.98	0.94	-28.5	-51.34	-0.56	53.69	69.29	0.88	1.15	0
SO4	SUM	12	1.7	0.99	0.39	-41.44	48.9	-0.7	0.83	0.31	197.33	-39.17	-0.71	278.99	70.32	0.84	0.9	0.15
SO4	FAL	13	1.16	0.94	0.61	-19.44	31.41	-0.23	0.37	0.15	77.31	-17.54	-0.24	127.57	48.71	0.39	0.45	0.37
SO4	ALL	48	1.45	0.92	0.22	-36.47	49.75	-0.53	0.72	0.52	54.3	-41.71	-0.57	129.58	64.72	0.78	0.89	0.05

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: PARI07</i>																		
NH4	WIN	11	0.82	0.45	0.59	-45.34	45.34	-0.37	0.37	0.07	-44.22	-62.7	-0.83	44.22	62.7	0.83	0.45	0.35
NH4	SPR	13	0.76	0.49	0.58	-34.73	42.83	-0.26	0.32	0.08	-34.91	-52.86	-0.53	42.05	58.94	0.66	0.39	0.33
NH4	SUM	13	1.45	0.59	0.35	-59.18	60.52	-0.86	0.88	0.21	-56.69	-85.76	-1.45	58.72	87.66	1.48	0.97	0.12
NH4	FAL	12	0.44	0.42	0.12	-3.74	73.04	-0.02	0.32	0.17	24.32	-15.08	-0.04	78.31	70.23	0.76	0.41	0.01
NH4	ALL	49	0.88	0.49	0.37	-43.87	54.84	-0.38	0.48	0.23	-28.27	-54.54	-0.78	55.84	70.17	0.98	0.61	0.14
NO3	WIN	11	0.97	0.36	0.08	-63.35	63.35	-0.62	0.62	0.24	-57.41	-91.5	-1.73	57.41	91.5	1.73	0.79	0.01
NO3	SPR	13	0.45	0.31	0.9	-31.79	41.98	-0.14	0.19	0.03	-49	-79.87	-0.47	53.87	84.26	0.62	0.23	0.8
NO3	SUM	13	0.12	0.08	0.26	-35.02	66.29	-0.04	0.08	0.01	-16.85	-53.11	-0.54	64.39	83.7	1.02	0.1	0.07
NO3	FAL	12	0.33	0.22	0.11	-31.09	91.08	-0.1	0.3	0.1	-12.93	-76.61	-0.45	104.46	119.96	1.32	0.34	0.01
NO3	ALL	49	0.45	0.24	0.48	-47.22	62.8	-0.21	0.28	0.14	-33.53	-74.58	-0.89	69.85	94.48	1.19	0.43	0.23
SO4	WIN	11	2.31	1.34	0.39	-41.83	42.37	-0.97	0.98	0.72	-40.51	-57.83	-0.72	41.05	58.36	0.73	1.29	0.15
SO4	SPR	13	2.58	1.53	0.52	-40.68	45.7	-1.05	1.18	0.78	-41.39	-60.45	-0.69	46.28	64.67	0.77	1.37	0.27
SO4	SUM	13	4.65	3.03	0.58	-34.75	43.79	-1.62	2.04	2.73	-36.19	-52.66	-0.53	43.92	59.6	0.67	2.31	0.34
SO4	FAL	12	1.62	1.4	0.07	-13.31	49.7	-0.21	0.8	0.99	-7.57	-26.34	-0.15	47.99	57.33	0.57	1.02	0
SO4	ALL	49	2.83	1.86	0.64	-34.49	44.82	-0.98	1.27	1.59	-31.53	-49.44	-0.53	44.9	60.11	0.68	1.6	0.41
<i>CASTNET Monitoring Station: PED108</i>																		
NH4	WIN	11	0.91	0.68	0.69	-25.16	26.85	-0.23	0.24	0.05	-22.01	-27.19	-0.34	24.57	29.59	0.36	0.32	0.47
NH4	SPR	14	0.91	0.68	0.58	-25.12	35.65	-0.23	0.33	0.1	-23.52	-37.59	-0.34	37.91	49.26	0.48	0.39	0.33
NH4	SUM	11	1.32	0.86	0.64	-34.96	38.18	-0.46	0.5	0.11	-31.74	-43.91	-0.54	38.17	49.38	0.59	0.57	0.41
NH4	FAL	13	0.57	0.66	0.15	15.72	59.76	0.09	0.34	0.23	22.61	-1.72	0.16	61.92	50.82	0.6	0.49	0.02
NH4	ALL	49	0.91	0.71	0.44	-21.53	38.52	-0.2	0.35	0.16	-12.79	-27.16	-0.27	41.34	45.29	0.49	0.45	0.2
NO3	WIN	11	0.82	1.13	0.14	36.53	84.37	0.3	0.7	0.51	149.64	34.45	0.37	180.35	74.43	0.84	0.78	0.02
NO3	SPR	14	0.42	0.45	0.46	7.39	65.76	0.03	0.28	0.11	72.27	6.06	0.07	120.76	81.35	0.66	0.34	0.21
NO3	SUM	11	0.11	0.06	0.05	-48.51	76.85	-0.05	0.08	0.01	-22.16	-61.07	-0.94	74.23	90.41	1.49	0.11	0
NO3	FAL	13	0.32	0.78	0.16	140.64	181.43	0.45	0.58	0.92	203.56	27.52	1.41	241.06	87.45	1.81	1.06	0.03
NO3	ALL	49	0.41	0.6	0.4	44.65	98.59	0.18	0.41	0.44	103.27	3.06	0.45	155.61	83.45	0.99	0.69	0.16
SO4	WIN	11	2.04	1.36	0.34	-33.64	36.59	-0.69	0.75	0.33	-30.66	-40.68	-0.51	34.84	44.43	0.55	0.9	0.12
SO4	SPR	14	2.76	1.79	0.55	-35.06	40.88	-0.97	1.13	0.7	-34.86	-49.64	-0.54	40.49	54.38	0.63	1.28	0.31
SO4	SUM	11	4.01	2.64	0.83	-34.18	34.18	-1.37	1.37	0.68	-34.87	-46.83	-0.52	34.87	46.83	0.52	1.6	0.69
SO4	FAL	13	1.64	1.5	0.22	-8.76	38.94	-0.14	0.64	0.57	-4.11	-15.41	-0.1	39.02	42.57	0.43	0.77	0.05
SO4	ALL	49	2.58	1.8	0.71	-30.07	37.45	-0.78	0.97	0.78	-25.76	-37.92	-0.43	37.57	47.32	0.54	1.17	0.5

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: PNF126</i>																		
NH4	WIN	10	0.5	0.47	0.39	-6.34	38.68	-0.03	0.2	0.05	-2.9	-13.08	-0.07	38.14	40.78	0.41	0.22	0.16
NH4	SPR	12	0.77	0.48	0.41	-37.04	46.61	-0.28	0.36	0.13	-31.38	-50.99	-0.59	42.36	60.73	0.74	0.46	0.17
NH4	SUM	12	1.37	0.66	0.57	-51.6	51.6	-0.71	0.71	0.09	-52.31	-75.11	-1.07	52.31	75.11	1.07	0.77	0.32
NH4	FAL	13	0.51	0.45	0.11	-11.02	40.69	-0.06	0.21	0.06	-3.24	-17.94	-0.12	41.8	47.04	0.46	0.26	0.01
NH4	ALL	47	0.79	0.52	0.39	-34.71	46.69	-0.28	0.37	0.16	-22.88	-39.94	-0.53	43.85	56.37	0.72	0.48	0.15
NO3	WIN	10	0.33	0.57	0.3	73.53	138.37	0.24	0.45	0.24	132.31	2.59	0.74	197.59	105.05	1.38	0.55	0.09
NO3	SPR	12	0.33	0.21	0.25	-35.17	70.32	-0.12	0.23	0.07	-27.22	-65.93	-0.54	68.35	91.6	1.08	0.29	0.06
NO3	SUM	12	0.09	0.05	0.17	-49.45	54.43	-0.05	0.05	0	-32.93	-56.66	-0.98	41.46	64.35	1.08	0.08	0.03
NO3	FAL	13	0.38	0.17	0.53	-54.98	60.44	-0.21	0.23	0.03	-59.25	-97.48	-1.22	63.9	101.51	1.34	0.27	0.28
NO3	ALL	47	0.28	0.24	0.36	-16.97	82.07	-0.05	0.23	0.1	-3.59	-57.71	-0.2	87.75	90.25	0.99	0.33	0.13
SO4	WIN	10	1.32	1.58	0.1	19.49	51.57	0.26	0.68	1.01	34.8	12.65	0.19	57.88	40.18	0.52	1.04	0.01
SO4	SPR	12	2.33	1.65	0.2	-29.29	46.44	-0.68	1.08	1.08	-25.45	-43.5	-0.41	46.28	60.19	0.66	1.24	0.04
SO4	SUM	12	4.11	2.62	0.55	-36.28	40.45	-1.49	1.66	1.24	-36.96	-50.36	-0.57	40.75	53.76	0.63	1.86	0.31
SO4	FAL	13	1.34	1.58	0.18	17.55	56.02	0.24	0.75	0.95	24.81	2.91	0.18	58.99	49.51	0.56	1.01	0.03
SO4	ALL	47	2.3	1.86	0.46	-18.92	45.88	-0.43	1.05	1.6	-1.67	-20.47	-0.23	50.85	51.34	0.57	1.34	0.21
<i>CASTNET Monitoring Station: PRK134</i>																		
NH4	WIN	8	1.28	0.88	0.24	-31.12	64.6	-0.4	0.83	0.61	-31.81	-65.09	-0.45	63.94	91.19	0.94	0.88	0.06
NH4	SPR	14	0.85	0.91	0.6	7.23	65.03	0.06	0.55	0.46	7.49	-16.99	0.07	64.95	66.85	0.65	0.68	0.36
NH4	SUM	13	0.57	0.46	0.25	-18.26	56.46	-0.1	0.32	0.16	-3	-26.54	-0.22	55.03	62.52	0.69	0.42	0.06
NH4	FAL	10	0.55	0.65	0.55	17.8	67.37	0.1	0.37	0.21	17.11	-9.05	0.18	69.74	58.57	0.67	0.47	0.3
NH4	ALL	45	0.78	0.72	0.46	-7.73	63.46	-0.06	0.49	0.38	-0.39	-26.54	-0.08	62.97	68.08	0.69	0.62	0.21
NO3	WIN	8	2.75	2.08	0.46	-24.31	89.79	-0.67	2.47	6.48	-9.25	-69.24	-0.32	96.78	117.84	1.19	2.63	0.21
NO3	SPR	14	1.11	1.55	0.59	40.32	105.24	0.45	1.16	3.03	66.92	-22.17	0.4	140.08	106.48	1.05	1.8	0.35
NO3	SUM	13	0.27	0.24	0.13	-12.39	102.02	-0.03	0.28	0.1	14.22	-67.55	-0.14	121.49	121.37	1.16	0.32	0.02
NO3	FAL	10	0.77	0.94	0.54	22.14	104.94	0.17	0.81	1.05	95.79	-58.84	0.22	199.98	134.27	1.05	1.04	0.29
NO3	ALL	45	1.08	1.13	0.47	4.47	97.99	0.05	1.06	2.5	44.57	-51.8	0.04	140.32	118.98	0.98	1.58	0.22
SO4	WIN	8	1.53	0.87	0.35	-43.18	53.26	-0.66	0.82	0.36	-42.44	-62.99	-0.76	51.13	70.39	0.94	0.9	0.12
SO4	SPR	14	1.59	1.35	0.52	-14.71	41.5	-0.23	0.66	0.53	-9.08	-22.41	-0.17	43.39	49.71	0.49	0.77	0.27
SO4	SUM	13	1.48	1.13	0.26	-23.46	57.29	-0.35	0.85	1.11	-5.16	-27.49	-0.31	54.91	63.13	0.75	1.11	0.07
SO4	FAL	10	1.1	1.13	0.33	2.89	50.76	0.03	0.56	0.56	17.93	3.41	0.03	49.94	44.83	0.51	0.75	0.11
SO4	ALL	45	1.44	1.15	0.22	-19.73	50	-0.28	0.72	0.73	-7.88	-25.36	-0.25	49.55	56.18	0.62	0.9	0.05

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: PSU106</i>																		
NH4	WIN	10	1.66	0.95	0.43	-42.93	47.84	-0.71	0.79	0.32	-39.13	-58.69	-0.75	47.56	65.96	0.84	0.91	0.18
NH4	SPR	14	1.04	0.76	0.21	-27.58	45.17	-0.29	0.47	0.26	-20.03	-36.12	-0.38	40.75	54.29	0.62	0.59	0.04
NH4	SUM	13	1.66	0.82	0.2	-50.92	56.33	-0.85	0.94	0.48	-49.19	-76.96	-1.04	54.95	82.21	1.15	1.09	0.04
NH4	FAL	11	0.84	0.75	0.1	-10.58	48.89	-0.09	0.41	0.25	-3.47	-21.99	-0.12	45.22	54.12	0.55	0.51	0.01
NH4	ALL	48	1.29	0.81	0.2	-37.26	50.33	-0.48	0.65	0.43	-28.11	-48.65	-0.59	47.04	64.24	0.8	0.81	0.04
NO3	WIN	10	2.69	2.12	0.01	-21.12	60.63	-0.57	1.63	3.3	13.82	-35.98	-0.27	90.14	80.35	0.77	1.9	0
NO3	SPR	14	0.97	1	0.28	2.36	108.1	0.02	1.05	1.75	96.58	-21.67	0.02	173.1	97.74	1.08	1.32	0.08
NO3	SUM	13	0.3	0.19	0.2	-34.49	118.99	-0.1	0.35	0.22	-9.55	-104.32	-0.53	131.77	140.48	1.82	0.48	0.04
NO3	FAL	11	0.8	0.7	0.41	-12.77	61.45	-0.1	0.49	0.33	-4.74	-37.39	-0.15	69.65	79.7	0.7	0.58	0.17
NO3	ALL	48	1.11	0.94	0.44	-14.68	77.17	-0.16	0.85	1.38	27.38	-50.64	-0.17	120.92	101.56	0.9	1.19	0.19
SO4	WIN	10	2.63	1.23	0.74	-53.35	53.35	-1.41	1.41	0.39	-52.47	-73.85	-1.14	52.47	73.85	1.14	1.54	0.54
SO4	SPR	14	2.39	1.48	0.04	-38.39	52.92	-0.92	1.27	1.21	-31.08	-52.76	-0.62	53.19	67.43	0.86	1.43	0
SO4	SUM	13	4.49	2.51	0.22	-44.15	52.23	-1.98	2.34	4.41	-42.07	-67.02	-0.79	49.8	73.87	0.94	2.89	0.05
SO4	FAL	11	1.98	1.69	0.22	-14.36	48.57	-0.28	0.96	1.51	-11.1	-29.35	-0.17	44.98	54.87	0.57	1.26	0.05
SO4	ALL	48	2.92	1.75	0.37	-39.88	52.04	-1.16	1.52	2.36	-33.93	-55.65	-0.66	50.24	67.63	0.87	1.93	0.14
<i>CASTNET Monitoring Station: QAK172</i>																		
NH4	WIN	10	1.25	0.78	0.56	-37.81	41.71	-0.47	0.52	0.16	-35.06	-50.58	-0.61	40.65	55.74	0.67	0.62	0.32
NH4	SPR	11	1.12	0.59	0.45	-47.51	47.51	-0.53	0.53	0.12	-42.38	-57.73	-0.91	42.38	57.73	0.91	0.63	0.2
NH4	SUM	13	1.72	0.81	0.2	-52.78	52.78	-0.91	0.91	0.27	-50.68	-72.83	-1.12	50.68	72.83	1.12	1.05	0.04
NH4	FAL	13	0.93	0.74	0.12	-19.67	43.76	-0.18	0.41	0.23	-15.35	-31.34	-0.24	42.64	54.22	0.54	0.51	0.01
NH4	ALL	47	1.26	0.73	0.3	-41.79	47.51	-0.53	0.6	0.27	-35.64	-53.09	-0.72	44.38	60.51	0.82	0.74	0.09
NO3	WIN	10	1.73	1.3	0.07	-24.9	63.24	-0.43	1.09	1.96	1.04	-30.74	-0.33	72.03	71.33	0.84	1.47	0
NO3	SPR	11	0.76	0.43	0.13	-42.65	66.87	-0.32	0.51	0.56	-16.35	-54.25	-0.74	69.64	78.51	1.17	0.82	0.02
NO3	SUM	13	0.31	0.14	0.46	-56.09	72.8	-0.17	0.23	0.04	-40.99	-82.04	-1.28	69.41	98.77	1.66	0.27	0.21
NO3	FAL	13	0.67	0.57	0.45	-15.45	66.42	-0.1	0.45	0.33	-20.68	-49.77	-0.18	60.63	76.72	0.79	0.58	0.2
NO3	ALL	47	0.82	0.57	0.44	-29.87	65.75	-0.24	0.54	0.67	-20.66	-55.7	-0.43	67.59	82.09	0.94	0.85	0.19
SO4	WIN	10	2.79	1.33	0.34	-52.17	54.39	-1.45	1.52	1.37	-48.68	-71.56	-1.09	51.14	73.88	1.14	1.87	0.12
SO4	SPR	11	3.08	1.42	0.52	-54.02	54.02	-1.66	1.66	0.62	-51.43	-73.67	-1.17	51.43	73.67	1.17	1.84	0.27
SO4	SUM	13	5.37	2.46	0.02	-54.3	54.3	-2.92	2.92	3.34	-50.6	-74.78	-1.19	50.6	74.78	1.19	3.44	0
SO4	FAL	13	2.56	2.29	0.08	-10.79	54.01	-0.28	1.38	3.11	-5.35	-26.77	-0.12	53.06	59.26	0.61	1.79	0.01
SO4	ALL	47	3.51	1.93	0.24	-45.09	54.2	-1.58	1.9	3.19	-37.87	-60.55	-0.82	51.59	70.03	0.99	2.39	0.06

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: ROM206</i>																		
NH4	WIN	11	0.12	0.22	0.25	79.05	111.06	0.1	0.13	0.02	134.54	47.02	0.79	153.69	70.42	1.11	0.17	0.06
NH4	SPR	14	0.22	0.14	0.09	-35.62	62.37	-0.08	0.14	0.02	-26.15	-55.92	-0.55	63.23	72.4	0.97	0.17	0.01
NH4	SUM	13	0.26	0.1	0.35	-62.92	62.92	-0.16	0.16	0	-61.57	-93.36	-1.7	61.57	93.36	1.7	0.17	0.12
NH4	FAL	12	0.19	0.19	0.2	1.72	51.45	0	0.1	0.01	19.04	-2.13	0.02	60.08	50.06	0.51	0.12	0.04
NH4	ALL	50	0.2	0.16	0.37	-21.18	66.5	-0.04	0.13	0.02	10.84	-30.1	-0.27	81.94	72.05	0.84	0.16	0.13
NO3	WIN	11	0.11	0.31	0.36	180.73	295.73	0.2	0.32	0.15	618	21.09	1.81	690.2	144.76	2.96	0.44	0.13
NO3	SPR	14	0.25	0.14	0.09	-45.9	97.14	-0.12	0.24	0.09	-41.25	-108.82	-0.85	96.69	131.21	1.8	0.32	0.01
NO3	SUM	13	0.14	0.01	0.52	-91.78	91.78	-0.13	0.13	0	-89.75	-164.84	-11.17	89.75	164.84	11.17	0.14	0.28
NO3	FAL	12	0.12	0.19	0.08	59.68	150.34	0.07	0.18	0.05	122.94	-37.23	0.6	213.72	121.67	1.5	0.23	0.01
NO3	ALL	50	0.16	0.15	0.12	-3.6	135.31	-0.01	0.22	0.09	130.58	-77.62	-0.04	253.55	140.64	1.4	0.3	0.01
SO4	WIN	11	0.28	0.44	0.25	54.29	67.68	0.15	0.19	0.02	76.17	45.5	0.54	84.08	55.1	0.68	0.21	0.06
SO4	SPR	14	0.61	0.37	0.23	-39.32	49.11	-0.24	0.3	0.07	-30.55	-47.15	-0.65	46.48	59.95	0.81	0.36	0.05
SO4	SUM	13	0.63	0.28	0.17	-55.79	55.79	-0.35	0.35	0.02	-54.51	-79.7	-1.26	54.51	79.7	1.26	0.39	0.03
SO4	FAL	12	0.44	0.43	0.19	-3.24	35.57	-0.01	0.16	0.05	13.78	0.9	-0.03	41.13	35.42	0.37	0.22	0.03
SO4	ALL	50	0.5	0.37	0.21	-25.61	50.74	-0.13	0.26	0.08	-2.66	-23.7	-0.34	55.55	58.13	0.68	0.31	0.04
<i>CASTNET Monitoring Station: ROM406</i>																		
NH4	WIN	11	0.12	0.22	0.18	74.24	107.69	0.09	0.13	0.02	129.54	45.39	0.74	149.66	70.11	1.08	0.17	0.03
NH4	SPR	14	0.23	0.14	0.05	-37.92	62.13	-0.09	0.14	0.02	-30.51	-58.76	-0.61	61.08	73.53	1	0.18	0
NH4	SUM	13	0.27	0.1	0.41	-64.14	64.14	-0.17	0.17	0	-62.88	-95.93	-1.79	62.88	95.93	1.79	0.18	0.17
NH4	FAL	12	0.2	0.19	0.17	-1.5	49.36	0	0.1	0.01	13.74	-5.1	-0.02	55.43	48.38	0.5	0.12	0.03
NH4	ALL	50	0.21	0.16	0.34	-23.75	65.89	-0.05	0.14	0.02	6.91	-32.63	-0.31	79.68	72.57	0.86	0.16	0.11
NO3	WIN	11	0.11	0.31	0.31	174.31	290.13	0.2	0.33	0.15	563.51	22.87	1.74	633.74	143.49	2.9	0.44	0.1
NO3	SPR	14	0.27	0.14	0.12	-49.54	94.96	-0.13	0.26	0.09	-47.56	-114.15	-0.98	93.11	132.71	1.88	0.32	0.01
NO3	SUM	13	0.15	0.01	0.61	-92.25	92.25	-0.14	0.14	0	-90.42	-166.81	-11.9	90.42	166.81	11.9	0.15	0.37
NO3	FAL	12	0.12	0.19	0.14	61.75	152	0.07	0.18	0.05	106.31	-37.2	0.62	199.22	124.17	1.52	0.23	0.02
NO3	ALL	50	0.17	0.15	0.1	-7.92	132.65	-0.01	0.22	0.09	112.66	-79.23	-0.09	236.82	141.9	1.44	0.3	0.01
SO4	WIN	11	0.28	0.44	0.17	54.89	67.98	0.15	0.19	0.02	75.92	45.74	0.55	84.15	55.28	0.68	0.21	0.03
SO4	SPR	14	0.63	0.37	0.26	-40.8	49.51	-0.26	0.31	0.07	-32.07	-48.99	-0.69	46.66	60.76	0.84	0.37	0.07
SO4	SUM	13	0.65	0.28	0.2	-56.97	56.97	-0.37	0.37	0.02	-55.71	-81.92	-1.32	55.71	81.92	1.32	0.4	0.04
SO4	FAL	12	0.45	0.43	0.15	-6.32	35.3	-0.03	0.16	0.05	8.49	-2.25	-0.07	37.89	35	0.38	0.22	0.02
SO4	ALL	50	0.52	0.37	0.19	-27.35	51.17	-0.14	0.26	0.08	-4.72	-25.49	-0.38	55.15	58.87	0.7	0.32	0.03

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: SAL133</i>																		
NH4	WIN	10	2.06	1.24	0.13	-40.12	54.44	-0.83	1.12	0.94	-36.86	-55.52	-0.67	50.7	65.81	0.91	1.27	0.02
NH4	SPR	14	1.26	1.55	0.45	22.73	55.27	0.29	0.7	0.79	20.37	0.88	0.23	55.43	48.99	0.55	0.93	0.21
NH4	SUM	13	1.43	1.13	0.06	-21.06	32.97	-0.3	0.47	0.31	-12.02	-23.2	-0.27	32.94	39.15	0.42	0.63	0
NH4	FAL	10	0.87	1.23	0.26	41.23	69.25	0.36	0.6	0.42	53.62	20.49	0.41	77.31	61.07	0.69	0.74	0.07
NH4	ALL	47	1.39	1.3	0.1	-7.01	50.55	-0.1	0.7	0.82	6.31	-13.61	-0.08	52.86	52.42	0.54	0.91	0.01
NO3	WIN	10	4.78	3.1	0.01	-35.13	57.46	-1.68	2.75	7.44	-28.6	-49.97	-0.54	53.09	65.16	0.89	3.2	0
NO3	SPR	14	1.62	2.69	0.61	65.78	100.5	1.07	1.63	2.75	223.4	40.76	0.66	250.79	82.15	1	1.97	0.37
NO3	SUM	13	0.48	0.85	0.28	79.16	98.58	0.38	0.47	0.52	99.28	31.1	0.79	119.39	56.69	0.99	0.81	0.08
NO3	FAL	10	1.3	2.46	0.67	89.19	103.05	1.16	1.34	1.51	74.69	30.08	0.89	102.69	73.87	1.03	1.69	0.44
NO3	ALL	47	1.91	2.22	0.44	16.3	77.8	0.31	1.49	4.03	103.81	16.51	0.16	140.87	69.73	0.78	2.03	0.19
SO4	WIN	10	2.4	0.92	0.13	-61.59	61.59	-1.48	1.48	0.84	-58.37	-86.89	-1.6	58.37	86.89	1.6	1.74	0.02
SO4	SPR	14	2.58	2.1	0.05	-18.61	51.9	-0.48	1.34	2.71	-13.62	-37.46	-0.23	56.8	59.53	0.64	1.72	0
SO4	SUM	13	3.87	2.45	0.08	-36.65	42.92	-1.42	1.66	2.32	-28.9	-44.52	-0.58	40.68	53.46	0.68	2.08	0.01
SO4	FAL	10	1.97	1.48	0.43	-24.62	53.73	-0.48	1.06	1.55	-12.79	-33.27	-0.33	49.89	60.93	0.71	1.34	0.19
SO4	ALL	47	2.77	1.82	0.22	-34.42	50.49	-0.95	1.4	2.19	-27.19	-49.04	-0.52	51.2	63.97	0.77	1.76	0.05
<i>CASTNET Monitoring Station: SAN189</i>																		
NH4	WIN	9	0.92	0.88	0.23	-4.25	66.15	-0.04	0.61	0.71	23.96	-13.75	-0.04	81.29	61.64	0.69	0.84	0.05
NH4	SPR	13	1.01	1.24	0.68	23.63	77.62	0.24	0.78	1.08	20.74	-8.4	0.24	70.12	68.57	0.78	1.07	0.46
NH4	SUM	13	0.57	0.51	0.07	-10.99	67.67	-0.06	0.39	0.28	3.47	-32.18	-0.12	73.4	71.42	0.76	0.54	0.01
NH4	FAL	13	0.4	0.6	0.26	47.98	85.14	0.19	0.34	0.28	45.98	8.96	0.48	81.68	57.91	0.85	0.56	0.07
NH4	ALL	48	0.71	0.8	0.54	13.04	73.81	0.09	0.52	0.6	23.5	-11.14	0.13	76.23	65.16	0.74	0.78	0.29
NO3	WIN	9	2.02	2.16	0.23	6.7	68.95	0.14	1.39	3.98	45.05	-6.35	0.07	96.17	62.22	0.69	2	0.06
NO3	SPR	13	1.9	2.35	0.46	23.39	91.91	0.44	1.75	6.45	74.48	-19.09	0.23	139.05	87.51	0.92	2.58	0.21
NO3	SUM	13	0.68	0.26	0.17	-61.33	82.58	-0.42	0.56	0.26	-51.11	-105.74	-1.59	78.47	123.55	2.14	0.66	0.03
NO3	FAL	13	0.83	1.22	0.23	48.2	139	0.4	1.15	3.16	51.58	-37.23	0.48	138.46	112.61	1.39	1.82	0.05
NO3	ALL	48	1.3	1.44	0.47	10.75	91.99	0.14	1.2	3.55	28.75	-45.08	0.11	114.44	99.33	0.92	1.89	0.22
SO4	WIN	9	1.07	0.74	0.3	-31.18	62.39	-0.33	0.67	0.54	-30.37	-51.1	-0.45	55.83	67.29	0.91	0.81	0.09
SO4	SPR	13	1.72	1.55	0.63	-9.66	57.6	-0.17	0.99	1.53	-15	-36.85	-0.11	52.69	64.61	0.64	1.25	0.39
SO4	SUM	13	1.7	1.22	0.11	-28.46	57.46	-0.48	0.98	1.46	-20.13	-50.47	-0.4	60.19	69.27	0.8	1.3	0.01
SO4	FAL	13	0.91	0.75	0.5	-18.27	32.16	-0.17	0.29	0.12	-16.02	-24.18	-0.22	30.4	36.45	0.39	0.38	0.25
SO4	ALL	48	1.37	1.09	0.42	-20.66	53.68	-0.28	0.74	0.96	-19.55	-39.78	-0.26	49.27	58.75	0.68	1.02	0.17

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: SHN418</i>																		
NH4	WIN	10	0.75	0.87	0.63	16.88	36.52	0.13	0.27	0.1	17.37	9.56	0.17	37.26	32.97	0.37	0.35	0.4
NH4	SPR	14	0.8	0.65	0.42	-19.5	41.59	-0.16	0.33	0.19	-13.32	-30.26	-0.24	39.83	50.62	0.52	0.46	0.18
NH4	SUM	12	1.44	1.14	0.67	-20.84	33.42	-0.3	0.48	0.25	-21.71	-33.88	-0.26	35.74	45.11	0.42	0.58	0.45
NH4	FAL	13	0.59	1.03	0.12	75.81	109.71	0.44	0.64	0.59	97.11	34.3	0.76	121.53	68.59	1.1	0.89	0.01
NH4	ALL	49	0.89	0.91	0.39	2.87	49.39	0.03	0.44	0.38	20.19	-5.89	0.03	59.98	50.44	0.49	0.61	0.15
NO3	WIN	10	0.84	1.68	0.34	100.3	117.55	0.84	0.99	0.89	200.61	59.25	1	216.32	78.3	1.18	1.26	0.12
NO3	SPR	14	0.46	0.69	0.67	48.45	84.1	0.22	0.39	0.27	43.61	5.24	0.48	83.74	65.28	0.84	0.57	0.44
NO3	SUM	12	0.21	0.4	0.16	87	129.85	0.19	0.28	0.08	168.54	45.77	0.87	198.69	86.65	1.3	0.34	0.03
NO3	FAL	13	0.49	1.46	0.12	195.57	203.34	0.96	1	1.41	281.23	78.68	1.96	288.55	87.05	2.03	1.53	0.01
NO3	ALL	49	0.49	1.02	0.46	110.33	132.81	0.54	0.65	0.78	169.29	45.67	1.1	193.28	78.95	1.33	1.03	0.21
SO4	WIN	10	1.55	1.32	0.24	-14.86	31.7	-0.23	0.49	0.36	-11.16	-20.52	-0.17	30.73	37.1	0.37	0.64	0.06
SO4	SPR	14	2.14	1.41	0.52	-34.2	39.74	-0.73	0.85	0.62	-32.79	-47.57	-0.52	38.15	52.35	0.6	1.08	0.27
SO4	SUM	12	4.22	2.79	0.76	-33.88	36.01	-1.43	1.52	1.19	-35.45	-49.63	-0.51	37.89	51.91	0.54	1.8	0.58
SO4	FAL	13	1.52	1.74	0.18	14.85	65.42	0.23	0.99	2.63	22.6	-2.3	0.15	60.92	51.75	0.65	1.64	0.03
SO4	ALL	49	2.36	1.82	0.59	-23.12	41.41	-0.55	0.98	1.62	-14.33	-30.54	-0.3	42.61	48.97	0.54	1.38	0.35
<i>CASTNET Monitoring Station: SND152</i>																		
NH4	WIN	11	1.38	1.13	0.5	-17.68	29.66	-0.24	0.41	0.18	-17.76	-24.52	-0.21	28.22	33.85	0.36	0.49	0.25
NH4	SPR	11	1.27	1.1	0.22	-13.06	32.73	-0.17	0.41	0.25	-9.54	-18.42	-0.15	33.31	37.04	0.38	0.53	0.05
NH4	SUM	13	1.43	1	0.46	-29.81	38.12	-0.43	0.54	0.19	-29.43	-42.6	-0.42	40.51	51.39	0.54	0.61	0.21
NH4	FAL	13	0.8	0.85	0.09	5.44	50.8	0.04	0.41	0.26	13.8	-10.42	0.05	57.42	55.06	0.51	0.51	0.01
NH4	ALL	48	1.21	1.01	0.37	-16.29	36.9	-0.2	0.45	0.25	-10.49	-24.2	-0.19	40.62	45.08	0.44	0.54	0.14
NO3	WIN	11	2.18	2.08	0.47	-4.86	36.05	-0.11	0.79	0.96	-2.21	-10.53	-0.05	33.87	34.85	0.38	0.99	0.22
NO3	SPR	11	0.86	0.85	0.67	-2.11	39.64	-0.02	0.34	0.16	10.35	-5.87	-0.02	49.44	43.59	0.4	0.4	0.44
NO3	SUM	13	0.32	0.26	0.04	-18.2	68.65	-0.06	0.22	0.06	-0.05	-32.54	-0.22	74.3	78.6	0.84	0.25	0
NO3	FAL	13	0.78	0.99	0.09	26.91	70.67	0.21	0.55	0.38	43.72	5.79	0.27	88.05	65.04	0.71	0.65	0.01
NO3	ALL	48	1	1.01	0.75	1.29	46.94	0.01	0.47	0.39	13.69	-11	0.01	63.06	56.88	0.47	0.63	0.56
SO4	WIN	11	2.31	1.7	0.31	-26.55	35.79	-0.61	0.83	0.58	-25.44	-34.13	-0.36	34.26	41.23	0.49	0.98	0.1
SO4	SPR	11	3.43	2.67	0.05	-22.11	34.65	-0.76	1.19	1.75	-19.06	-29.29	-0.28	33.54	40.92	0.44	1.52	0
SO4	SUM	13	3.82	2.61	0.5	-31.75	40.22	-1.21	1.54	1.15	-32.1	-45.85	-0.47	42.53	54.64	0.59	1.62	0.25
SO4	FAL	13	1.96	1.73	0.02	-11.46	52.48	-0.22	1.03	1.46	-4.82	-29.61	-0.13	56.05	64	0.59	1.23	0
SO4	ALL	48	2.88	2.18	0.43	-24.43	40.14	-0.7	1.16	1.38	-20.19	-34.97	-0.32	42.24	50.96	0.53	1.37	0.19

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: SPD111</i>																		
NH4	WIN	11	1.02	0.72	0.19	-28.97	34.28	-0.29	0.35	0.14	-24.5	-33.81	-0.41	30.11	39.02	0.48	0.48	0.04
NH4	SPR	14	0.96	0.69	0.2	-27.98	38.8	-0.27	0.37	0.13	-25.19	-39.2	-0.39	38.36	50.6	0.54	0.45	0.04
NH4	SUM	13	1.22	0.77	0.72	-36.76	38.92	-0.45	0.47	0.06	-35.38	-46.38	-0.58	39.41	49.94	0.62	0.51	0.51
NH4	FAL	13	0.54	0.7	0.21	28.99	60.45	0.16	0.33	0.12	33.38	11.49	0.29	61.55	55.7	0.6	0.38	0.05
NH4	ALL	51	0.93	0.72	0.28	-22.68	40.99	-0.21	0.38	0.16	-12.71	-26.94	-0.29	42.76	49.23	0.53	0.45	0.08
NO3	WIN	11	1.02	0.84	0.25	-17.85	45.01	-0.18	0.46	0.37	3.12	-11.63	-0.22	44.48	48.21	0.55	0.64	0.06
NO3	SPR	14	0.32	0.41	0.53	30.82	78.44	0.1	0.25	0.12	56.85	0.33	0.31	105.66	72.91	0.78	0.36	0.28
NO3	SUM	13	0.09	0.06	0.13	-37.62	65.04	-0.04	0.06	0	-36.6	-62.88	-0.6	60.55	79.01	1.04	0.07	0.02
NO3	FAL	13	0.36	0.57	0.57	56.46	106.03	0.2	0.38	0.22	47.28	-5.54	0.56	103.49	86.27	1.06	0.51	0.33
NO3	ALL	51	0.42	0.45	0.56	7.23	66.32	0.03	0.28	0.19	19	-19.86	0.07	80.41	72.54	0.66	0.44	0.31
SO4	WIN	11	2.25	1.61	0.21	-28.3	38.29	-0.64	0.86	0.78	-23.52	-32.45	-0.39	33.38	40.88	0.53	1.09	0.04
SO4	SPR	14	3	1.81	0.36	-39.8	42.54	-1.19	1.28	0.69	-38.26	-53.02	-0.66	41.67	56.18	0.71	1.46	0.13
SO4	SUM	13	3.87	2.83	0.47	-27	39.41	-1.05	1.53	1.5	-26.47	-38.31	-0.37	40.49	50.47	0.54	1.61	0.22
SO4	FAL	13	1.63	1.88	0.38	15.12	58.98	0.25	0.96	1.51	16.62	-5.53	0.15	58.96	55.9	0.59	1.25	0.15
SO4	ALL	51	2.71	2.04	0.45	-24.65	43.16	-0.67	1.17	1.45	-18.09	-32.73	-0.33	43.99	51.35	0.57	1.38	0.2
<i>CASTNET Monitoring Station: STK138</i>																		
NH4	WIN	10	2.17	1.49	0.18	-31.51	49.13	-0.68	1.07	1.26	-24.38	-46.01	-0.46	46.21	62.22	0.72	1.31	0.03
NH4	SPR	14	1.26	1.35	0.64	7.21	53.38	0.09	0.67	0.64	10.76	-14.57	0.07	60.19	61.5	0.53	0.8	0.4
NH4	SUM	11	0.84	0.67	0.25	-19.82	52.86	-0.17	0.44	0.27	-6.46	-28.02	-0.25	51.07	60.45	0.66	0.54	0.06
NH4	FAL	13	0.88	1.05	0.38	19.35	62	0.17	0.55	0.46	36.7	1.72	0.19	77.15	56.2	0.62	0.7	0.15
NH4	ALL	48	1.25	1.14	0.45	-8.65	53.41	-0.11	0.67	0.74	6.52	-19.79	-0.09	59.78	59.97	0.58	0.86	0.2
NO3	WIN	10	5.29	3.65	0.24	-30.98	52.6	-1.64	2.78	9.7	-18.25	-45.21	-0.45	51.75	65.67	0.76	3.52	0.06
NO3	SPR	14	2.26	2.7	0.74	19.68	66.24	0.44	1.5	4.45	18.42	-19.97	0.2	72.02	71.88	0.66	2.15	0.54
NO3	SUM	11	0.66	0.31	0.43	-53.36	78.57	-0.35	0.52	0.2	-37.65	-88.89	-1.14	82.75	112.95	1.68	0.57	0.19
NO3	FAL	13	1.68	2.1	0.45	25.12	81.22	0.42	1.36	2.42	35.26	-16.29	0.25	101.47	87.9	0.81	1.61	0.21
NO3	ALL	48	2.37	2.19	0.53	-7.54	63.54	-0.18	1.5	4.68	2.49	-40.03	-0.08	78.23	84.33	0.69	2.17	0.28
SO4	WIN	10	2.13	1.23	0.57	-42.53	50.82	-0.91	1.08	0.91	-44.18	-66.77	-0.74	49.13	71.17	0.88	1.31	0.33
SO4	SPR	14	2.06	1.58	0.17	-23.46	52.06	-0.48	1.07	1.26	-14.36	-34.7	-0.31	53.19	61.3	0.68	1.22	0.03
SO4	SUM	11	2.44	1.66	0.01	-32.09	47.87	-0.78	1.17	1.95	-22.26	-40.92	-0.47	43.78	58.46	0.7	1.6	0
SO4	FAL	13	1.55	1.3	0	-16.28	57.05	-0.25	0.89	1.16	-5.11	-25.99	-0.19	55.6	58.9	0.68	1.11	0
SO4	ALL	48	2.03	1.45	0.15	-28.54	51.66	-0.58	1.05	1.38	-19.88	-40.45	-0.4	50.84	62.05	0.72	1.31	0.02

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: SUM156</i>																		
NH4	WIN	11	0.55	0.65	0.33	18.45	65.86	0.1	0.36	0.36	19.38	-7.34	0.18	61.98	51.99	0.66	0.61	0.11
NH4	SPR	14	0.52	0.37	0.03	-28.42	54.69	-0.15	0.29	0.09	-19.31	-47.03	-0.4	54.51	74.56	0.76	0.34	0
NH4	SUM	13	0.6	0.34	0.22	-43.7	65.89	-0.26	0.39	0.14	-40.38	-84.96	-0.78	72.91	102.59	1.17	0.46	0.05
NH4	FAL	13	0.44	0.35	0.66	-20.88	56.29	-0.09	0.25	0.08	-25.12	-56.25	-0.26	60.81	82.15	0.71	0.3	0.44
NH4	ALL	51	0.53	0.42	0.31	-20.66	60.78	-0.11	0.32	0.18	-17.82	-50.49	-0.26	62.42	78.77	0.77	0.43	0.1
NO3	WIN	11	0.44	1.37	0	212.5	249.5	0.93	1.09	2.38	389.35	49.69	2.13	420.09	95.92	2.49	1.8	0
NO3	SPR	14	0.39	0.28	0.09	-27.39	82.56	-0.11	0.32	0.18	-9.17	-69.62	-0.38	98.28	105.82	1.14	0.44	0.01
NO3	SUM	13	0.16	0.28	0.13	79.64	182.39	0.13	0.29	0.19	162.24	-23.69	0.8	244.35	110.61	1.82	0.46	0.02
NO3	FAL	13	0.43	0.37	0.57	-13.4	57.36	-0.06	0.25	0.11	-14.35	-40.47	-0.15	51.89	67.67	0.66	0.34	0.33
NO3	ALL	51	0.35	0.54	0.17	53.48	130.84	0.19	0.46	0.8	119.16	-24.75	0.53	193.1	95.18	1.31	0.91	0.03
SO4	WIN	11	2.16	1.62	0.8	-24.75	30.06	-0.53	0.65	0.26	-26.92	-36.59	-0.33	32.79	41.86	0.4	0.74	0.64
SO4	SPR	14	2.82	1.92	0.11	-32.09	43.46	-0.91	1.23	1.2	-30.98	-48.06	-0.47	42.8	57.85	0.64	1.42	0.01
SO4	SUM	13	2.7	1.62	0.53	-40.07	49.56	-1.08	1.34	1.15	-41.48	-69.47	-0.67	52.62	77.8	0.83	1.52	0.28
SO4	FAL	13	1.87	1.26	0.85	-32.39	35.73	-0.6	0.67	0.27	-35.14	-50.82	-0.48	38.06	53.49	0.53	0.8	0.71
SO4	ALL	51	2.4	1.61	0.58	-33.02	41.09	-0.79	0.99	0.8	-33.84	-51.75	-0.49	41.94	58.37	0.61	1.19	0.34
<i>CASTNET Monitoring Station: THR422</i>																		
NH4	WIN	11	0.35	0.52	0.33	46.84	81.09	0.17	0.29	0.13	58.58	22.93	0.47	87.13	60.46	0.81	0.4	0.11
NH4	SPR	12	0.6	0.45	0.28	-24.08	67.7	-0.14	0.41	0.28	-17.85	-59.66	-0.32	76.58	82.05	0.89	0.55	0.08
NH4	SUM	13	0.31	0.21	0.25	-32.38	39.83	-0.1	0.12	0.01	-29.23	-42.75	-0.48	38.08	50.81	0.59	0.15	0.06
NH4	FAL	13	0.25	0.39	0.13	54.48	85.08	0.14	0.22	0.07	69.58	25.07	0.54	97.3	61.31	0.85	0.3	0.02
NH4	ALL	49	0.38	0.39	0.26	3.16	67.53	0.01	0.25	0.14	19.48	-14.16	0.03	74.23	63.41	0.68	0.37	0.07
NO3	WIN	11	0.58	1.21	0.08	108.88	171.01	0.63	0.99	1.34	180.48	41.56	1.09	217.45	97.02	1.71	1.32	0.01
NO3	SPR	12	0.85	0.74	0.19	-13.74	99.14	-0.12	0.85	1.42	-0.5	-83.25	-0.16	115.76	121.99	1.15	1.2	0.04
NO3	SUM	13	0.27	0.08	0.07	-70.55	70.55	-0.19	0.19	0.02	-67.83	-116.84	-2.4	67.83	116.84	2.4	0.23	0.01
NO3	FAL	13	0.42	0.65	0.05	52.73	114.53	0.22	0.49	0.36	92.26	-7.69	0.53	151.96	95.21	1.15	0.64	0
NO3	ALL	49	0.52	0.65	0.23	23.22	116.38	0.12	0.61	0.85	46.87	-44.1	0.23	135.48	107.91	1.16	0.93	0.05
SO4	WIN	11	0.82	0.52	0.18	-37.43	56.38	-0.31	0.46	0.23	-24.43	-43.64	-0.6	51.77	61.7	0.9	0.57	0.03
SO4	SPR	12	1.34	0.69	0	-48.29	65.54	-0.65	0.88	0.6	-38.99	-74.98	-0.93	69.44	90.89	1.27	1.01	0
SO4	SUM	13	0.93	0.54	0.3	-42.32	44.21	-0.4	0.41	0.13	-37.35	-53.09	-0.73	39.84	55.46	0.77	0.53	0.09
SO4	FAL	13	0.77	0.6	0.33	-21.63	32.16	-0.17	0.25	0.09	-16.91	-27.25	-0.28	31.55	39.61	0.41	0.34	0.11
SO4	ALL	49	0.96	0.59	0.07	-39.06	51.28	-0.38	0.49	0.29	-29.43	-49.47	-0.64	47.57	61.33	0.84	0.66	0

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: UVL124</i>																		
NH4	WIN	11	1.36	1.07	0.28	-21.4	75.19	-0.29	1.02	1.1	-15.21	-51.26	-0.27	74.75	91.94	0.96	1.09	0.08
NH4	SPR	13	0.92	0.82	0.42	-11.36	49.52	-0.1	0.46	0.28	-4.53	-27.05	-0.13	52.24	61.1	0.56	0.54	0.18
NH4	SUM	12	0.82	0.89	0.28	8.4	94.43	0.07	0.77	0.98	23.66	-27.17	0.08	97.79	85.29	0.94	0.99	0.08
NH4	FAL	13	0.86	1.19	0	38.09	95.44	0.33	0.82	0.87	53.57	2.31	0.38	104.65	83.17	0.95	0.99	0
NH4	ALL	49	0.98	0.99	0.01	1.12	77.43	0.01	0.76	0.84	15.39	-24.72	0.01	82.35	79.8	0.77	0.92	0
NO3	WIN	11	2.97	2.59	0.61	-12.84	104.31	-0.38	3.1	11.16	8.14	-55.32	-0.15	108.99	118.18	1.2	3.36	0.37
NO3	SPR	13	1.2	1.52	0.67	26.51	84.99	0.32	1.02	1.6	36.23	-20.76	0.27	105.44	91.91	0.85	1.3	0.45
NO3	SUM	12	0.36	1.01	0.28	178.65	253.96	0.65	0.92	2.02	169.02	-2.8	1.79	237.88	108.71	2.54	1.56	0.08
NO3	FAL	13	1.3	2.18	0.41	67.48	120.02	0.88	1.56	2.95	135.98	9.23	0.67	188.92	103.2	1.2	1.93	0.16
NO3	ALL	49	1.42	1.81	0.25	27.52	113.17	0.39	1.61	4.42	88.91	-16.16	0.28	160.82	104.92	1.13	2.14	0.06
SO4	WIN	11	1.75	0.87	0.21	-50.45	52.06	-0.88	0.91	0.33	-48.89	-71.56	-1.02	50.74	73.32	1.05	1.06	0.04
SO4	SPR	13	1.85	1.08	0.01	-41.76	47.72	-0.77	0.88	0.54	-34.13	-53.11	-0.72	45.19	61.25	0.82	1.07	0
SO4	SUM	12	2.23	1.67	0.31	-25.03	66.89	-0.56	1.49	2.61	-15.1	-46.53	-0.33	67.94	78.43	0.89	1.71	0.09
SO4	FAL	13	1.71	1.62	0.09	-5.68	70.75	-0.1	1.21	2.56	0.83	-28.04	-0.06	66.25	69.99	0.75	1.6	0.01
SO4	ALL	49	1.89	1.32	0.02	-30.04	59.73	-0.57	1.13	1.63	-23.51	-48.99	-0.43	57.59	70.48	0.85	1.4	0
<i>CASTNET Monitoring Station: VIN140</i>																		
NH4	WIN	11	2.25	1.52	0.5	-32.5	45.32	-0.73	1.02	0.8	-24.87	-39.57	-0.48	45.13	55.74	0.67	1.15	0.25
NH4	SPR	13	1.3	1.12	0.45	-13.6	36.22	-0.18	0.47	0.3	-14.74	-24.89	-0.16	35.8	41.25	0.42	0.57	0.2
NH4	SUM	13	1.41	1.14	0.01	-19.46	49.12	-0.27	0.69	0.58	-7.48	-27.39	-0.24	53.24	59.21	0.61	0.81	0
NH4	FAL	13	0.84	1.07	0.27	27.51	86.36	0.23	0.72	0.89	49.25	3.98	0.28	91.02	66.5	0.86	0.97	0.07
NH4	ALL	50	1.42	1.2	0.3	-15.42	50.44	-0.22	0.72	0.74	1.55	-21.26	-0.18	56.74	55.67	0.6	0.89	0.09
NO3	WIN	11	4.61	3.65	0.26	-20.7	50.17	-0.95	2.31	6.53	-5.11	-27.99	-0.26	58.58	62.23	0.63	2.73	0.07
NO3	SPR	13	1.49	1.74	0.55	16.48	58.85	0.25	0.88	1.84	12.56	-6.72	0.16	51.89	49.91	0.59	1.38	0.3
NO3	SUM	13	0.75	0.46	0.22	-39.36	71.61	-0.3	0.54	0.34	-26.54	-71.75	-0.65	78.52	91.75	1.18	0.66	0.05
NO3	FAL	13	1.23	1.8	0.09	46.51	106.66	0.57	1.31	4.16	84.63	-11.26	0.47	142.98	75.62	1.07	2.12	0.01
NO3	ALL	50	1.92	1.84	0.53	-3.86	63.54	-0.07	1.22	3.4	17.24	-29.49	-0.04	83.97	70.18	0.66	1.85	0.28
SO4	WIN	11	3.07	1.52	0.91	-50.52	50.52	-1.55	1.55	0.38	-50.97	-70.4	-1.02	50.97	70.4	1.02	1.67	0.83
SO4	SPR	13	3.29	1.76	0.08	-46.65	49.22	-1.54	1.62	1.07	-44.07	-62.52	-0.87	46.84	65.1	0.92	1.85	0.01
SO4	SUM	13	5.05	2.94	0.18	-41.76	57.5	-2.11	2.9	6.55	-32.43	-57.32	-0.72	56.66	76.26	0.99	3.32	0.03
SO4	FAL	13	2.14	1.57	0.14	-26.58	50.56	-0.57	1.08	1.57	-22.69	-41.15	-0.36	47.4	62.01	0.69	1.38	0.02
SO4	ALL	50	3.4	1.97	0.33	-42.24	52.89	-1.44	1.8	2.79	-37	-57.34	-0.73	50.45	68.37	0.92	2.2	0.11

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: VOY413</i>																		
NH4	WIN	11	0.4	0.64	0.26	57.59	114.75	0.23	0.46	0.43	60.99	0.81	0.58	115.62	78.12	1.15	0.7	0.07
NH4	SPR	14	0.41	0.46	0.15	11.18	67.18	0.05	0.28	0.14	15.82	-6.33	0.11	62.61	57	0.67	0.38	0.02
NH4	SUM	13	0.32	0.26	0.29	-19.43	63.5	-0.06	0.21	0.08	2.51	-32.92	-0.24	68.95	66.64	0.79	0.29	0.09
NH4	FAL	13	0.45	0.57	0.91	26.61	47.59	0.12	0.21	0.06	28.35	9.66	0.27	57.66	48.99	0.48	0.26	0.83
NH4	ALL	51	0.4	0.47	0.48	19.43	71.23	0.08	0.28	0.18	25.36	-7.49	0.19	74.4	61.97	0.71	0.43	0.23
NO3	WIN	11	0.66	1.33	0.09	102.49	176.98	0.68	1.17	2.57	386.27	-6.24	1.02	454.09	108.62	1.77	1.74	0.01
NO3	SPR	14	0.33	0.42	0.52	28.39	120.54	0.09	0.4	0.57	15.3	-50.68	0.28	104.24	107.87	1.21	0.76	0.27
NO3	SUM	13	0.12	0.06	0.06	-51.58	86.39	-0.06	0.1	0.02	-51.87	-110.05	-1.07	83.21	125.57	1.78	0.14	0
NO3	FAL	13	0.68	1	0.94	47.84	88.3	0.32	0.6	0.74	39.39	-29.97	0.48	116.2	108.44	0.88	0.92	0.89
NO3	ALL	51	0.44	0.67	0.66	54.63	123.81	0.24	0.54	0.97	84.33	-50.95	0.55	177.39	112.69	1.24	1.02	0.44
SO4	WIN	11	0.88	0.78	0.34	-11.43	59.64	-0.1	0.52	0.49	-13.21	-32.15	-0.13	53.31	56.05	0.67	0.71	0.12
SO4	SPR	14	1.05	1.14	0.06	8.63	37.75	0.09	0.4	0.32	16.1	3.11	0.09	41.84	34.42	0.38	0.57	0
SO4	SUM	13	0.87	0.71	0.25	-18.76	59.89	-0.16	0.52	0.48	8.11	-26.77	-0.23	70.54	62.41	0.74	0.71	0.06
SO4	FAL	13	0.91	1.03	0.37	12.19	46.7	0.11	0.43	0.43	24.62	3.12	0.12	55.99	41.43	0.47	0.67	0.14
SO4	ALL	51	0.93	0.92	0.2	-1.08	49.7	-0.01	0.46	0.44	9.91	-12.11	-0.01	55.23	48.01	0.5	0.66	0.04
<i>CASTNET Monitoring Station: VPI120</i>																		
NH4	WIN	11	0.74	0.56	0.09	-24.22	32.17	-0.18	0.24	0.07	-18.97	-27.84	-0.32	28.31	36.11	0.42	0.32	0.01
NH4	SPR	9	0.84	0.47	0.67	-43.66	43.66	-0.37	0.37	0.04	-43.63	-59.56	-0.77	43.63	59.56	0.77	0.41	0.45
NH4	SUM	12	1.49	0.54	0.46	-63.9	63.9	-0.95	0.95	0.13	-62.82	-94.81	-1.77	62.82	94.81	1.77	1.02	0.21
NH4	FAL	13	0.62	0.55	0.08	-10.93	46.41	-0.07	0.29	0.12	0.59	-16.27	-0.12	47.26	51.91	0.52	0.35	0.01
NH4	ALL	45	0.93	0.54	0.16	-42.19	50.62	-0.39	0.47	0.22	-29.95	-48.7	-0.73	46.05	61.02	0.88	0.61	0.03
NO3	WIN	11	0.58	0.63	0.24	8.3	57.97	0.05	0.34	0.2	22.92	-8.34	0.08	68.48	58	0.58	0.45	0.06
NO3	SPR	9	0.31	0.16	0.07	-49.32	71.68	-0.16	0.23	0.04	-19.96	-69.38	-0.97	90.51	96.65	1.41	0.25	0
NO3	SUM	12	0.2	0.03	0.17	-83.9	83.9	-0.17	0.17	0.01	-78.06	-132.61	-5.21	78.06	132.61	5.21	0.2	0.03
NO3	FAL	13	0.58	0.33	0.1	-42.86	69.85	-0.25	0.4	0.19	-36.72	-77.27	-0.75	66.62	97.96	1.22	0.5	0.01
NO3	ALL	45	0.43	0.29	0.42	-31.97	67.94	-0.14	0.29	0.12	-29.81	-73.6	-0.47	74.9	97.17	1	0.38	0.18
SO4	WIN	11	1.95	1.63	0.29	-16.51	28.39	-0.32	0.55	0.37	-12.28	-18.37	-0.2	27.16	30.75	0.34	0.69	0.08
SO4	SPR	9	2.6	1.6	0.85	-38.57	38.57	-1	1	0.15	-39.9	-52.32	-0.63	39.9	52.32	0.63	1.08	0.72
SO4	SUM	12	4.86	2.35	0.62	-51.72	51.72	-2.51	2.51	1.54	-50.35	-72.3	-1.07	50.35	72.3	1.07	2.8	0.38
SO4	FAL	13	1.68	1.82	0.26	7.79	50.46	0.13	0.85	1.2	12.14	-4.9	0.08	51.1	50.48	0.5	1.1	0.07
SO4	ALL	45	2.78	1.87	0.5	-32.8	45.04	-0.91	1.25	1.96	-20.9	-35.65	-0.49	42.81	51.84	0.67	1.67	0.25

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMFE unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: WNC429</i>																		
NH4	WIN	11	0.26	0.37	0.18	43.7	74.71	0.11	0.19	0.06	64.58	21.89	0.44	90.57	53.81	0.75	0.27	0.03
NH4	SPR	14	0.29	0.39	0.22	34.36	80.71	0.1	0.24	0.12	54.69	-7.75	0.34	106.09	67.49	0.81	0.36	0.05
NH4	SUM	13	0.3	0.17	0.01	-44.21	44.21	-0.13	0.13	0.01	-42.43	-59.06	-0.79	42.43	59.06	0.79	0.15	0
NH4	FAL	13	0.23	0.37	0.44	57.41	95.26	0.13	0.22	0.25	118.39	5.55	0.57	151.08	48.91	0.95	0.52	0.19
NH4	ALL	51	0.27	0.32	0.03	19.32	72.45	0.05	0.2	0.12	48.3	-11.05	0.19	97.98	57.65	0.72	0.36	0
NO3	WIN	11	0.28	0.7	0.18	145.01	225.05	0.41	0.64	0.6	319.01	31.77	1.45	373.31	117.4	2.25	0.88	0.03
NO3	SPR	14	0.33	0.61	0.14	85.65	156.25	0.28	0.52	0.54	349.28	-18.71	0.86	427.88	116.36	1.56	0.79	0.02
NO3	SUM	13	0.18	0.03	0.24	-84.99	86.95	-0.15	0.16	0.01	-79.5	-145.71	-5.66	83.77	149.45	5.79	0.17	0.06
NO3	FAL	13	0.18	0.21	0.46	15.45	146.55	0.03	0.27	0.12	106.76	-62.83	0.15	218.42	142.25	1.47	0.35	0.21
NO3	ALL	51	0.24	0.38	0.14	55.02	158.57	0.13	0.39	0.36	171.63	-51.44	0.55	275	131.62	1.59	0.61	0.02
SO4	WIN	11	0.62	0.48	0.28	-22.2	41.58	-0.14	0.26	0.09	-5.46	-17.61	-0.29	40.07	44.01	0.53	0.33	0.08
SO4	SPR	14	0.72	0.62	0.04	-13.4	58.08	-0.1	0.42	0.24	-1.91	-31.75	-0.15	66.15	67.72	0.67	0.5	0
SO4	SUM	13	0.77	0.49	0.23	-36.4	37.45	-0.28	0.29	0.06	-33.4	-45.83	-0.57	34.57	46.98	0.59	0.37	0.05
SO4	FAL	13	0.56	0.64	0.17	14.42	48	0.08	0.27	0.15	33.6	4.07	0.14	64.33	41.38	0.48	0.4	0.03
SO4	ALL	51	0.67	0.56	0.13	-15.99	46.6	-0.11	0.31	0.16	-1.65	-23.16	-0.19	52.01	50.6	0.55	0.41	0.02
<i>CASTNET Monitoring Station: WSP144</i>																		
NH4	WIN	10	1.2	0.98	0.68	-18.11	36.41	-0.22	0.44	0.17	-20.3	-32.01	-0.22	39.24	47.29	0.44	0.47	0.46
NH4	SPR	14	0.72	0.8	0.33	11.04	50.67	0.08	0.37	0.22	15.2	-4.62	0.11	51.56	51.34	0.51	0.48	0.11
NH4	SUM	11	1.24	1.07	0.47	-13.83	51.02	-0.17	0.63	0.47	-14.41	-35.77	-0.16	53.5	65.02	0.59	0.71	0.22
NH4	FAL	12	0.69	0.76	0.58	10.74	49.87	0.07	0.34	0.24	5.64	-9.87	0.11	46.71	44.36	0.5	0.49	0.33
NH4	ALL	47	0.94	0.89	0.5	-4.65	46.76	-0.04	0.44	0.29	-1.72	-19.08	-0.05	48.15	51.9	0.49	0.54	0.25
NO3	WIN	10	2.23	2.18	0.36	-1.84	54.18	-0.04	1.21	1.97	4.86	-22.32	-0.02	63.66	64.4	0.55	1.4	0.13
NO3	SPR	14	0.8	1.03	0.32	27.47	109	0.22	0.88	1.66	105.63	-6.5	0.27	165.66	87.7	1.09	1.31	0.1
NO3	SUM	11	0.25	0.57	0.05	128.6	218.57	0.32	0.54	0.67	221.31	-8.15	1.29	292.09	95.63	2.19	0.88	0
NO3	FAL	12	0.9	1.11	0.34	23.59	75.93	0.21	0.68	1.01	26.93	-7.86	0.24	78.8	65.77	0.76	1.03	0.11
NO3	ALL	47	1	1.19	0.44	18.6	81.85	0.19	0.82	1.34	91.17	-10.6	0.19	151.37	79	0.82	1.17	0.2
SO4	WIN	10	2.14	1.15	0.36	-46.09	46.09	-0.99	0.99	0.34	-45	-63.5	-0.86	45	63.5	0.86	1.15	0.13
SO4	SPR	14	2.18	1.58	0.41	-27.48	45.61	-0.6	1	1	-25.13	-41.72	-0.38	43.76	55.96	0.63	1.17	0.16
SO4	SUM	11	3.66	2.74	0.51	-25.3	40.94	-0.93	1.5	2.6	-24.58	-43.9	-0.34	43.69	59.34	0.55	1.86	0.26
SO4	FAL	12	1.78	1.55	0.69	-13	38.48	-0.23	0.69	0.6	-16.23	-27.1	-0.15	37.23	44.59	0.44	0.81	0.48
SO4	ALL	47	2.42	1.75	0.59	-27.49	42.71	-0.66	1.03	1.22	-26.96	-43.13	-0.38	42.34	55.45	0.59	1.29	0.35

2011 Model Performance Results by Pollutant and Quarter - CASTNET Sites

Pollutant	Quarter	N	MEAN_O ($\mu\text{g}/\text{m}^3$)	MEAN_P ($\mu\text{g}/\text{m}^3$)	r unitless	NMB (%)	NME (%)	MB ($\mu\text{g}/\text{m}^3$)	ME ($\mu\text{g}/\text{m}^3$)	VAR ($\mu\text{g}/\text{m}^3$) ²	MNB (%)	MFB (%)	NMFB unitless	MNGE (%)	MFE (%)	NMEF unitless	RMSE unitless	RSQR (%)
<i>CASTNET Monitoring Station: WST109</i>																		
NH4	WIN	11	0.44	0.53	0.33	20.95	54.19	0.09	0.24	0.07	28.88	9.29	0.21	59.16	50.03	0.54	0.28	0.11
NH4	SPR	13	0.38	0.39	0.5	1.2	36.07	0	0.14	0.03	8.99	0.91	0.01	36.81	35.44	0.36	0.17	0.25
NH4	SUM	13	0.49	0.37	0.38	-23.7	61.79	-0.12	0.3	0.14	-24.8	-46.61	-0.31	54.97	67.09	0.81	0.39	0.14
NH4	FAL	11	0.41	0.38	0.21	-6.29	51.02	-0.03	0.21	0.07	-5.1	-23.91	-0.07	47.95	55.72	0.54	0.27	0.05
NH4	ALL	48	0.43	0.41	0.33	-3.49	51.47	-0.02	0.22	0.08	1.17	-15.73	-0.04	49.4	52	0.53	0.29	0.11
NO3	WIN	11	0.34	1.01	0.35	197.6	226.69	0.67	0.77	0.49	240.54	60.04	1.98	270.23	102.98	2.27	0.97	0.12
NO3	SPR	13	0.17	0.28	0.17	63.45	132.46	0.11	0.23	0.12	71.21	-16.92	0.63	137.73	89.05	1.32	0.37	0.03
NO3	SUM	13	0.06	0.02	0.2	-69.87	69.87	-0.04	0.04	0	-69.1	-112.16	-2.32	69.1	112.16	2.32	0.05	0.04
NO3	FAL	11	0.15	0.21	0.33	36.05	121.4	0.06	0.19	0.06	55.51	-46.6	0.36	148.06	117.09	1.21	0.24	0.11
NO3	ALL	48	0.18	0.36	0.64	104.15	165.67	0.18	0.29	0.23	68.42	-31.88	1.04	151.87	104.93	1.66	0.52	0.41
SO4	WIN	11	1.16	0.88	0.18	-24.27	45.52	-0.28	0.53	0.32	-15.01	-31.39	-0.32	47.31	51.45	0.6	0.63	0.03
SO4	SPR	13	1.11	1.11	0.6	-0.03	28.17	0	0.31	0.18	11.43	2.03	0	33.78	27.46	0.28	0.43	0.35
SO4	SUM	13	1.41	1.31	0.32	-6.83	74.91	-0.1	1.06	2.57	-8.85	-35.24	-0.07	62.63	66.07	0.8	1.61	0.1
SO4	FAL	11	1.1	1.14	0.48	3.59	46.93	0.04	0.52	0.62	-1.23	-16.51	0.04	43.95	44.73	0.47	0.79	0.23
SO4	ALL	48	1.2	1.12	0.33	-6.81	50.8	-0.08	0.61	0.98	-3.02	-19.97	-0.07	47.03	47.37	0.55	0.99	0.11

N: Number of observations
 MEAN_O: Average of the observed values
 MEAN_P: Average of the modeled values
 r: Pearson correlation coefficient
 NMB: Normalized Mean Bias
 NME: Normalized Mean Error

MB: Mean Bias
 ME: Mean Error
 VAR: Variance
 MNB: Mean Normalized Bias
 MFB: Mean Fractional Bias

NMFB: Normalized Mean Bias Fraction
 MNGE: Mean Normalized Gross Factor
 MFE: Mean Fractional Error
 NMEF: Normalized Mean Error Fraction
 RMSE: Root Mean Squared Error
 RSQR: r-squared