

## Wildlife Biology

### **WLB-00623**

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## Appendix 1

Table A1. Pearson’s correlation values for all pairs of predictor variables assessed for analysis of associations between inclement weather and daily numbers of total American Woodcock collisions based on monitoring at 21 buildings in Minneapolis, Minnesota, USA, 2017–2018. Variables include minimum cloud base height, total precipitation, total snowfall, average wind speed, and maximum wind speed. For all variables except snowfall, versions without a time lag (denoted with 0) represent conditions the night before early morning collision surveys, and time lag variables represent conditions two nights before surveys (denoted with 1 to represent a 1-day lag effect) and three nights before surveys (denoted with 2 to represent a 2-day lag effect). For snowfall, the variable without a time-lag represents total snowfall for the date on which surveys were conducted while time-lag variables represent snowfall for one and two days before surveys. The unit of replication was survey days (n = 78).

	Min. cloud base			Total precip.			Snow			Ave. wind speed			Max. wind speed		
	0	1	2	0	1	2	0	1	2	0	1	2	0	1	2
Min. cloud base (0)	1.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Min. cloud base (1)	0.275	1.000	-	-	-	-	-	-	-	-	-	-	-	-	-
Min. cloud base (2)	0.084	0.261	1.000	-	-	-	-	-	-	-	-	-	-	-	-
Total precip. (0)	-0.344	0.024	0.163	1.000	-	-	-	-	-	-	-	-	-	-	-
Total precip. (1)	-0.183	-0.351	0.017	-0.014	1.000	-	-	-	-	-	-	-	-	-	-
Total precip. (2)	-0.015	-0.136	-0.331	-0.093	0.007	1.000	-	-	-	-	-	-	-	-	-
Snow (0)	-0.236	-0.065	-0.094	0.351	0.011	-0.037	1.000	-	-	-	-	-	-	-	-
Snow (1)	-0.267	-0.241	-0.070	0.235	0.351	0.029	0.279	1.000	-	-	-	-	-	-	-
Snow (2)	-0.163	-0.272	-0.248	-0.038	0.235	0.420	-0.027	0.279	1.000	-	-	-	-	-	-
Ave. wind speed (0)	0.088	0.014	-0.107	0.244	-0.001	-0.031	0.365	0.373	0.175	1.000	-	-	-	-	-
Ave. wind speed (1)	-0.194	0.065	-0.013	0.208	0.241	0.110	0.185	0.367	0.375	0.391	1.000	-	-	-	-
Ave. wind speed (2)	-0.264	-0.200	0.063	0.136	0.205	0.291	0.131	0.183	0.365	0.093	0.391	1.000	-	-	-
Max. wind speed (0)	0.051	0.059	-0.051	0.262	-0.008	0.004	0.325	0.317	0.101	0.901	0.352	0.073	1.000	-	-
Max. wind speed (1)	-0.205	0.030	0.035	0.149	0.261	0.091	0.149	0.326	0.318	0.310	0.897	0.349	0.300	1.000	-
Max. wind speed (2)	-0.146	-0.209	0.027	0.036	0.149	0.311	0.070	0.149	0.326	0.103	0.312	0.895	0.062	0.301	1.000

Table A2. Model selection results for analysis of associations between inclement weather and daily numbers of total American Woodcock collisions based on monitoring at 21 buildings in Minneapolis, Minnesota, USA, 2017-2018. The unit of replication was survey days ( $n = 78$ ). Models used a Poisson distribution and were based on 15 collision observations including 6 potential predation events (for results using a negative binomial distribution, see Table A3; for results with the 6 potential predation events excluded, see Table A4). For all variables except snowfall, versions without a time lag represent conditions the night before early morning collision surveys and 1- and 2-day time lag variables respectively represent conditions two and three nights before surveys. For snowfall, the variable without a time-lag represents total snowfall for the date on which surveys were conducted while 1- and 2-day time-lag variables respectively represent snowfall for one and two days before surveys.

	$K^a$	$\Delta AICc^b$	$\omega_i^c$
Average wind speed	2	0	0.36
Maximum wind speed	2	1.27	0.19
Average wind speed + maximum wind speed	3	2.15	0.12
Minimum cloud base (1-day lag)	2	3.59	0.06
Maximum wind speed (2-day lag)	2	3.61	0.06
Average wind speed (2-day lag)	2	3.84	0.05
Minimum cloud base (2-day lag)	2	3.87	0.05
Maximum wind speed (1-day lag)	2	5.97	0.02
Snowfall (2-day lag)	2	6.21	0.01
Minimum cloud base	2	6.8	0.01
Average wind speed (1-day lag)	2	6.82	0.01
Null (intercept-only) model	1	6.93	0.01
Total precipitation (2-day lag)	2	8.23	0.01
Snowfall	2	8.3	0.01
Snowfall (1-day lag)	2	8.46	0.01
Total precipitation (1-day lag)	2	8.55	0.01
Total precipitation	2	9.03	0.00

<sup>a</sup>Number of model parameters

<sup>b</sup>Difference in AICc value between model and top model

<sup>c</sup>AICc weight - relative support for model

Table A3. Model selection results for analysis of associations between inclement weather and daily numbers of total American Woodcock collisions based on monitoring at 21 buildings in Minneapolis, Minnesota, USA, 2017-2018. The unit of replication was survey days ( $n = 78$ ). Models used a negative binomial distribution and were based on 15 collision observations including six potential predation events (for results using a Poisson distribution, see Table A2; for results using a Poisson distribution and with the six potential predation events excluded, see Table A4). For all variables except snowfall, versions without a time lag represent conditions the night before early morning collision surveys and 1- and 2-day time lag variables respectively represent conditions two and three nights before surveys. For snowfall, the variable without a time-lag represents total snowfall for the date on which surveys were conducted while 1- and 2-day time-lag variables respectively represent snowfall for one and two days before surveys.

	$K^a$	$\Delta AIC_c^b$	$\omega_i^c$
Average wind speed	3	0.00	0.34
Maximum wind speed	3	1.38	0.17
Average wind speed + maximum wind speed	4	2.22	0.11
Minimum cloud base (1-day lag)	3	3.27	0.07
Maximum wind speed (2-day lag)	3	3.50	0.06
Minimum cloud base (2-day lag)	3	3.73	0.05
Average wind speed (2-day lag)	3	3.85	0.05
Maximum wind speed (1-day lag)	3	5.28	0.02
Snowfall (2-day lag)	3	5.73	0.02
Null (intercept-only) model	2	5.76	0.02
Minimum cloud base	3	5.99	0.02
Average wind speed (1-day lag)	3	6.07	0.02
Total precipitation (2-day lag)	3	7.21	0.01
Snowfall	3	7.29	0.01
Snowfall (1-day lag)	3	7.33	0.01
Total precipitation (1-day lag)	3	7.49	0.01
Total precipitation	3	7.93	0.01

<sup>a</sup>Number of model parameters

<sup>b</sup>Difference in AICc value between model and top model

<sup>c</sup>AICc weight - relative support for model

Table A4. Model selection results for analysis of associations between inclement weather and daily numbers of total American Woodcock collisions based on monitoring at 21 buildings in Minneapolis, Minnesota, USA, 2017-2018. The unit of replication was survey days ( $n = 78$ ). Models used a Poisson distribution and were based on nine collision observations excluding six potential predation events (for results with these six birds included, and based on Poisson and negative binomial models, respectively, see Table A2–A3). For all variables except snowfall, versions without a time lag represent conditions the night before early morning collision surveys and 1- and 2-day time lag variables respectively represent conditions two and three nights before surveys. For snowfall, the variable without a time-lag represents total snowfall for the date on which surveys were conducted while 1- and 2-day time-lag variables respectively represent snowfall for one and two days before surveys.

	$K^a$	$\Delta AICc^b$	$\omega_i^c$
Maximum wind speed	2	0.00	0.29
Average wind speed	2	0.46	0.23
Average wind speed + maximum wind speed	3	2.05	0.10
Maximum wind speed (2-day lag)	2	3.53	0.05
Maximum wind speed (1-day lag)	2	3.53	0.05
Minimum cloud base (1-day lag)	2	3.95	0.04
Average wind speed (2-day lag)	2	4.09	0.04
Null (intercept-only) model	1	4.22	0.04
Total precipitation (2-day lag)	2	4.23	0.03
Minimum cloud base	2	5.17	0.02
Snowfall	2	5.19	0.02
Total precipitation (1-day lag)	2	5.69	0.02
Average wind speed (1-day lag)	2	5.77	0.02
Snowfall (1-day lag)	2	5.81	0.02
Total precipitation	2	6.11	0.01
Snowfall (2-day lag)	2	6.24	0.01
Minimum cloud base (2-day lag)	2	6.25	0.01

<sup>a</sup>Number of model parameters

<sup>b</sup>Difference in AICc value between model and top model

<sup>c</sup>AICc weight - relative support for model