

Assessing Weather Effects on Dengue Disease in Malaysia

Movie S1. Relative Risk of dengue cases by minimum temperature (°C) for a lag of 90 days, using a “natural cubic B-spline-natural cubic spline” DLNM with a 3 degrees of freedom natural cubic B-spline. The reference median value was 24 °C.

Movie S2. Relative Risk of dengue cases by bi-weekly accumulated rainfall (mm) for a lag of 90 days, using a “natural cubic B-spline-natural cubic spline” DLNM with a 3 degrees of freedom natural cubic B-spline. The reference median value was 108.20 mm.

Movie S3. Relative Risk of dengue cases by wind speed (knots) for a lag of 90 days, using a “natural cubic B-spline-natural cubic spline” DLNM with a 3 degrees of freedom natural cubic B-spline. The reference median value was 2.7 knots.

We used 3D visualization device system (OpenGL rgl) in the “rgl” R [1] package version 0.93.986 [2] and software ImageMagick 6.8.7 Q16 to convert the result of Figure 2 to the animated movie.

Table S1. Pearson correlation coefficients between dengue cases and weathers parameters, Selangor, Kuala Lumpur and Putrajaya 2008–2010.

	Daily Minimum Temperature (°C)	Daily Maximum Temperature (°C)	Daily Mean Temperature (°C)	Daily Relative Humidity (%)	Daily Wind Speed (Knot)	Cumulative Bi-Weekly Rainfall (mm)	Daily Total Dengue Cases
Daily minimum temperature	1.00	0.47	0.64	−0.09	0.11	−0.11	−0.29
Daily maximum temperature		1.00	0.79	−0.44	0.15	−0.11	−0.14
Daily mean temperature			1.00	−0.60	0.28	−0.18	−0.22
Daily relative humidity				1.00	−0.38	0.33	−0.09
Daily wind speed					1.00	−0.19	−0.09
Cumulative bi-weekly rainfall						1.00	−0.01
Daily total dengue cases							1.00

Table S2. Diagnostics of dengue-weather parameters models.

Variable in the Model	AIC	Deviance Explained	Remarks
MinT	7418.645	74.4	All parameters statistically significant
MaxT	7435.730	74.1	All parameters statistically significant
WDSP	7423.545	74.3	All parameters statistically significant
RH	7427.296	74.3	All parameters statistically significant
RF	7398.850	74.6	All parameters statistically significant
RF, MinT	7382.249	75.0	All parameters statistically significant
RF, MaxT	7396.225	74.7	MaxT is not statistically significant
RF, RH	7393.082	74.9	All parameters statistically significant
RF, WDSP	7383.954	75.0	All parameters statistically significant
RF, MinT, MaxT	7380.956	75.2	MaxT is not statistically significant
RF, MinT, RH	7378.860	75.3	RH is not statistically significant
RF, MinT, WDSP	7367.231	75.5	All parameters statistically significant
RF, MinT, WDSP, RH	7365.200	75.7	RH is not statistically significant
RF, MinT, WDSP, MaxT	7365.544	75.6	MaxT is not statistically significant

Models also include a natural cubic spline of time per year using 4 df, a factor of day of the week and a natural cubic spline of week of the year.

MinT = Minimum temperature; MaxT = Maximum temperature; WDSP = Wind speed; RH = Relative humidity; RF = Cumulative bi-weekly rainfall.

Table S3. Model selection based on delta AIC.

Model	AIC	Delta AIC	Model Likelihood	Akaike Weight
minimum AIC model: RF, MinT, WDSP	7367.231	0.000	1.000	0.996
RF, MinT, RH	7378.860	11.629	0.003	0.003
RF, MinT, MaxT	7380.956	13.725	0.001	0.001

MinT = Minimum temperature; MaxT = Maximum temperature; WDSP = Wind speed; RH = Relative humidity; RF = Cumulative bi-weekly rainfall.

The delta AIC (Δ_i) is a measure of each model relative to the best model (Equation (1)).

$$\text{Delta AIC} = \Delta_i = \text{AIC}_i - \text{min AIC} \quad (1)$$

where AIC_i is the AIC value for model i , and min AIC is the AIC value of the best model that is with lowest AIC value. As a guideline, a $\Delta_i < 2$ suggests substantial evidence for the model, values between 3 and 7 indicate that the model has considerably less support, whereas a $\Delta_i > 10$ indicates that the model is very unlikely [3].

The delta AIC is 11.629, suggesting the model with AIC_i is very unlikely to be selected as the best model. Hence, the best model (minimum temperature, rainfall and wind speed) is selected as the Akaike weight is 0.996.

Table S4. All percentage change (and 95% CIs) in the number of dengue cases for minimum temperature, cumulated rainfall and wind speed, with 99th percentile relative to 90th percentile and with 1st percentile relative to 10th percentile, respectively.

Lag (Days)	Overall Percentage Change (95% CI)					
	Minimum Temperature (°C)		Cumulated Rainfall (mm)		Wind Speed (knots)	
	1st Percentile	99th Percentile	1st Percentile	99th Percentile	1st Percentile	99th Percentile
	(22 °C) Relative to 10th Percentile (23 °C)	(26.5 °C) Relative to 90th Percentile (25.4 °C)	(11 mm) Relative to 10th Percentile (24 mm)	(302 mm) Relative to 90th Percentile (215 mm)	(1.7 kn) Relative to 10th Percentile (2.7 kn)	(5.7 kn) Relative to 90th Percentile (4.1 kn)
Cumulative	0.10(0.05,0.23)	11.92(4.41,32.19)	1.08(0.94,1.25)	21.45(8.96,51.37)	13.63(5.42,34.25)	1.30(0.20,8.39)
0	−2.00(−3.21, −0.78)	−4.69(−6.31, −3.05)	−0.19(−0.43,0.05)	3.39(1.93,4.86)	−0.98(−2.74,0.81)	2.80(0.12,5.56)
1	−2.06(−3.23, −0.89)	−4.30(−5.86, −2.72)	−0.18(−0.41,0.05)	3.48(2.06,4.93)	−0.79(−2.49,0.93)	2.70(0.09,5.38)
2	−2.12(−3.25, −0.98)	−3.91(−5.42, −2.39)	−0.18(−0.40,0.05)	3.58(2.18,4.99)	−0.61(−2.26,1.06)	2.61(0.06,5.22)
3	−2.18(−3.27, −1.08)	−3.53(−4.98, −2.05)	−0.17(−0.39,0.05)	3.67(2.30,5.05)	−0.43(−2.02,1.19)	2.51(0.02,5.06)
4	−2.24(−3.30, −1.16)	−3.14(−4.55, −1.72)	−0.17(−0.38,0.05)	3.76(2.42,5.12)	−0.25(−1.79,1.32)	2.41(−0.03,4.91)
5	−2.29(−3.33, −1.25)	−2.77(−4.13, −1.38)	−0.16(−0.37,0.05)	3.85(2.53,5.18)	−0.07(−1.56,1.44)	2.32(−0.09,4.78)
6	−2.35(−3.36, −1.32)	−2.40(−3.73, −1.05)	−0.16(−0.36,0.05)	3.93(2.63,5.25)	0.10(−1.34,1.57)	2.22(−0.15,4.65)
7	−2.40(−3.40, −1.39)	−2.04(−3.34, −0.73)	−0.15(−0.35,0.05)	4.01(2.73,5.31)	0.27(−1.13,1.69)	2.13(−0.22,4.53)
8	−2.45(−3.43, −1.45)	−1.69(−2.96, −0.40)	−0.14(−0.34,0.05)	4.09(2.82,5.37)	0.44(−0.93,1.82)	2.04(−0.29,4.43)
9	−2.49(−3.47, −1.51)	−1.35(−2.60, −0.08)	−0.14(−0.33,0.05)	4.16(2.90,5.43)	0.60(−0.73,1.94)	1.95(−0.37,4.33)
10	−2.54(−3.51, −1.56)	−1.02(−2.26,0.23)	−0.13(−0.32,0.06)	4.22(2.97,5.49)	0.75(−0.54,2.06)	1.87(−0.45,4.24)
11	−2.58(−3.55, −1.60)	−0.70(−1.93,0.54)	−0.13(−0.31,0.06)	4.29(3.05,5.54)	0.90(−0.36,2.18)	1.79(−0.53,4.16)
12	−2.62(−3.59, −1.64)	−0.39(−1.61,0.85)	−0.12(−0.31,0.06)	4.34(3.11,5.59)	1.05(−0.18,2.30)	1.70(−0.62,4.08)
13	−2.66(−3.63, −1.68)	−0.09(−1.31,1.15)	−0.12(−0.30,0.07)	4.40(3.17,5.64)	1.20(−0.01,2.42)	1.63(−0.70,4.01)
14	−2.69(−3.67, −1.71)	0.20(−1.02,1.44)	−0.11(−0.29,0.07)	4.45(3.22,5.69)	1.33(0.15,2.53)	1.55(−0.79,3.94)
15	−2.73(−3.71, −1.73)	0.48(−0.75,1.73)	−0.10(−0.29,0.08)	4.49(3.27,5.73)	1.47(0.31,2.64)	1.47(−0.88,3.88)
16	−2.76(−3.75, −1.76)	0.76(−0.48,2.01)	−0.10(−0.28,0.09)	4.54(3.31,5.77)	1.60(0.46,2.76)	1.40(−0.97,3.83)
17	−2.79(−3.79, −1.78)	1.02(−0.23,2.29)	−0.09(−0.28,0.09)	4.57(3.35,5.81)	1.73(0.60,2.87)	1.33(−1.06,3.77)
18	−2.81(−3.82, −1.80)	1.28(0.01,2.56)	−0.09(−0.27,0.10)	4.61(3.38,5.85)	1.85(0.74,2.98)	1.26(−1.15,3.72)

Table S4. Cont.

Lag (Days)	Overall Percentage Change (95% CI)					
	Minimum Temperature (°C)		Cumulated Rainfall (mm)		Wind Speed (knots)	
	1st Percentile	99th Percentile	1st Percentile	99th Percentile	1st Percentile	99th Percentile
	(22 °C) Relative to 10th Percentile (23 °C)	(26.5 °C) Relative to 90th Percentile (25.4 °C)	(11 mm) Relative to 10th Percentile (24 mm)	(302 mm) Relative to 90th Percentile (215 mm)	(1.7 kn) Relative to 10th Percentile (2.7 kn)	(5.7 kn) Relative to 90th Percentile (4.1 kn)
19	−2.84(−3.86, −1.81)	1.52(0.24,2.82)	−0.08(−0.27,0.11)	4.64(3.41,5.88)	1.97(0.87,3.08)	1.19(−1.24,3.67)
20	−2.86(−3.89, −1.82)	1.76(0.46,3.07)	−0.07(−0.26,0.11)	4.66(3.43,5.91)	2.08(0.99,3.19)	1.12(−1.33,3.63)
21	−2.89(−3.92, −1.83)	1.98(0.67,3.31)	−0.07(−0.26,0.12)	4.69(3.45,5.93)	2.19(1.11,3.29)	1.05(−1.41,3.59)
22	−2.90(−3.96, −1.84)	2.20(0.87,3.55)	−0.06(−0.25,0.13)	4.71(3.47,5.95)	2.30(1.23,3.39)	0.99(−1.50,3.54)
23	−2.92(−3.98, −1.85)	2.41(1.06,3.77)	−0.06(−0.25,0.13)	4.72(3.48,5.97)	2.41(1.34,3.48)	0.93(−1.58,3.50)
24	−2.94(−4.01, −1.85)	2.61(1.25,3.99)	−0.05(−0.24,0.14)	4.73(3.49,5.99)	2.50(1.44,3.58)	0.87(−1.66,3.46)
25	−2.95(−4.04, −1.86)	2.80(1.42,4.20)	−0.04(−0.24,0.15)	4.74(3.50,6.00)	2.60(1.54,3.67)	0.81(−1.73,3.42)
26	−2.97(−4.06, −1.86)	2.98(1.59,4.39)	−0.04(−0.23,0.15)	4.75(3.50,6.01)	2.69(1.64,3.76)	0.75(−1.81,3.38)
27	−2.98(−4.08, −1.86)	3.16(1.75,4.58)	−0.03(−0.23,0.16)	4.75(3.50,6.01)	2.78(1.73,3.84)	0.70(−1.88,3.34)
28	−2.98(−4.09, −1.86)	3.32(1.90,4.76)	−0.03(−0.22,0.17)	4.75(3.50,6.01)	2.87(1.82,3.93)	0.64(−1.95,3.30)
29	−2.99(−4.11, −1.86)	3.48(2.04,4.93)	−0.02(−0.22,0.18)	4.74(3.49,6.01)	2.95(1.90,4.01)	0.59(−2.01,3.26)
30	−3.00(−4.12, −1.86)	3.63(2.18,5.10)	−0.01(−0.21,0.18)	4.73(3.48,6.00)	3.03(1.98,4.08)	0.54(−2.07,3.22)
31	−3.00(−4.13, −1.86)	3.77(2.31,5.25)	−0.01(−0.21,0.19)	4.72(3.47,5.99)	3.10(2.06,4.16)	0.49(−2.13,3.19)
32	−3.00(−4.14, −1.85)	3.90(2.43,5.39)	0.00(−0.20,0.20)	4.70(3.45,5.97)	3.17(2.13,4.23)	0.44(−2.19,3.15)
33	−3.00(−4.15, −1.85)	4.02(2.55,5.52)	0.00(−0.19,0.20)	4.69(3.43,5.95)	3.24(2.20,4.29)	0.40(−2.24,3.11)
34	−3.00(−4.15, −1.84)	4.14(2.65,5.65)	0.01(−0.19,0.21)	4.67(3.41,5.93)	3.30(2.26,4.36)	0.35(−2.29,3.07)
35	−3.00(−4.15, −1.84)	4.25(2.76,5.76)	0.02(−0.18,0.22)	4.64(3.39,5.91)	3.37(2.32,4.42)	0.31(−2.34,3.02)
36	−3.00(−4.15, −1.83)	4.35(2.85,5.87)	0.02(−0.18,0.22)	4.61(3.37,5.88)	3.42(2.38,4.48)	0.26(−2.39,2.98)
37	−2.99(−4.15, −1.83)	4.44(2.94,5.97)	0.03(−0.17,0.23)	4.58(3.34,5.85)	3.48(2.44,4.53)	0.22(−2.43,2.94)
38	−2.99(−4.14, −1.82)	4.53(3.02,6.06)	0.04(−0.16,0.24)	4.55(3.31,5.81)	3.53(2.49,4.58)	0.18(−2.47,2.90)
39	−2.98(−4.13, −1.81)	4.61(3.10,6.14)	0.04(−0.16,0.24)	4.52(3.28,5.77)	3.58(2.54,4.63)	0.14(−2.50,2.86)

Table S4. Cont.

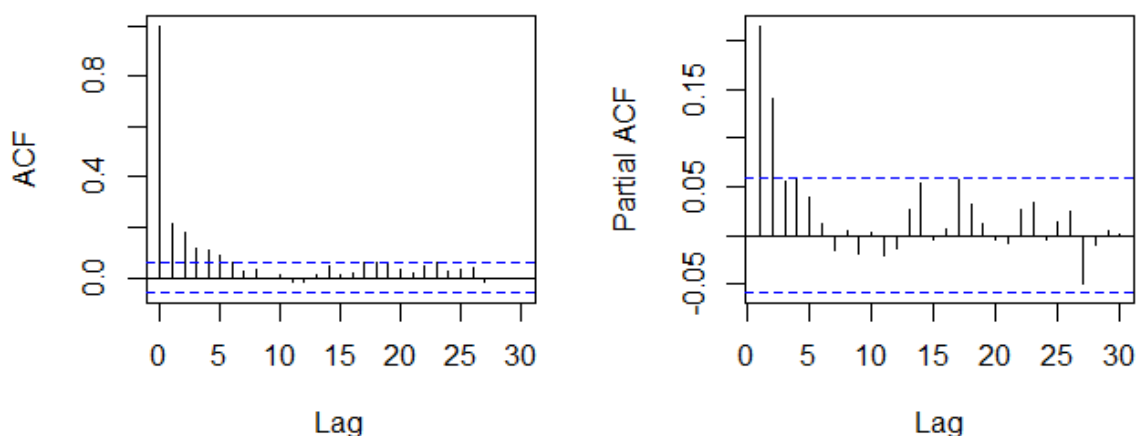
Lag (Days)	Overall Percentage Change (95% CI)					
	Minimum Temperature (°C)		Cumulated Rainfall (mm)		Wind Speed (knots)	
	1st Percentile	99th Percentile	1st Percentile	99th Percentile	1st Percentile	99th Percentile
	(22 °C) Relative to 10th Percentile (23 °C)	(26.5 °C) Relative to 90th Percentile (25.4 °C)	(11 mm) Relative to 10th Percentile (24 mm)	(302 mm) Relative to 90th Percentile (215 mm)	(1.7 kn) Relative to 10th Percentile (2.7 kn)	(5.7 kn) Relative to 90th Percentile (4.1 kn)
40	−2.97(−4.12, −1.80)	4.68(3.17,6.21)	0.05(−0.15,0.25)	4.48(3.24,5.73)	3.63(2.59,4.68)	0.10(−2.54,2.81)
41	−2.96(−4.11, −1.79)	4.75(3.24,6.28)	0.05(−0.15,0.26)	4.44(3.21,5.68)	3.67(2.63,4.72)	0.07(−2.57,2.77)
42	−2.94(−4.09, −1.78)	4.80(3.30,6.33)	0.06(−0.14,0.26)	4.39(3.17,5.64)	3.71(2.67,4.76)	0.03(−2.59,2.73)
43	−2.93(−4.07, −1.77)	4.85(3.35,6.38)	0.07(−0.13,0.27)	4.35(3.13,5.58)	3.75(2.71,4.79)	0.00(−2.62,2.68)
44	−2.92(−4.06, −1.76)	4.90(3.40,6.42)	0.07(−0.12,0.27)	4.30(3.08,5.53)	3.78(2.75,4.83)	−0.04(−2.64,2.64)
45	−2.90(−4.03, −1.75)	4.94(3.44,6.45)	0.08(−0.12,0.28)	4.25(3.04,5.47)	3.81(2.78,4.86)	−0.07(−2.66,2.59)
46	−2.88(−4.01, −1.74)	4.97(3.48,6.48)	0.09(−0.11,0.28)	4.20(2.99,5.41)	3.84(2.81,4.89)	−0.10(−2.68,2.55)
47	−2.86(−3.99, −1.73)	4.99(3.51,6.50)	0.09(−0.10,0.29)	4.14(2.95,5.35)	3.87(2.84,4.91)	−0.13(−2.70,2.50)
48	−2.84(−3.96, −1.72)	5.01(3.54,6.51)	0.10(−0.10,0.30)	4.08(2.90,5.28)	3.90(2.87,4.93)	−0.16(−2.71,2.46)
49	−2.82(−3.93, −1.70)	5.03(3.56,6.52)	0.11(−0.09,0.30)	4.02(2.84,5.21)	3.92(2.89,4.95)	−0.19(−2.72,2.41)
50	−2.80(−3.90, −1.69)	5.03(3.57,6.52)	0.11(−0.08,0.31)	3.96(2.79,5.14)	3.94(2.91,4.97)	−0.22(−2.73,2.36)
51	−2.78(−3.87, −1.68)	5.04(3.58,6.51)	0.12(−0.07,0.31)	3.90(2.73,5.07)	3.95(2.93,4.99)	−0.24(−2.74,2.32)
52	−2.75(−3.83, −1.66)	5.03(3.59,6.50)	0.13(−0.07,0.32)	3.83(2.68,5.00)	3.97(2.90,4.50)	−0.27(−2.74,2.27)
53	−2.73(−3.80, −1.65)	5.02(3.59,6.48)	0.13(−0.06,0.32)	3.76(2.62,4.92)	3.98(2.96,5.02)	−0.29(−2.75,2.23)
54	−2.70(−3.76, −1.63)	5.01(3.58,6.45)	0.14(−0.05,0.33)	3.69(2.56,4.84)	3.99(2.97,5.03)	−0.32(−2.75,2.18)
55	−2.68(−3.73, −1.61)	4.99(3.57,6.42)	0.15(−0.04,0.33)	3.62(2.50,4.76)	4.00(2.98,5.04)	−0.34(−2.75,2.14)
56	−2.65(−3.69, −1.60)	4.96(3.56,6.39)	0.15(−0.03,0.34)	3.55(2.43,4.67)	4.01(2.98,5.04)	−0.36(−2.75,2.09)
57	−2.62(−3.65, −1.58)	4.93(3.54,6.35)	0.16(−0.03,0.35)	3.47(2.37,4.59)	4.01(2.99,5.05)	−0.38(−2.75,2.05)
58	−2.59(−3.61, −1.56)	4.90(3.51,6.31)	0.17(−0.02,0.35)	3.39(2.30,4.50)	4.01(2.99,5.05)	−0.40(−2.75,2.00)
59	−2.56(−3.56, −1.54)	4.86(3.48,6.26)	0.17(−0.01,0.36)	3.31(2.23,4.41)	4.02(2.99,5.06)	−0.42(−2.75,1.96)
60	−2.53(−3.52, −1.52)	4.82(3.45,6.21)	0.18(0.00,0.36)	3.23(2.16,4.32)	4.01(2.98,5.06)	−0.44(−2.75,1.92)

Table S4. Cont.

Lag (Days)	Overall Percentage Change (95% CI)					
	Minimum Temperature (°C)		Cumulated Rainfall (mm)		Wind Speed (knots)	
	1st Percentile	99th Percentile	1st Percentile	99th Percentile	1st Percentile	99th Percentile
	(22 °C) Relative to 10th Percentile (23 °C)	(26.5 °C) Relative to 90th Percentile (25.4 °C)	(11 mm) Relative to 10th Percentile (24 mm)	(302 mm) Relative to 90th Percentile (215 mm)	(1.7 kn) Relative to 10th Percentile (2.7 kn)	(5.7 kn) Relative to 90th Percentile (4.1 kn)
61	−2.49(−3.48, −1.50)	4.77(3.41,6.16)	0.19(0.00,0.37)	3.15(2.08,4.23)	4.01(2.97,5.06)	−0.46(−2.74,1.88)
62	−2.46(−3.43, −1.48)	4.72(3.36,6.10)	0.19(0.01,0.37)	3.07(2.01,4.14)	4.01(2.97,5.06)	−0.48(−2.74,1.84)
63	−2.42(−3.39, −1.45)	4.67(3.31,6.04)	0.20(0.02,0.38)	2.98(1.93,4.05)	4.00(2.95,5.06)	−0.49(−2.73,1.80)
64	−2.39(−3.34, −1.43)	4.61(3.25,5.98)	0.21(0.03,0.38)	2.90(1.86,3.95)	3.99(2.94,5.06)	−0.51(−2.73,1.76)
65	−2.35(−3.30, −1.40)	4.54(3.19,5.91)	0.21(0.03,0.39)	2.81(1.78,3.86)	3.98(2.92,5.05)	−0.53(−2.73,1.73)
66	−2.32(−3.25, −1.38)	4.48(3.13,5.85)	0.22(0.04,0.40)	2.72(1.69,3.76)	3.97(2.91,5.05)	−0.54(−2.72,1.69)
67	−2.28(−3.20, −1.35)	4.41(3.06,5.78)	0.23(0.05,0.40)	2.63(1.61,3.66)	3.96(2.88,5.05)	−0.56(−2.72,1.66)
68	−2.24(−3.16, −1.32)	4.34(2.98,5.71)	0.23(0.06,0.41)	2.54(1.53,3.57)	3.95(2.86,5.05)	−0.57(−2.72,1.63)
69	−2.20(−3.11, −1.29)	4.26(2.90,5.64)	0.24(0.06,0.42)	2.45(1.44,3.47)	3.93(2.83,5.04)	−0.58(−2.72,1.60)
70	−2.17(−3.07, −1.26)	4.18(2.82,5.56)	0.25(0.07,0.42)	2.36(1.35,3.37)	3.92(2.81,5.04)	−0.60(−2.72,1.58)
71	−2.13(−3.02, −1.22)	4.10(2.73,5.49)	0.25(0.08,0.43)	2.26(1.26,3.27)	3.90(2.78,5.03)	−0.61(−2.72,1.55)
72	−2.09(−2.98, −1.19)	4.02(2.64,5.42)	0.26(0.08,0.44)	2.17(1.17,3.17)	3.88(2.74,5.03)	−0.62(−2.73,1.53)
73	−2.05(−2.93, −1.15)	3.93(2.54,5.34)	0.27(0.09,0.44)	2.07(1.07,3.08)	3.86(2.71,5.03)	−0.63(−2.73,1.51)
74	−2.00(−2.89, −1.11)	3.84(2.44,5.27)	0.27(0.10,0.45)	1.97(0.98,2.98)	3.84(2.67,5.02)	−0.64(−2.74,1.50)
75	−1.96(−2.85, −1.07)	3.75(2.33,5.19)	0.28(0.10,0.46)	1.88(0.88,2.88)	3.82(2.64,5.02)	−0.65(−2.75,1.49)
76	−1.92(−2.81, −1.03)	3.66(2.22,5.12)	0.29(0.11,0.47)	1.78(0.78,2.78)	3.80(2.59,5.02)	−0.67(−2.76,1.48)
77	−1.88(−2.77, −0.98)	3.56(2.11,5.04)	0.29(0.11,0.47)	1.68(0.68,2.69)	3.78(2.55,5.01)	−0.68(−2.78,1.47)
78	−1.84(−2.73, −0.94)	3.47(1.99,4.97)	0.30(0.12,0.48)	1.58(0.58,2.59)	3.75(2.51,5.01)	−0.69(−2.79,1.47)
79	−1.79(−2.69, −0.89)	3.37(1.87,4.90)	0.31(0.12,0.49)	1.48(0.48,2.50)	3.73(2.46,5.01)	−0.70(−2.81,1.46)
80	−1.75(−2.65, −0.84)	3.27(1.74,4.82)	0.31(0.13,0.50)	1.38(0.37,2.40)	3.70(2.42,5.00)	−0.70(−2.83,1.47)
81	−1.71(−2.61, −0.79)	3.17(1.62,4.75)	0.32(0.13,0.51)	1.28(0.26,2.31)	3.68(2.37,5.00)	−0.71(−2.85,1.47)

Table S4. Cont.

Lag (Days)	Overall Percentage Change (95% CI)					
	Minimum Temperature (°C)		Cumulated Rainfall (mm)		Wind Speed (knots)	
	1st Percentile	99th Percentile	1st Percentile	99th Percentile	1st Percentile	99th Percentile
	(22 °C) Relative to 10th Percentile (23 °C)	(26.5 °C) Relative to 90th Percentile (25.4 °C)	(11 mm) Relative to 10th Percentile (24 mm)	(302 mm) Relative to 90th Percentile (215 mm)	(1.7 kn) Relative to 10th Percentile (2.7 kn)	(5.7 kn) Relative to 90th Percentile (4.1 kn)
82	−1.66(−2.58, −0.73)	3.07(1.48,4.68)	0.33(0.14,0.52)	1.18(0.16,2.21)	3.65(2.32,5.00)	−0.72(−2.88,1.48)
83	−1.62(−2.55, −0.68)	2.97(1.35,4.60)	0.34(0.14,0.53)	1.08(0.05,2.12)	3.62(2.27,5.00)	−0.73(−2.91,1.49)
84	−1.57(−2.51, −0.62)	2.86(1.22,4.53)	0.34(0.15,0.54)	0.98(−0.06,2.03)	3.60(2.22,5.00)	−0.74(−2.94,1.51)
85	−1.53(−2.48, −0.56)	2.76(1.08,4.46)	0.35(0.15,0.55)	0.87(−0.18,1.94)	3.57(2.16,5.00)	−0.75(−2.97,1.52)
86	−1.48(−2.45, −0.50)	2.65(0.94,4.39)	0.36(0.16,0.56)	0.77(−0.29,1.85)	3.54(2.11,4.99)	−0.76(−3.01,1.54)
87	−1.44(−2.42, −0.44)	2.55(0.80,4.32)	0.36(0.16,0.57)	0.67(−0.40,1.76)	3.51(2.05,4.99)	−0.77(−3.05,1.57)
88	−1.39(−2.40, −0.38)	2.44(0.66,4.26)	0.37(0.16,0.58)	0.57(−0.52,1.67)	3.49(2.00,5.00)	−0.77(−3.09,1.59)
89	−1.35(−2.37, −0.32)	2.33(0.51,4.19)	0.38(0.17,0.59)	0.47(−0.63,1.58)	3.46(1.94,5.00)	−0.78(−3.13,1.62)
90	−1.30(−2.34, −0.25)	2.23(0.37,4.12)	0.38(0.17,0.60)	0.36(−0.75,1.49)	3.43(1.89,5.00)	−0.79(−3.17,1.65)

Figure S1. Autocorrelation and partial autocorrelations of residuals for the selected model.

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