Supplementary Materials: Study on the Associations between Meteorological Factors and the Incidence of Pulmonary Tuberculosis in Xinjiang, China

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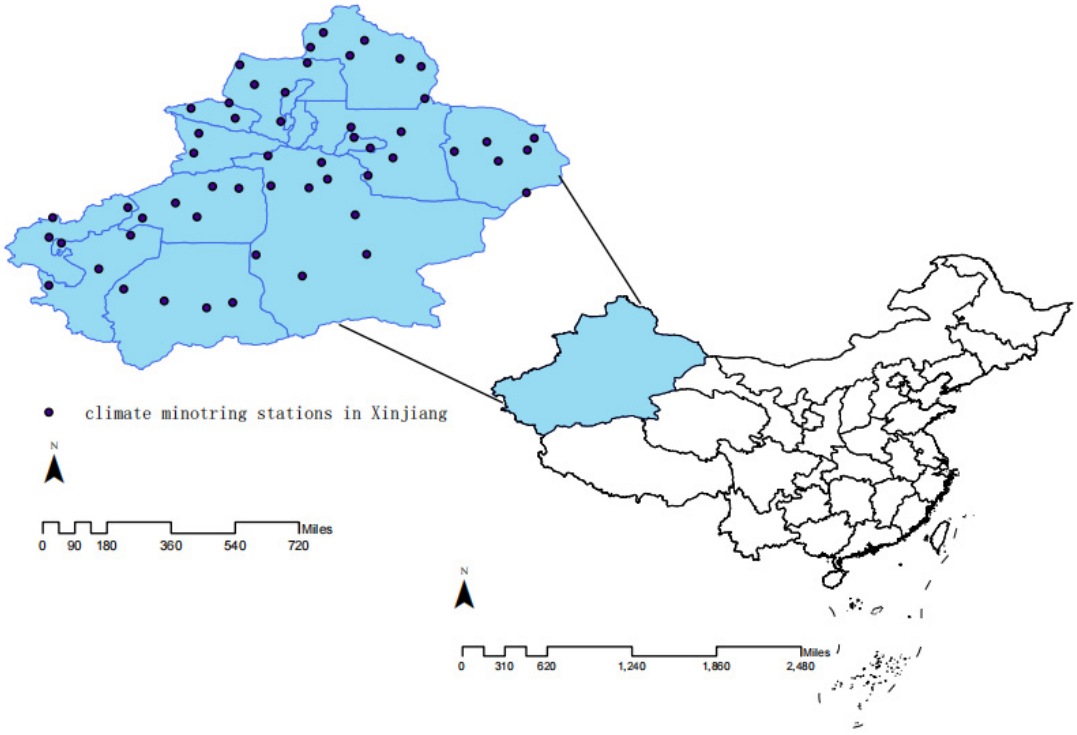

Figure S1. The study area and locations of weather stations.

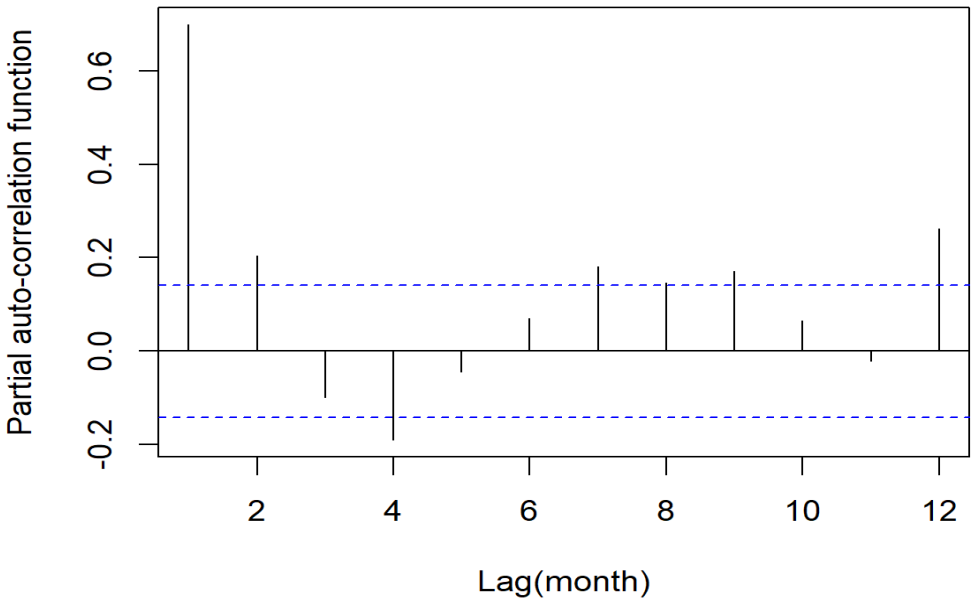

Figure S2. The plot of partial auto-correlation function in the distributed lag non-linear model.

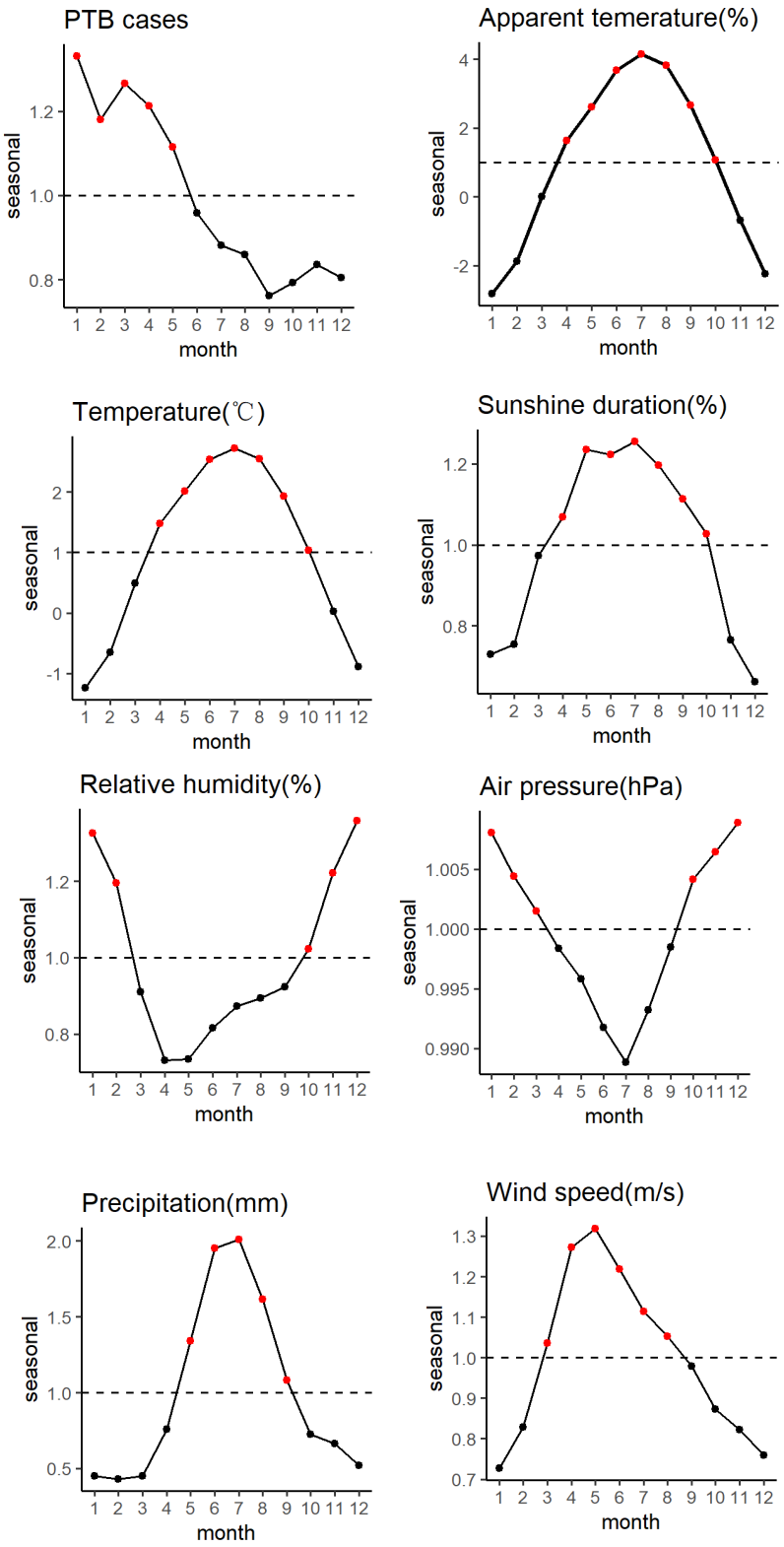

Figure S3. Seasonal decomposition of the time series of meteorological factors and the case incidence of PTB in Xinjiang from 2004 to 2019. Abbreviations: PTB, pulmonary tuberculosis; Temp, temperature; AT, apparent temperature; SD, sunshine duration; RH, relative humidity; AP, air pressure; Pre, precipitation; WS, wind speed.

Table S1. Estimated relative risks (95% CI) of pulmonary tuberculosis cases with extremely low temperature (2.5th percentile, -11.9℃) and extremely high temperature (97.5th percentile, 25℃) and extremely low relative humidity (2.5th percentile, 32.8%) and extremely high relative humidity (97.5th percentile, -68.9%) and extremely low wind speed (2.5th percentile,1.6m/s) and extremely high wind speed (97.5th percentile, 3.1m/s) at lagged months in Xinjiang from 2004 to 2019.

Lag	Temp		RH		WS	
	$P_{2.5}$	$P_{97.5}$	$P_{2.5}$	$P_{97.5}$	$P_{2.5}$	$P_{97.5}$
lag0	1.59(1.53,1.66)	0.70(0.67,0.74)	1.05(1.03,1.07)	1.15(1.13,1.17)	1.10(1.08,1.12)	0.99(0.97,1.01)
lag1	1.14(1.12,1.16)	0.87(0.84,0.90)	0.96(0.95,0.97)	1.14(1.13,1.16)	1.14(1.13,1.15)	1.02(1.00,1.03)
lag2	0.90(0.88,0.92)	0.91(0.87,0.96)	0.91(0.90,0.93)	1.11(1.09,1.13)	1.15(1.13,1.16)	1.02(1.00,1.04)
lag3	0.83(0.81,0.84)	0.77(0.74,0.81)	0.93(0.93,0.94)	1.04(1.03,1.05)	1.10(1.09,1.11)	1.00(0.98,1.01)
lag4	0.81(0.79,0.83)	0.71(0.67,0.74)	0.95(0.95,0.96)	1.00(0.99,1.01)	1.06(1.05,1.07)	0.99(0.98,1.00)
lag5	0.83(0.81,0.85)	0.72(0.68,0.75)	0.97(0.96,0.97)	0.98(0.97,0.99)	1.04(1.03,1.05)	1.00(0.98,1.01)
lag6	0.85(0.84,0.87)	0.77(0.73,0.80)	0.98(0.97,0.98)	0.97(0.96,0.98)	1.03(1.02,1.04)	1.02(1.00,1.03)
lag7	0.89(0.87,0.91)	0.82(0.79,0.86)	0.98(0.98,0.99)	0.97(0.96,0.98)	1.02(1.01,1.03)	1.03(1.02,1.05)
lag8	0.92(0.90,0.94)	0.89(0.85,0.92)	0.99(0.99,1.00)	0.96(0.95,0.97)	1.01(1.00,1.02)	1.05(1.04,1.07)
lag9	0.96(0.93,0.98)	0.95(0.92,0.99)	0.99(0.99,1.01)	0.96(0.95,0.97)	1.00(0.99,1.01)	1.07(1.06,1.09)
lag10	0.99(0.97,1.02)	1.03(0.99,1.07)	1.01(1.00,1.02)	0.95(0.94,0.96)	0.99(0.98,0.99)	1.09(1.08,1.11)
lag11	1.03(1.01,1.06)	1.10(1.06,1.15)	1.02(1.01,1.03)	0.95(0.94,0.96)	0.98(0.97,0.98)	1.12(1.10,1.13)
lag12	1.07(1.04,1.10)	1.19(1.14,1.24)	1.03(1.02,1.04)	0.94(0.93,0.95)	0.97(0.96,0.97)	1.14(1.12,1.15)

Abbreviations: Temp, temperature; AT, apparent temperature; SD, sunshine duration; RH, relative humidity; AP, air pressure; Pre, precipitation; WS, wind speed.

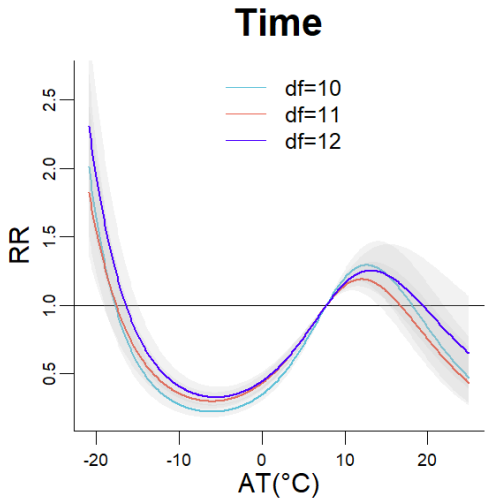

Figure S4. Sensitivity analysis when altering the degrees of freedom (df = 10-12) of time for controlling for the long-term trend in the model in Xinjiang from 2004 to 2019.

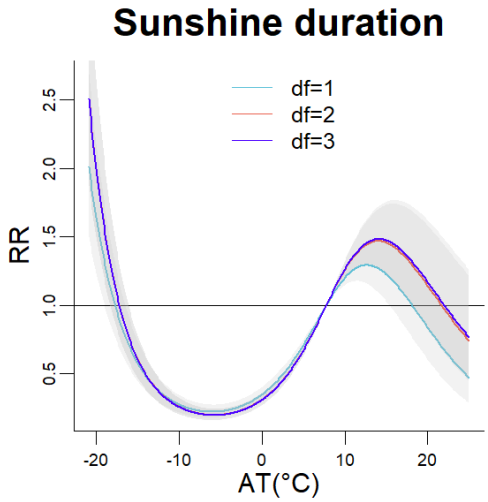

Figure S5. Sensitivity analysis when altering the degrees of freedom (df = 3-5) of air pressure and precipitation for controlling for the effect of confounding factors in the model in Xinjiang from 2004 to 2019.

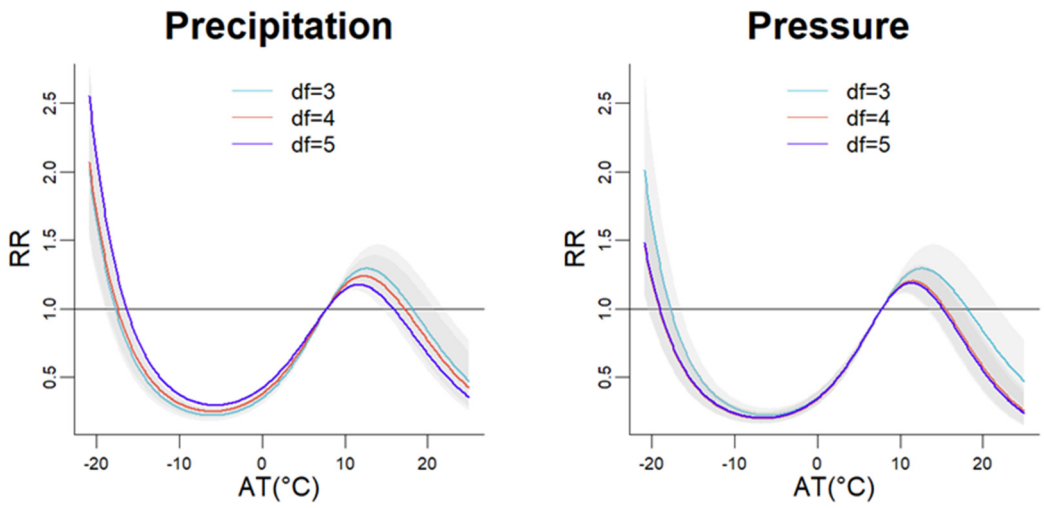

Figure S6. Sensitivity analysis when altering the degrees of freedom (1-3) of sunshine duration for controlling for the effect of confounding factors in the model in Xinjiang from 2004 to 2019.

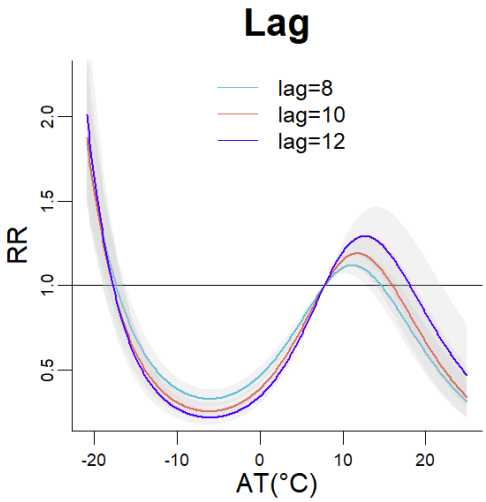

Figure S7. Sensitivity analysis when altering the maximum lag periods for 8, 10 and 12 months in the model in Xinjiang from 2004 to 2019.