The Role of Meteorological Conditions and Pollution Control Strategies in Reducing Air Pollution in Beijing during APEC 2014 and Parade 2015

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Supplement Materials

14 **S1. Temperature steps and duration of NOISH thermal-optical method protocol.**

15 Table S1. Temperature steps and duration of NOISH thermal-optical method protocol.

Carrier gas	Duration (sec)	Temperature (°C)
He-1	10	Ambient
He-2	95	600
He-3	90	840
He-4	30	No heat
O_2-1	35	550
O_2-2	45	650
O_2-3	115	870
CalGas	125	No heat

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18 **S2. The relationship between PM2.5 concentrations and meteorological parameters.**
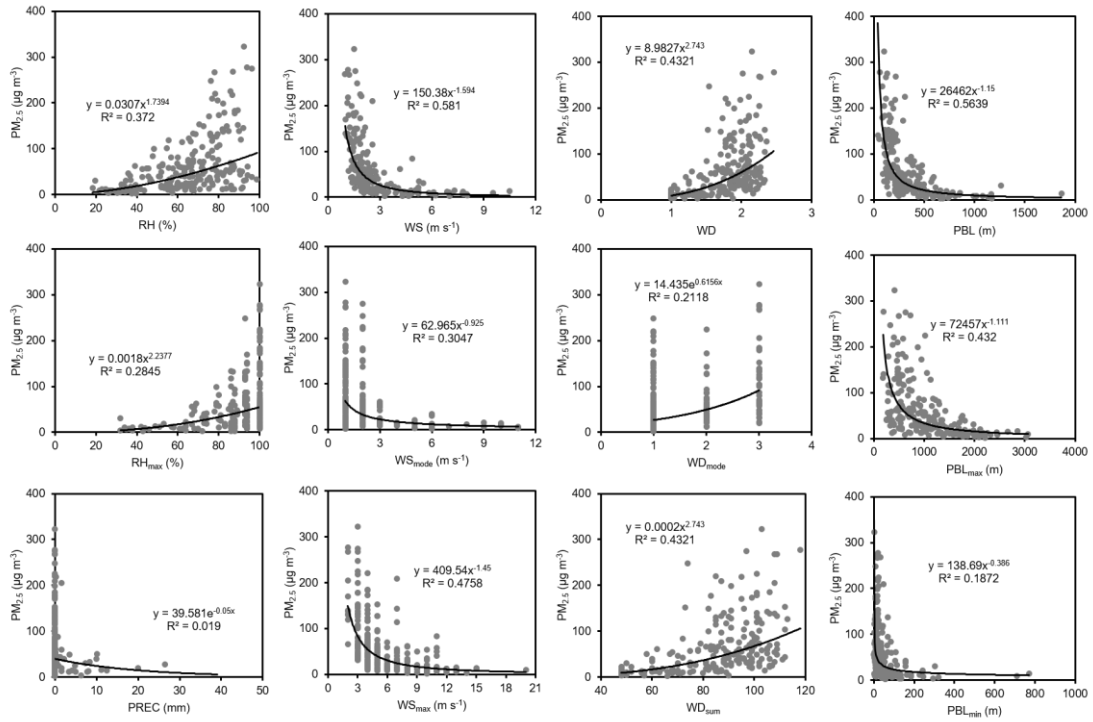
19
20 Fig S2. Scatter plot and correlation between PM$_{2.5}$ concentrations (*y* axis) and
21 meteorological parameters (*x* axis) during the APEC and Parade sampling periods.
22

S3. Error transfer formula

$$N = f(x_1, x_2, x_3) \tag{1}$$

$$\overline{N} = f(\overline{x_1}, \overline{x_2}, \overline{x_3}) \tag{2}$$

$$S_N = \sqrt{\left(\frac{\partial f}{\partial x_1}\right)^2 S_{x_1}^2 + \left(\frac{\partial f}{\partial x_2}\right)^2 S_{x_2}^2 + \left(\frac{\partial f}{\partial x_3}\right)^2 S_{x_3}^2} \tag{3}$$

In this study, N represents the percentage reduction calculated by comparing the decreased average pollutant concentration during APEC to that before APEC, and x represents the pollutant concentrations during and before APEC.

31   **S4. Comparison of the observed and GLM-predicted pollutant concentrations.**
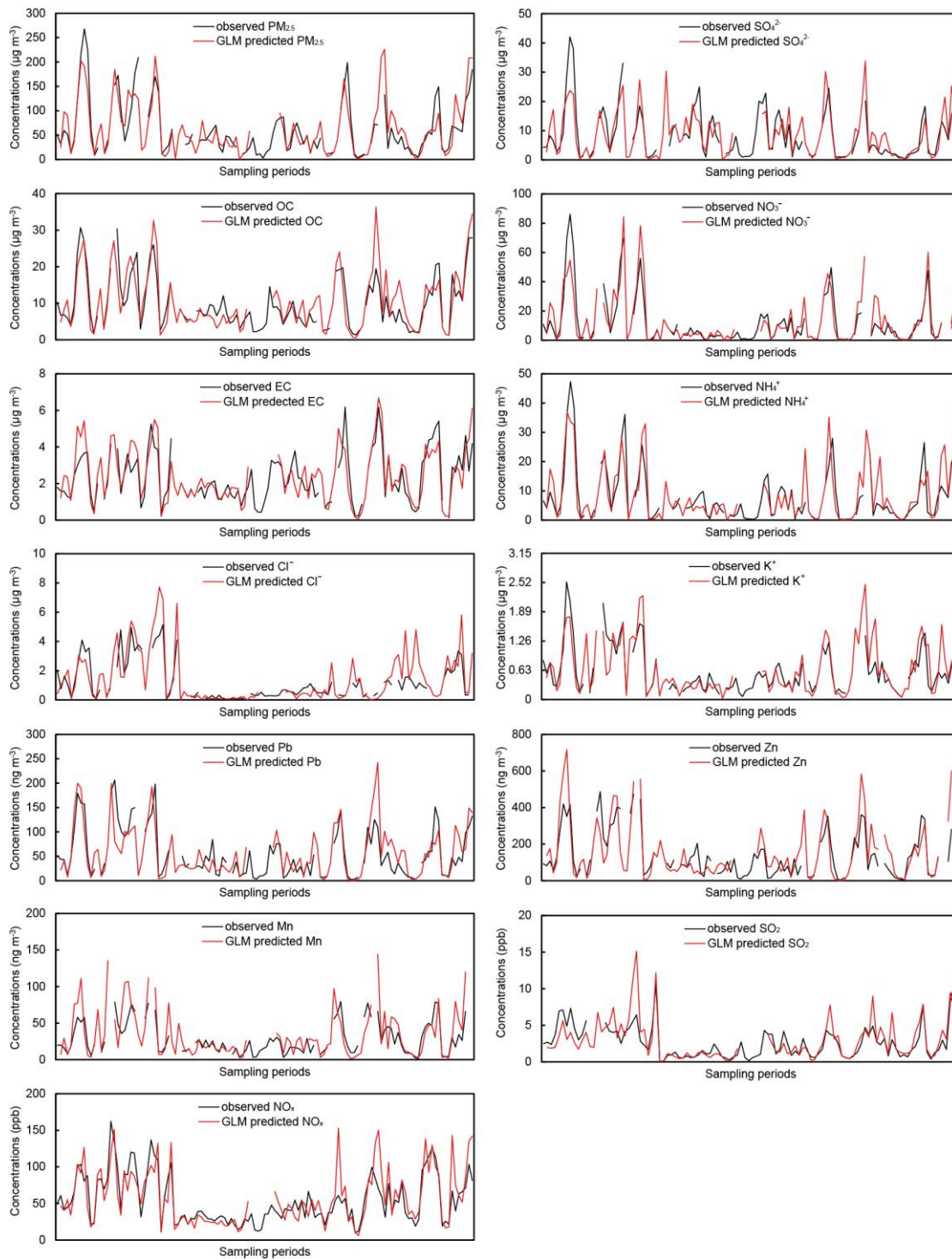
32

33   Fig S4. Time series of the observed (in black line) and GLM-predicted pollutant
34   concentrations (in red line).

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36 **S5. Hypothesis K-S test summary of the unstandardized/standardized residual.**

37 Table S5. Hypothesis K-S test summary of the unstandardized/standardized residual.

	Null Hypothesis	Test	Sig.*	Decision
1	The distribution of Unstandardized Residual is normal with mean -0.00 and standard deviation 0.40.	One-Sample Kolmogorov-Smirnov Test	0.96	Retain the null hypothesis.
2	The distribution of Standardized Residual is normal with mean -0.01 and standard deviation 0.96.		0.96	Retain the null hypothesis.

*The significance level is 0.05.

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39 Hypothesis K-S test is often applied to test the normal distribution of a series of

40 values. In this case, the test retains the null hypothesis that the distribution of

41 unstandardized and standardized residual is normal, indicating that the residual follows

42 the normal distribution.