Supplement of

Elucidating the ozone pollution in Yangtze River Delta region during the 2016 G20 summit for MICS-Asia III

Zhi-zhen Ni et al.

Correspondence to: Kun Luo (zjulk@zju.edu.cn)

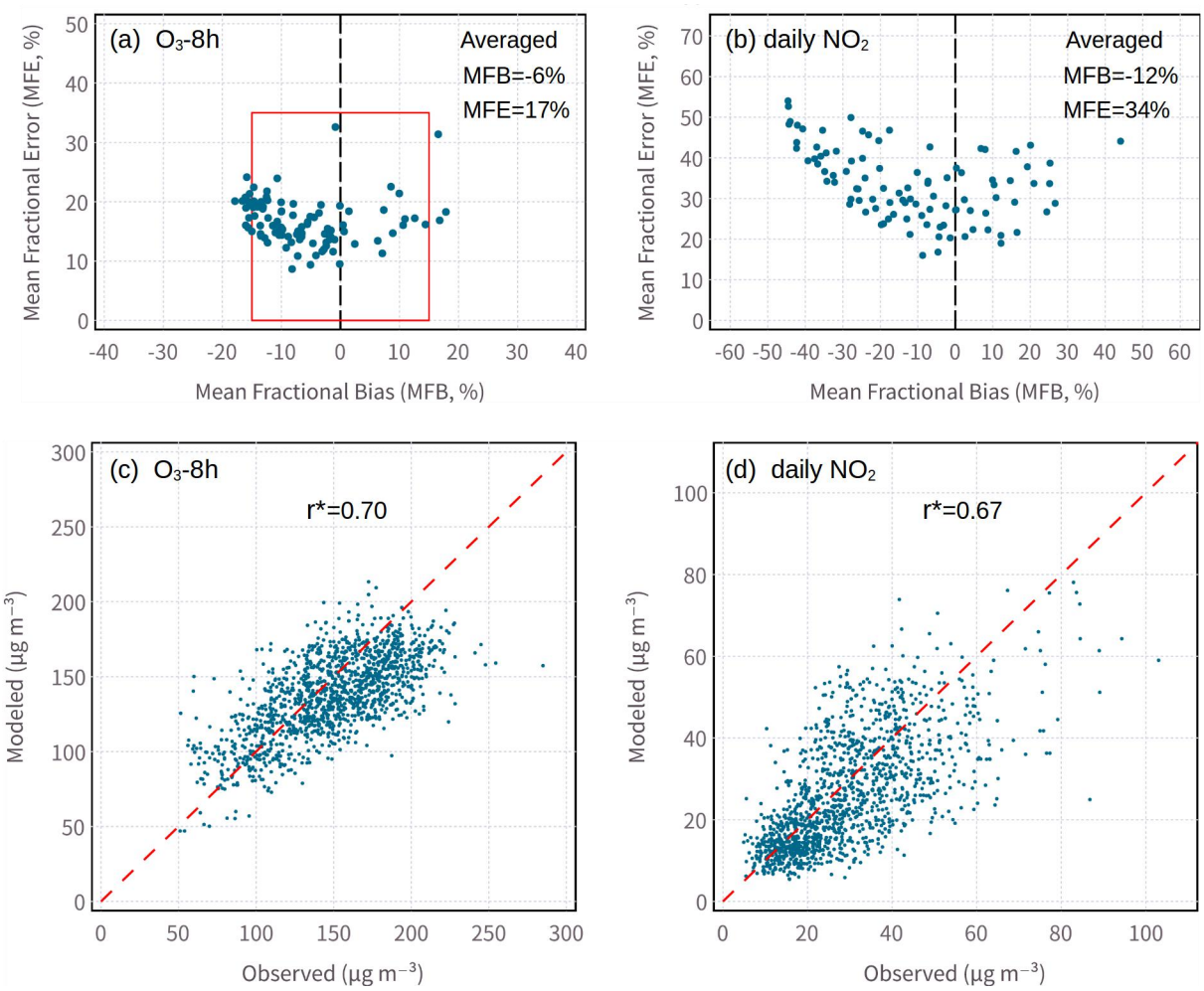

Fig. S1. Comparisons of modeled and observed concentrations of the air pollutants from 96 air quality monitoring sites across the YRD from 24 August to 06 September 2016 (1,344 pairs). Scatter plots for MFB and MFE of (a) O_3 and (b) NO_2. Performance goals (red box) for O_3 are the benchmarks. Scatter plots for daily observed and modeled (c) O_3 and (d) NO_2.

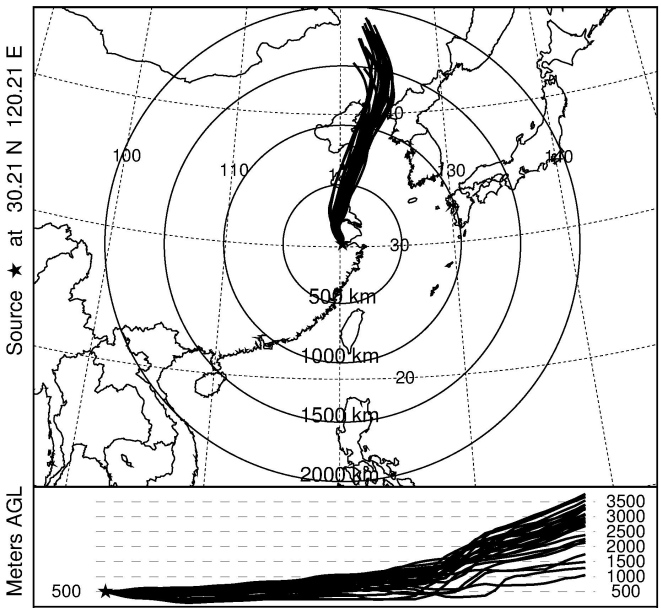

Fig. S2. Atmospheric backward trajectory of 48 hours arrived at Hangzhou ending at 10:00 LST (Local Sidereal Time) on August 27, 2016 in East Asia (via HYSPLIT model).

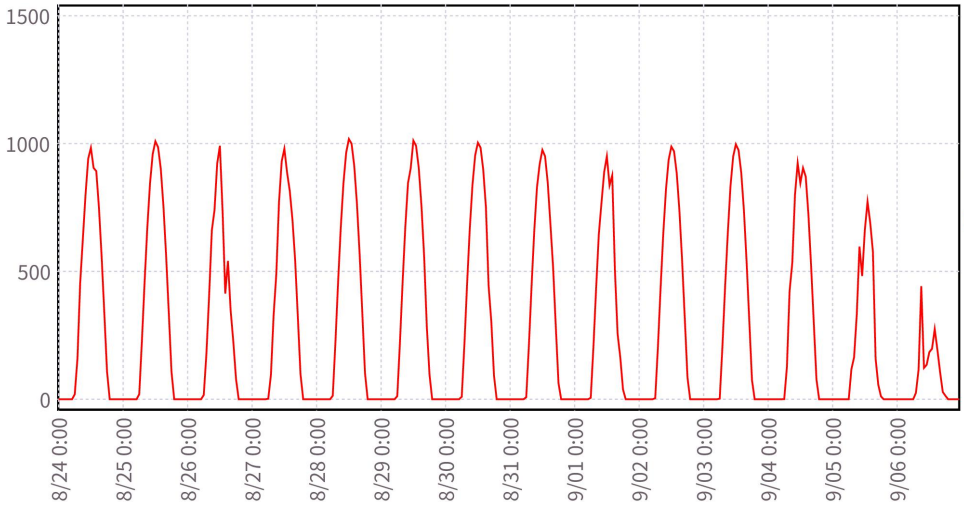

Fig. S3. Simulated hourly downward short wave flux at ground surface in Hangzhou (W m^{-2}) during August 24 to September 6, 2016.

Table S1. Discrete statistical indicators used in the model evaluation

Metrics	Definition	Range
Mean Fractional Bias (MFB)	$MFB = \frac{2}{N}\sum_{i=1}^{N}\frac{S_i - O_i}{S_i + O_i} \times 100\%$	-200% to 200%
Mean Fractional Error (MFE)	$MFE = \frac{2}{N}\sum_{i=1}^{N}\frac{\lvert S_i - O_i\rvert}{S_i + O_i} \times 100\%$	0 to 200%
Correlation Coefficient (r)	$r = \frac{\sum_{i=1}^{N}(S_i - \bar{S})(O_i - \bar{O})}{\sqrt{\sum_{i=1}^{N}(S_i - \bar{S})^2 \sum_{i=1}^{N}(O_i - \bar{O})^2}}$	0 to 1
Mean Bias (MB)	$MB = \frac{1}{N}\sum_{i=1}^{N}(S_i - O_i)$	-∞ to +∞
Gross Error (GE)	$GE = \frac{1}{N}\sum_{i=1}^{N}\lvert S_i - O_i\rvert$	0 to +∞
Root Mean Square Error (RMSE)	$RMSE = \sqrt{\frac{1}{N}\sum_{i=1}^{N}(S_i - O_i)^2}$	0 to +∞

N is the number of samples. S_i and O_i are values of simulations and observations at time or location i, respectively.