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Characterization of atmospheric trace gases and particulate matter in Hangzhou, China

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Table captions

Table. S1 Average concentrations of $PM_{2.5}$ and gaseous pollutants and their average ratios in the O_3 exceedances period on 10 and 12 July (OE1) and 10-11 August (OE2), and the nearby non-O_3 exceedances period from 7-8 July (NOE1) and 13-14 August (NOE2), respectively.

Figure captions

Fig. S1. Seasonal wind rose at NRCS site.

Fig. S2 Wind profiles of top 10% and bottom 10% CO (a), SO_2 (b), NO_x (c), NO_y (d), O_3 (e), and $PM_{2.5}$ (f) concentrations during spring (a), summer (b), autumn (c), and winter (d). The blue and red solid circles represent the bottom 10% and top 10% pollutants concentrations, respectively.

Fig. S3a. Seasonal weighted potential source contribution function (WPSCF) maps of CO in Hangzhou. The sampling site is marked in pentacle and the WPSCF values are displayed in color.

Fig. S3b. The zoomed view of Fig. S3a

Fig. S3c. Seasonal and spatial distributions of CO emissions (kg km^2 mon^{-1}) at the surface layer in China. The sampling site is marked in pentacle.

Fig. S4a. Same as Fig. S3a but for NO_x

Fig. S4b. The zoomed view of Fig. S4a

Fig. S4c. Same as Fig. S3c but for NO_x

Fig. S5a. Same as Fig. S3a but for SO_2

Fig. S5b. The zoomed view of Fig. S5a.

Fig. S5c. Same as Fig. S3c but for SO_2

Fig. S6. Seasonal and spatial distributions of O_3 volume mixing ratio (VMR) simulated by MOZART-4/GEOS-5. The sample site is marked in pentacle.

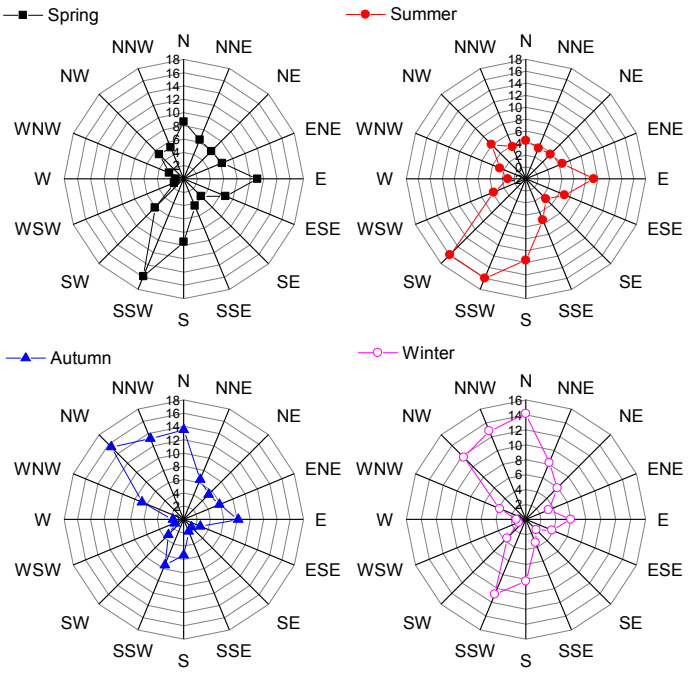
Fig. S7. Weighted Potential source contribution function (WPSCF) of $PM_{2.5}$ during 2-9 Dec, 2013 at NRCS. The NRCS station was marked by pentagram and the WPSCF values are displayed in color.

Fig. S8. The Geopotential Height Field (GH) (indicated by color bars) and Wind Field (WF) (black vectors) for 925 hPa at 20:00 LT during 13-15 December from left to right (a, b, c)

Table. S1 Average concentrations of $PM_{2.5}$ and gaseous pollutants and their average ratios in the O_3 exceedances period on 10 and 12 July (OE1) and 10-11 August (OE2), and the nearby non-O_3 exceedances period from 7-8 July (NOE1) and 13-14 August (NOE2), respectively.

	Same time period (9:00-17:00 BLT)					
Species	OE1*	NOE1*	OE1/NOE1	OE2*	NOE2*	OE2/NOE2
$PM_{2.5}$	50.65	24.36	2.08	41.96	10.17	4.12
O_3	95.43	53.23	1.79	92.69	42.71	2.17
SO_2	12.73	7.89	1.61	5.18	2.01	2.58
CO	0.46	0.38	1.20	0.48	0.30	1.62
NO_y	35.72	23.95	1.49	29.30	16.22	1.81

*$\mu g/m^3$ unit for $PM_{2.5}$, ppmv unit for CO, and ppbv unit for the other gases, respectively



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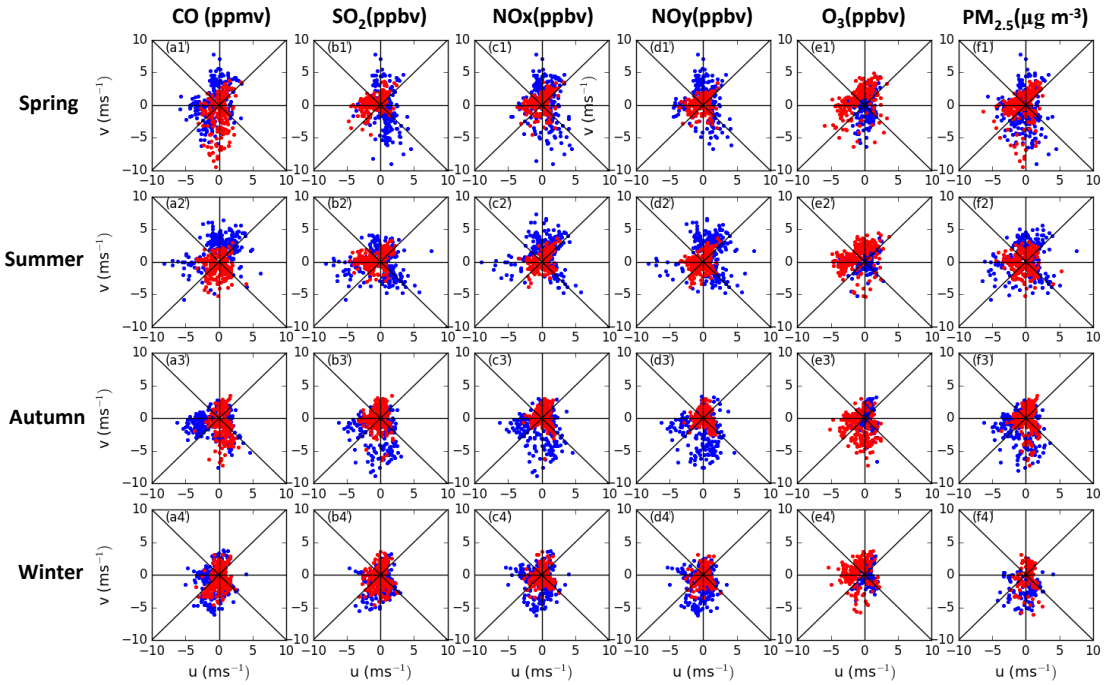

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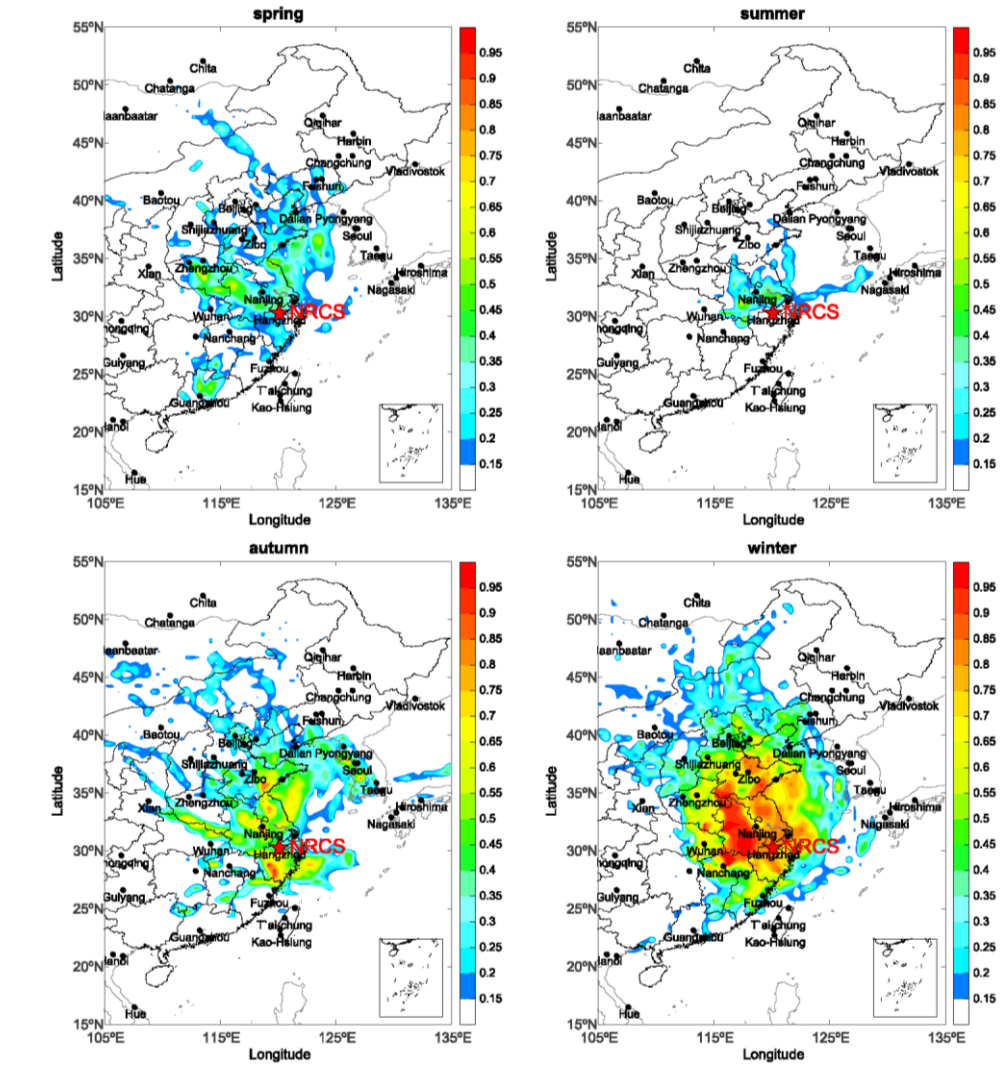

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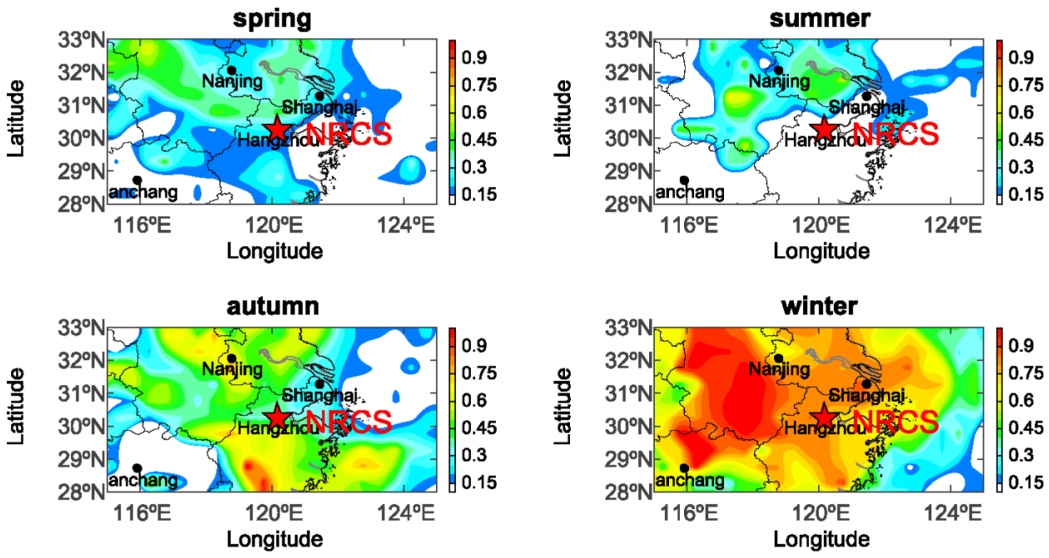
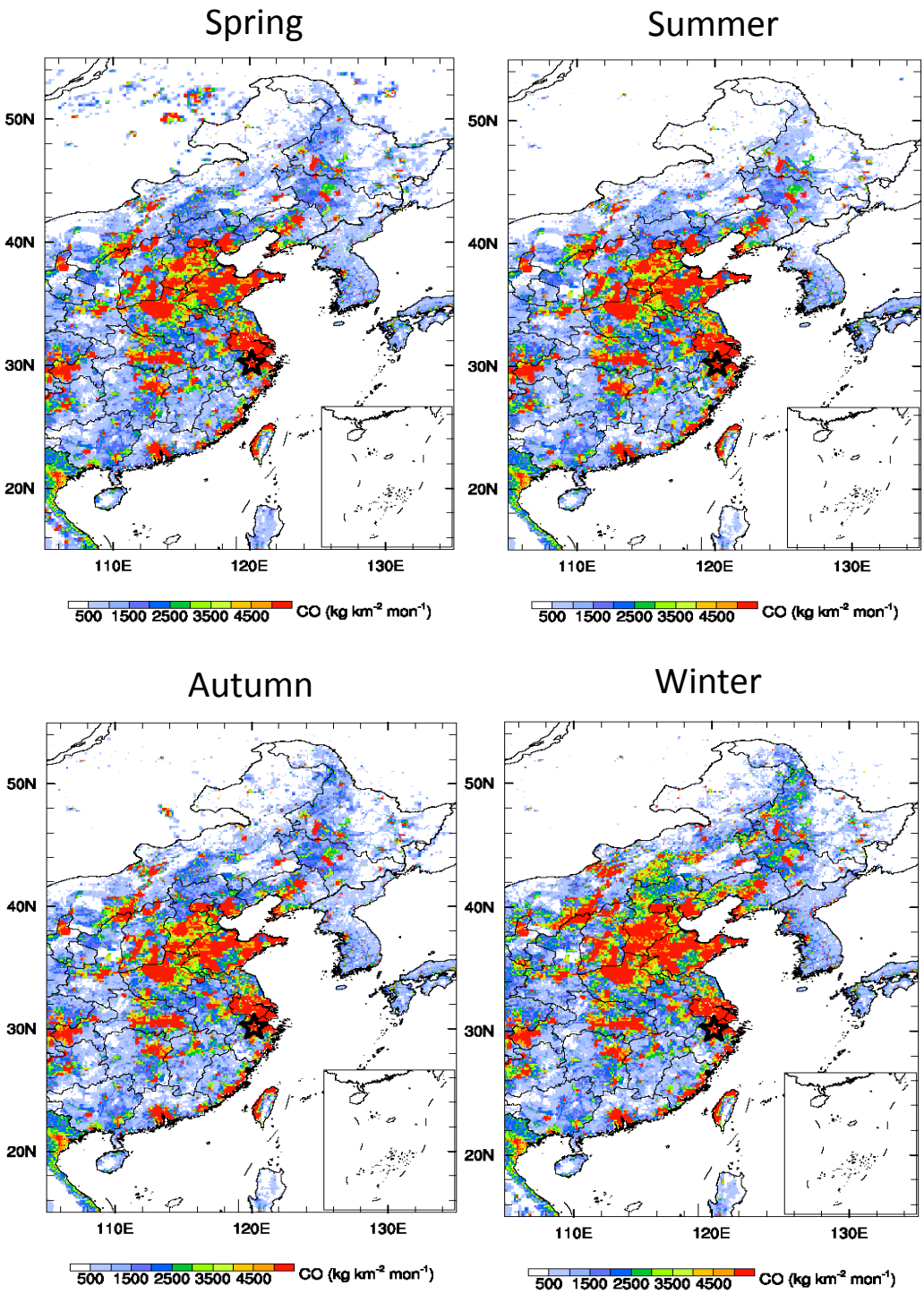


Fig. S3b. The zoomed view of Fig. S2a



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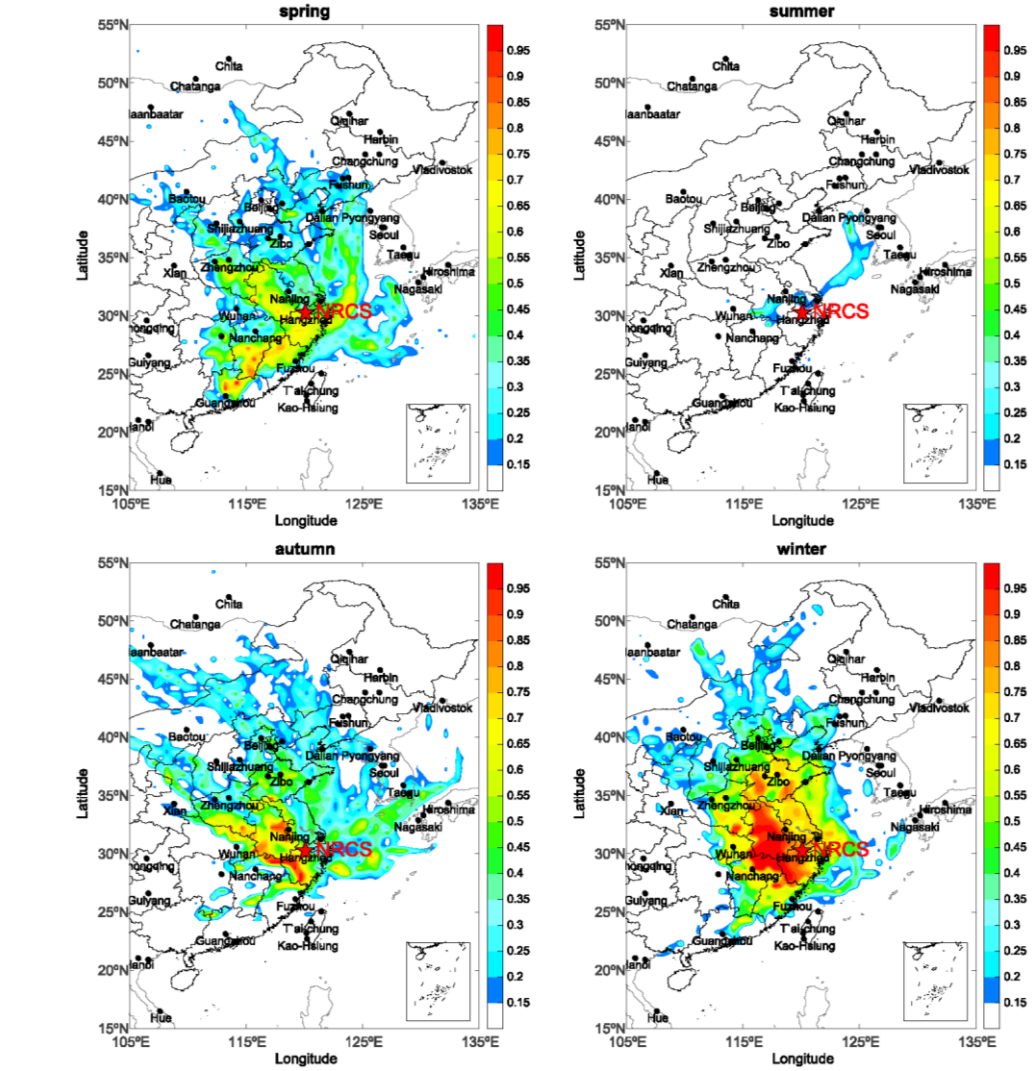


Fig. S4a. Same as Fig. S3a but for NO_x

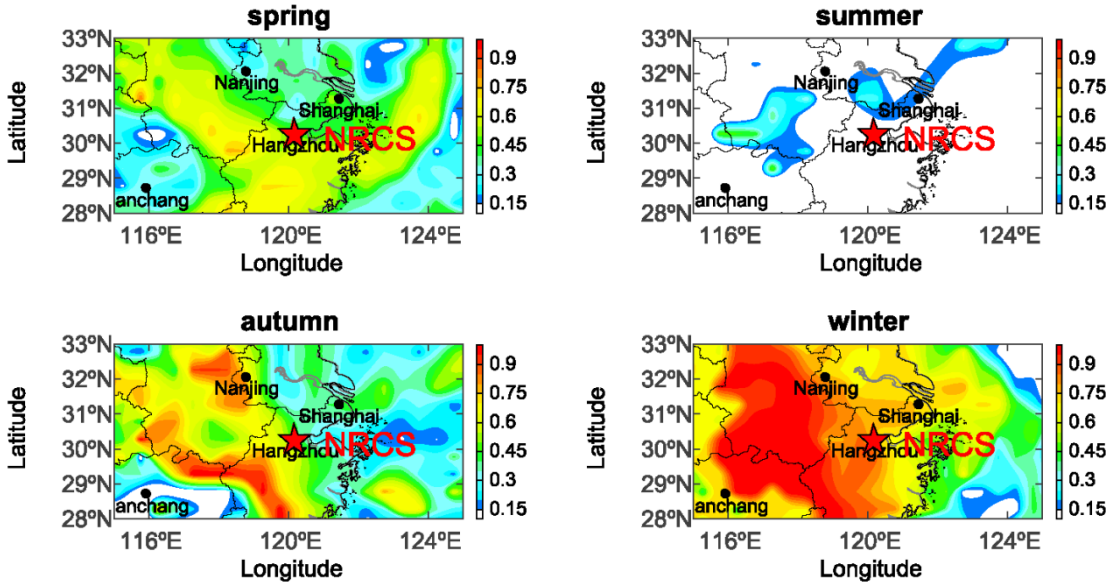


Fig. S4b. The zoomed view of Fig. S4a

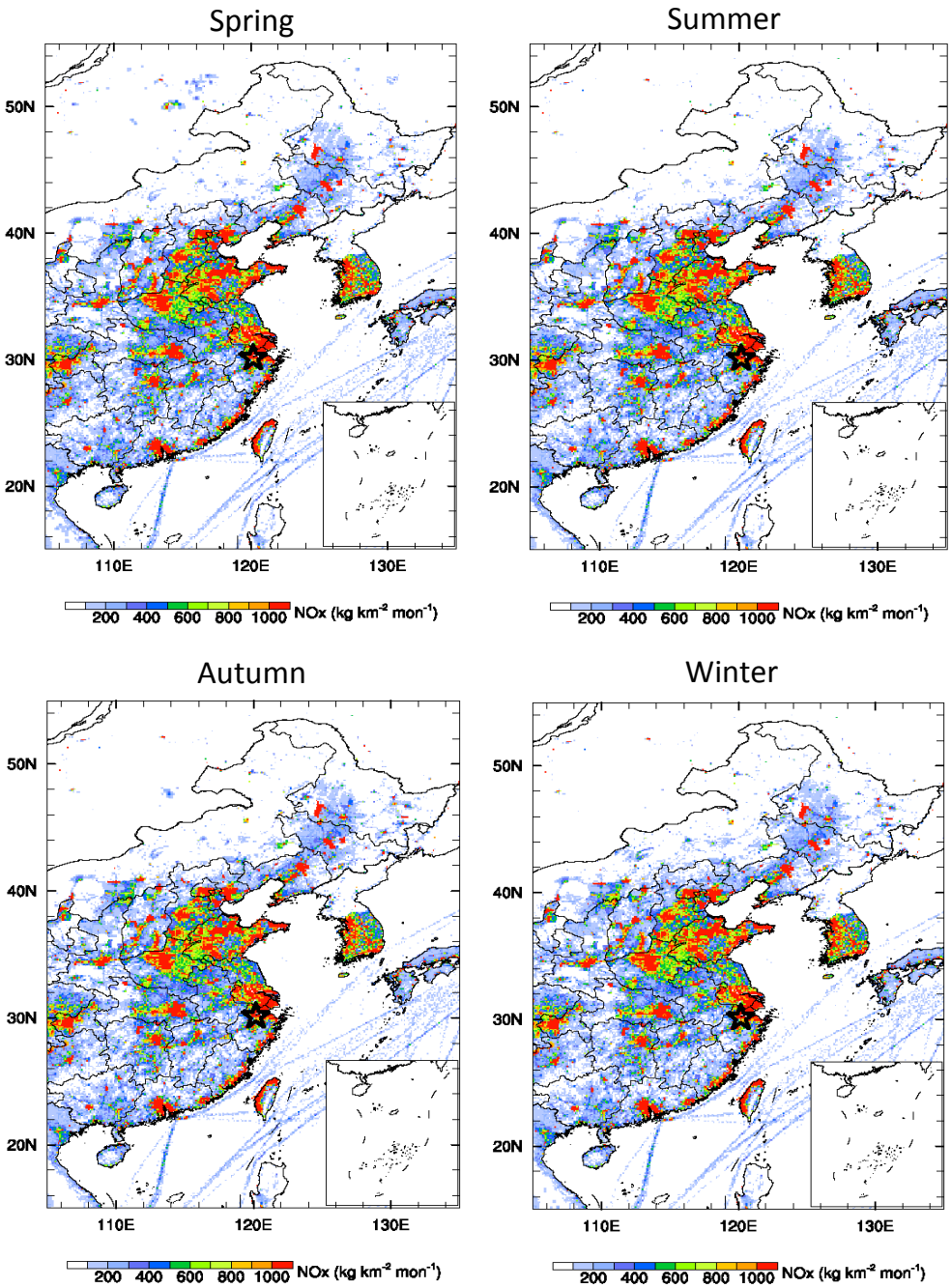


Fig. S4c. Same as Fig. S3c but for NO_x

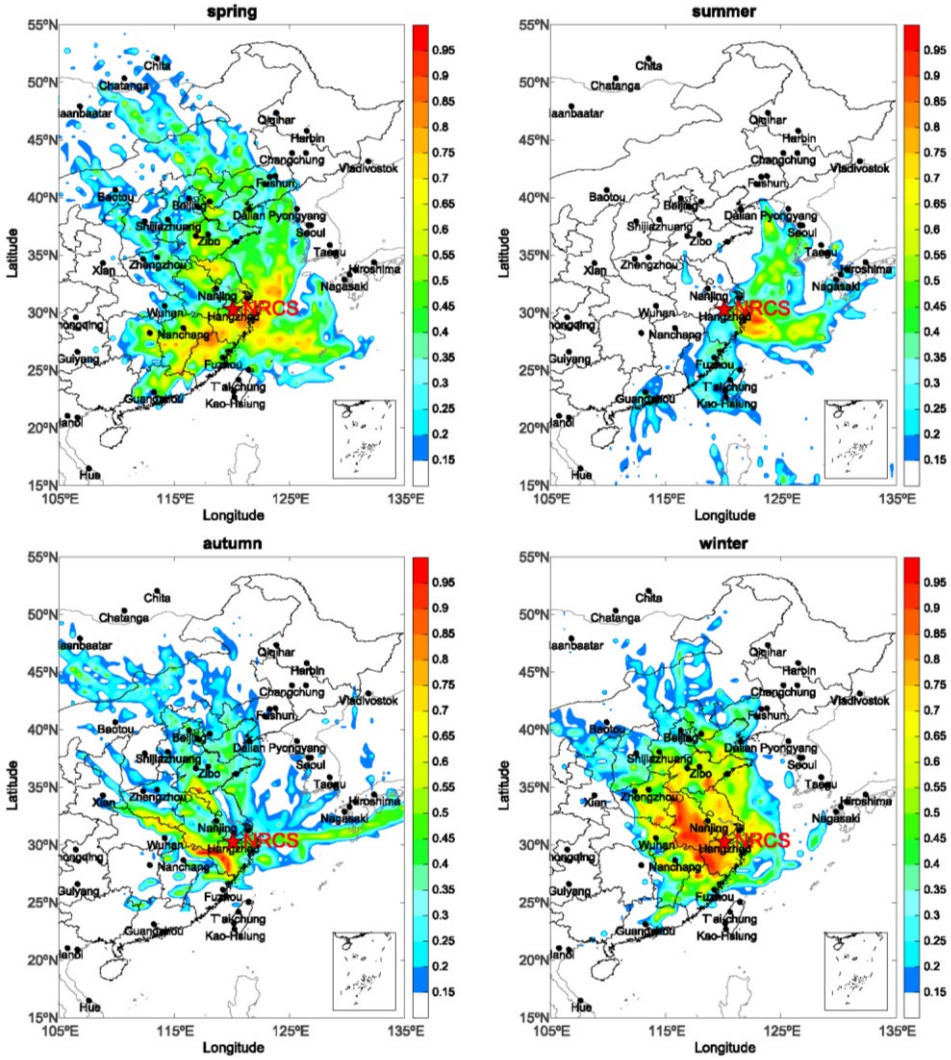
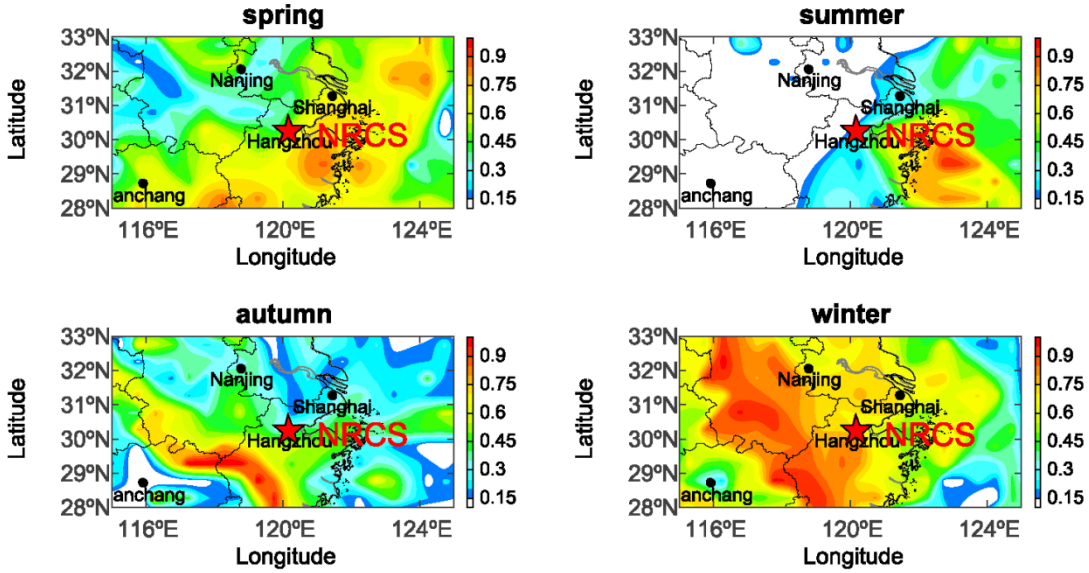


Fig. S5a. Same as Fig. S3a but for SO_2



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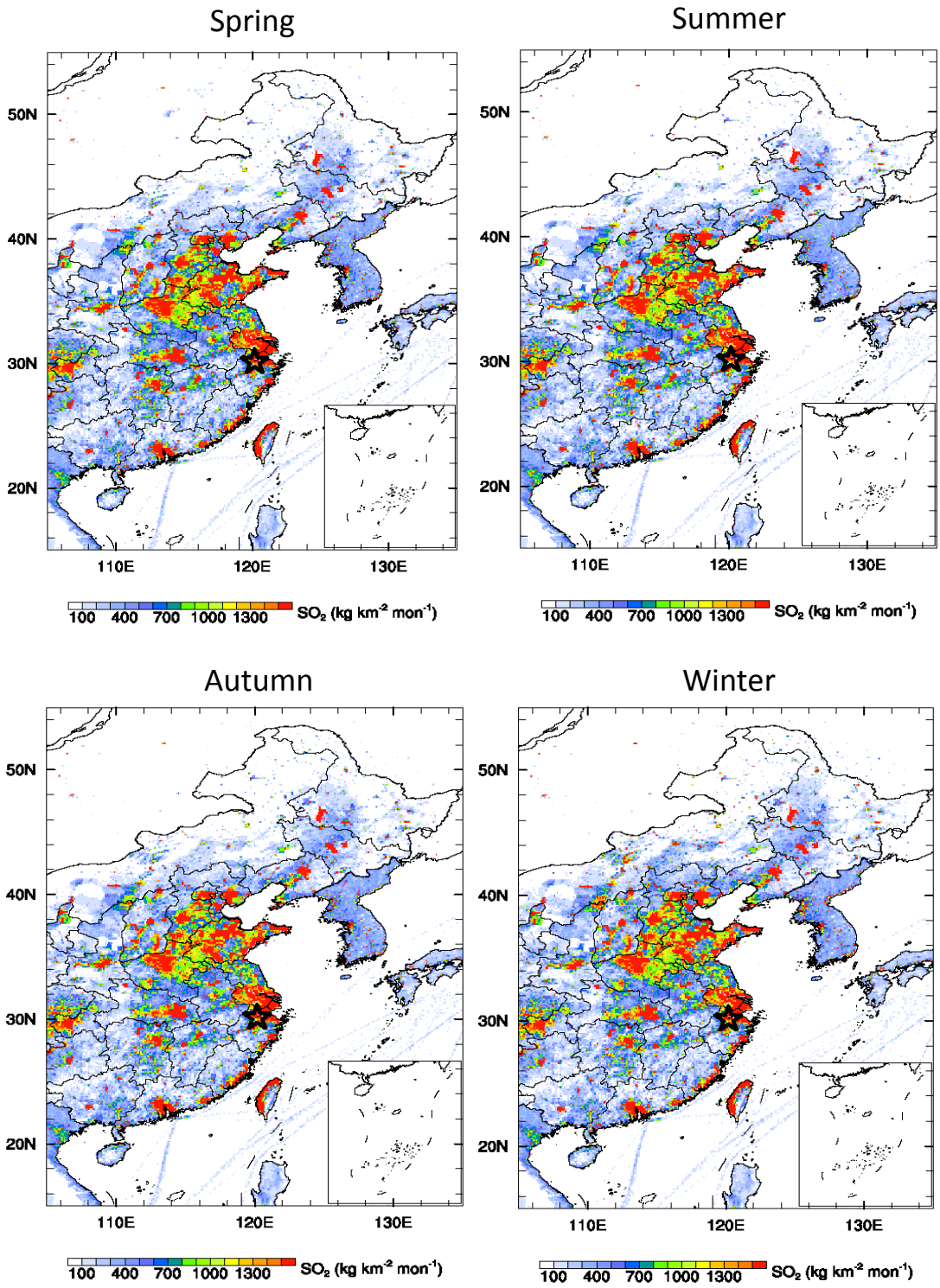
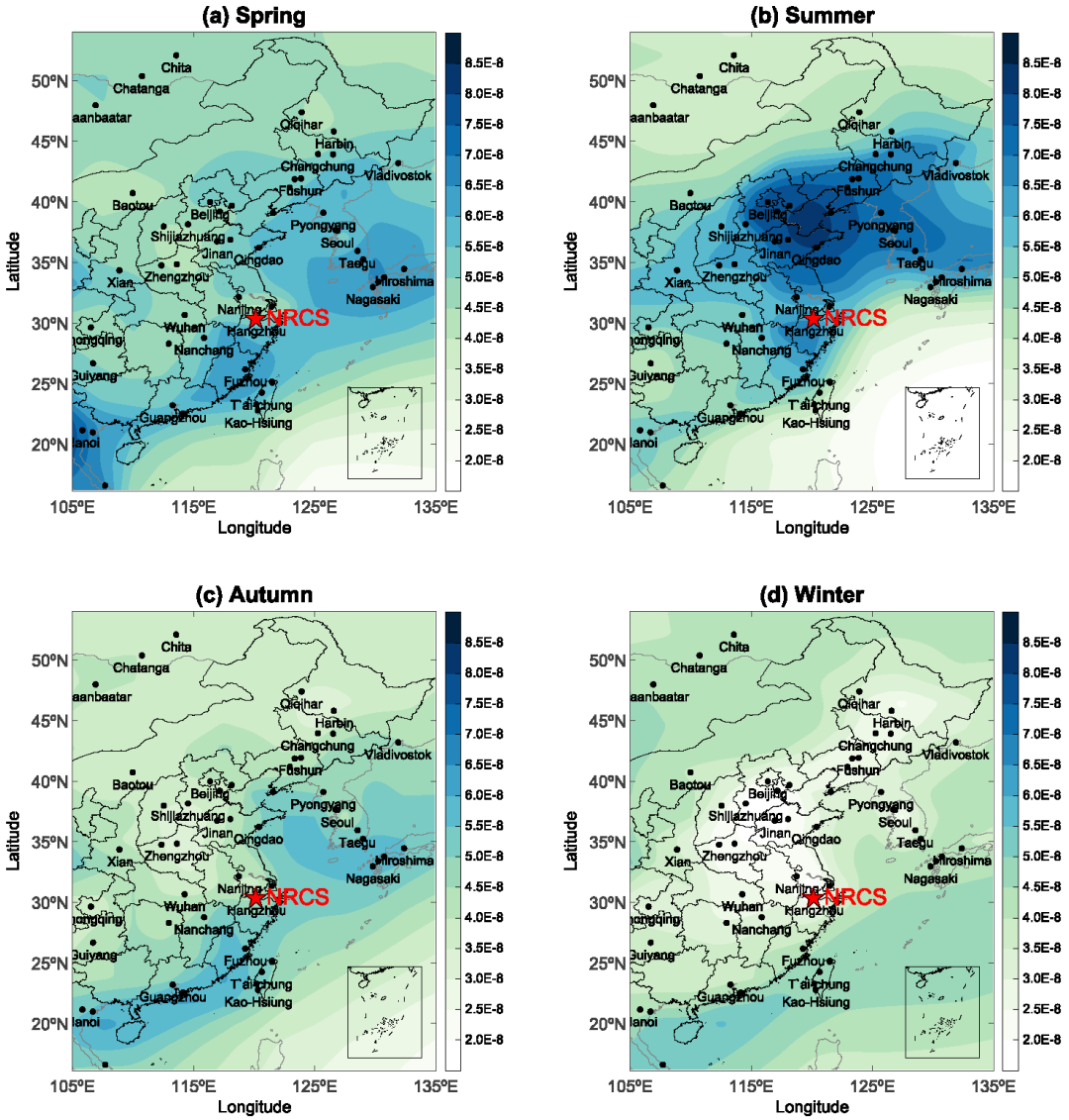


Fig. S5c. Same as Fig. S3c but for SO_2



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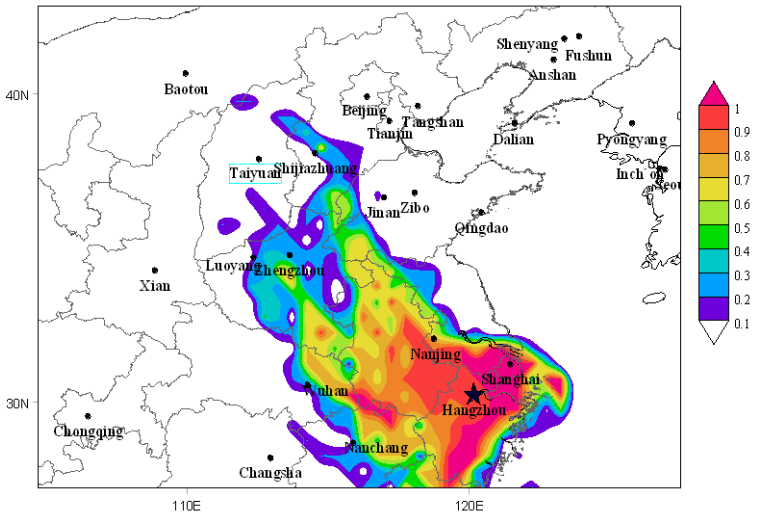

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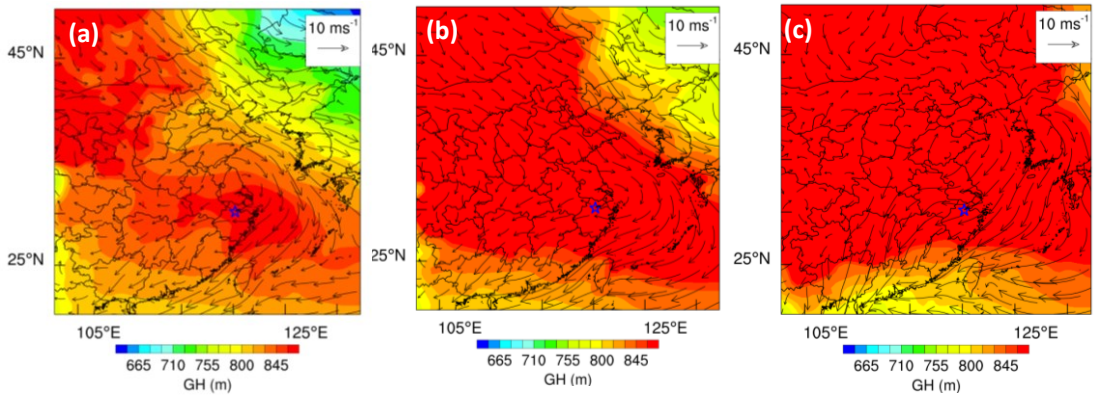

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