

1 *Supplement of*

2 **Characterization of atmospheric trace gases and particle**

3 **matters in Hangzhou, China**

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20 Figure captions

21 Fig. S1. Seasonal wind rose at NRCS site.

22 Fig. S2 Wind profiles of top 10% and bottom 10% CO (a), SO₂ (b), NO_x (c), NO_y (d),
23 O₃ (e), and PM_{2.5} (f) concentrations during spring (a), summer (b), autumn (c),
24 and winter (d). The blue and red solid circles represent the bottom 10% and top
25 10% pollutants concentrations, respectively.

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

29 Fig. S3b. The zoomed view of Fig. S3a

30 Fig. S3c. Seasonal and spatial distributions of CO emissions (kg km² mon⁻¹) at the
31 surface layer in China. The sampling site is marked in pentacle.

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

33 Fig. S4b. The zoomed view of Fig. S4a

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

35 Fig. S5a. Same as Fig. S3a but for SO₂

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

37 Fig. S5c. Same as Fig. S3c but for SO₂

38 Fig. S6. Weighted Potential source contribution function (WPSCF) of PM_{2.5} during
39 2-9 Dec, 2013 at NRCS. The NRCS station was marked by pentagram and
40 the WPSCF values are displayed in color.

41 Fig. S7. The Geopotential Height Field (GH) (indicated by color bars) and Wind Field

42 (WF) (black vectors) for 925 hPa at 20:00 LT during 13-15 December from left
43 to right (a, b, c)

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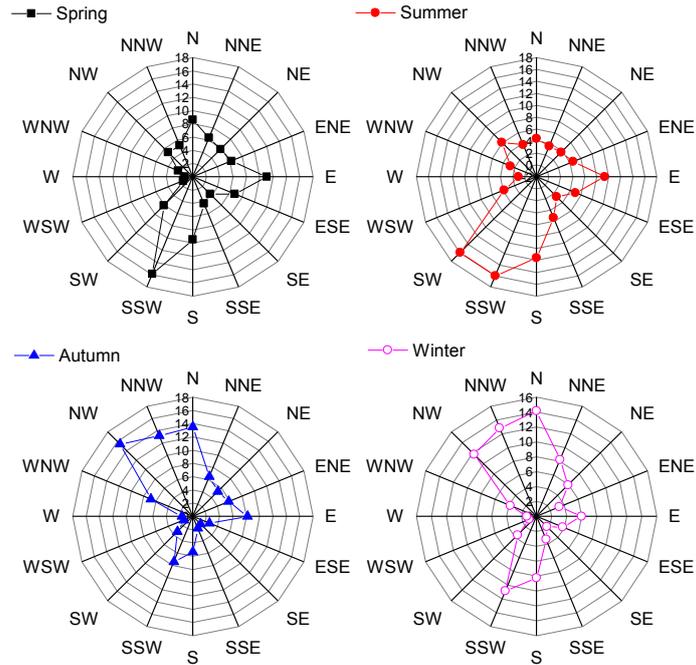


Fig. S1. Seasonal wind rose at NRCS site.

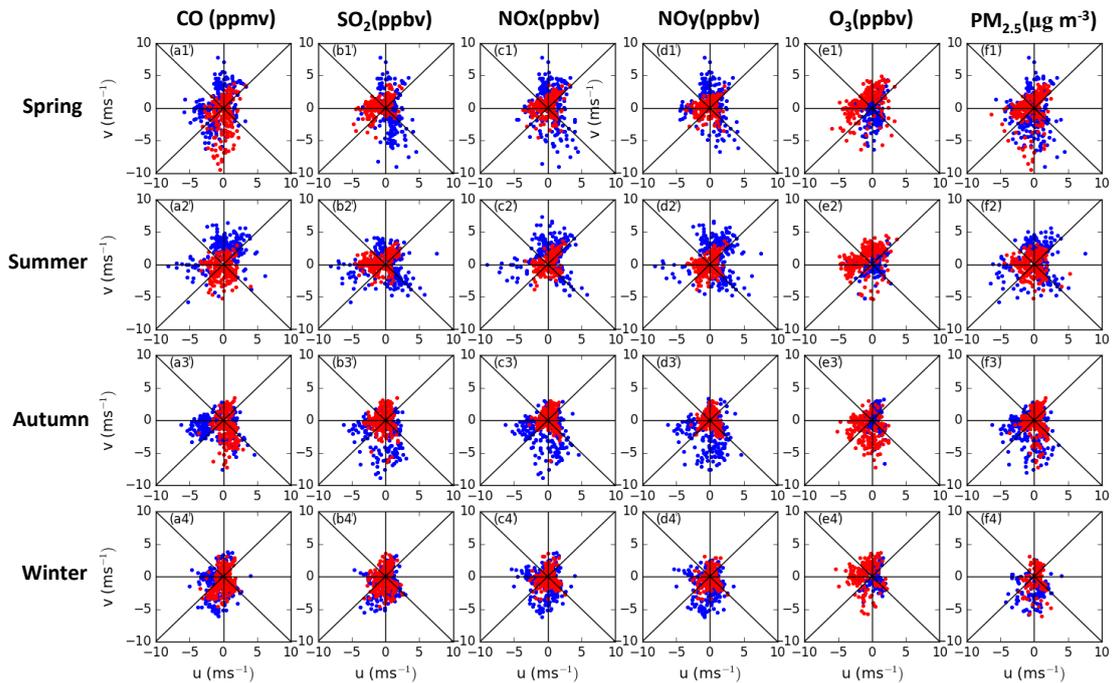
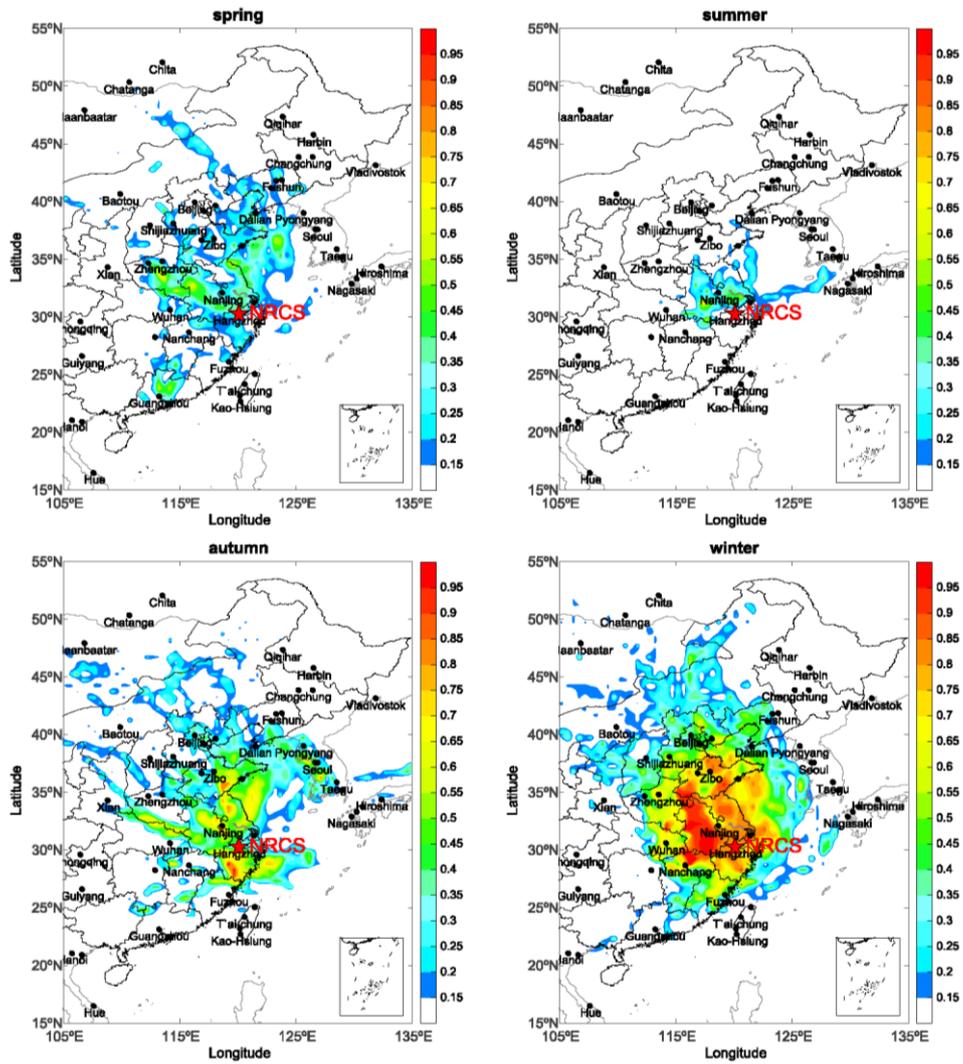
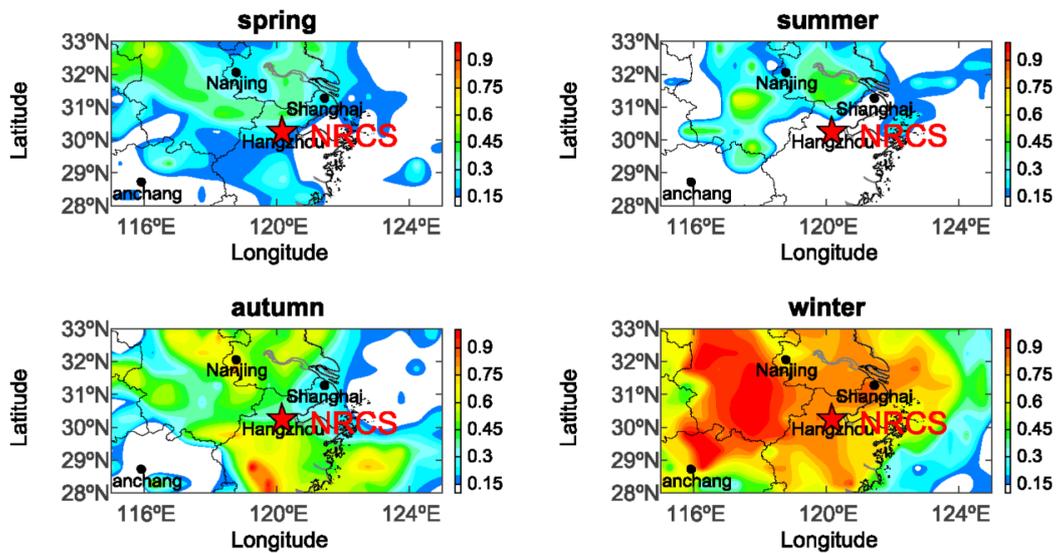


Fig. S2. Wind profiles of top 10% and bottom 10% CO (a), SO₂ (b), NO_x (c), NO_y (d), O₃ (e), and PM_{2.5} (f) concentrations during spring (a), summer (b), autumn (c), and winter (d). The blue and red solid circles represent the bottom 10% and top 10% pollutants concentrations, respectively.



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

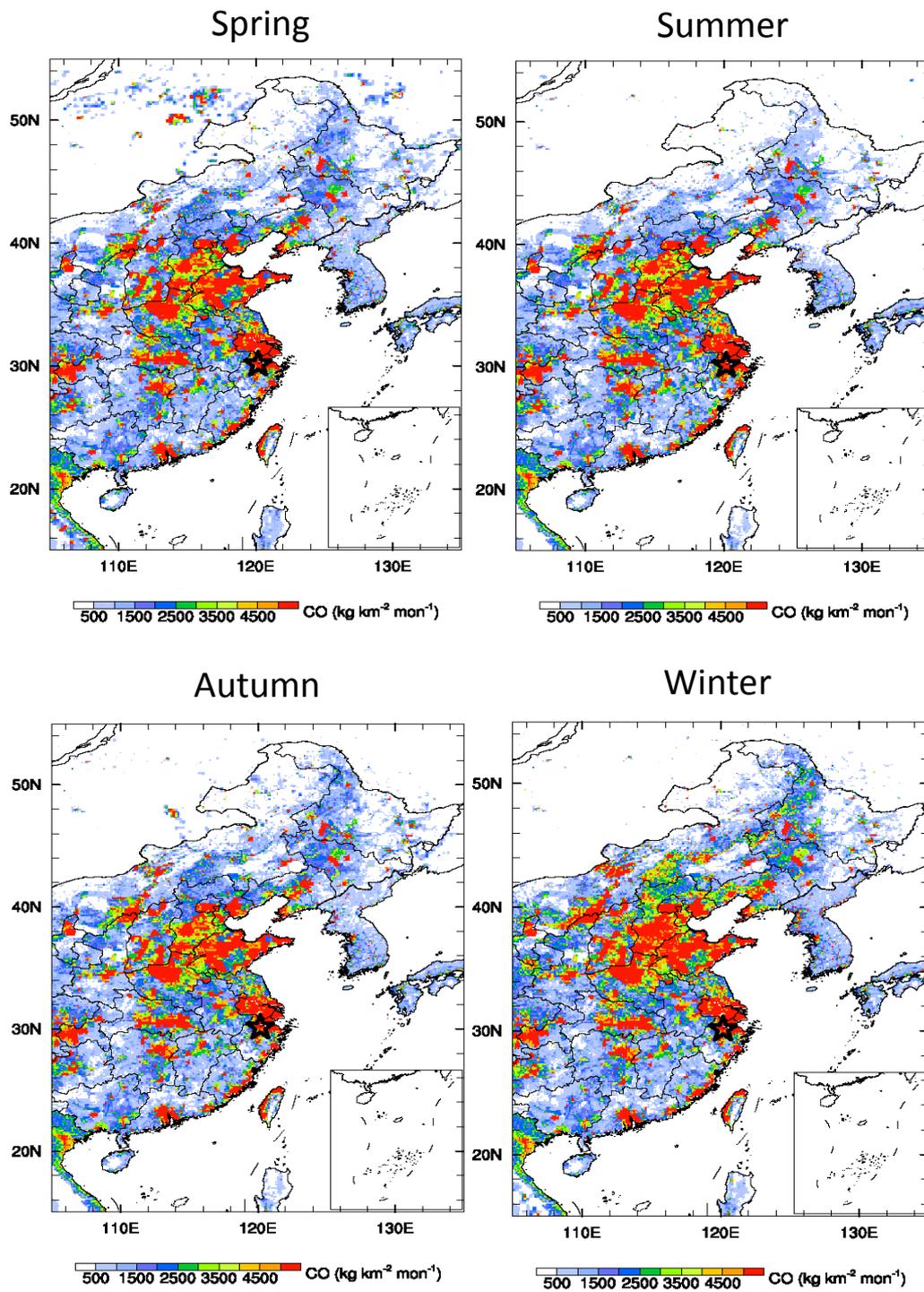


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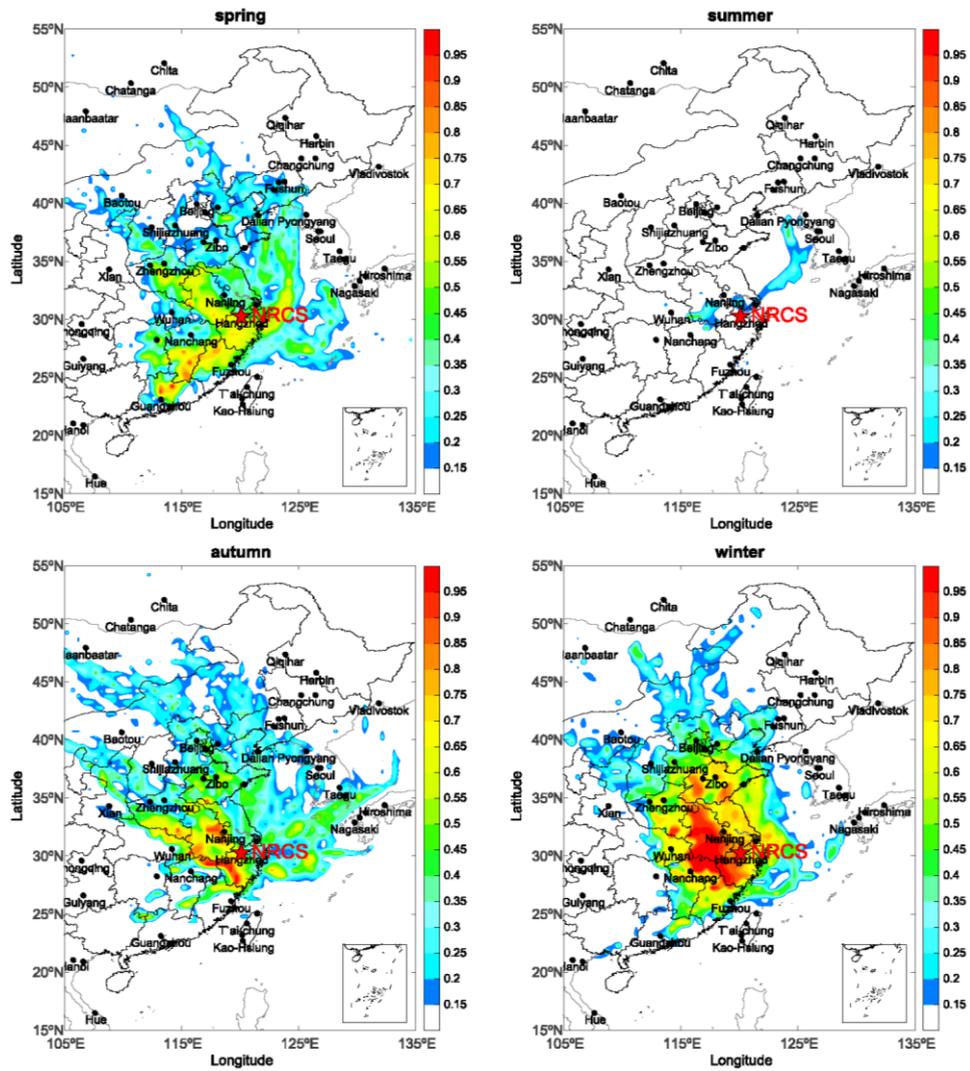
Fig. S3b. The zoomed view of Fig. S2a



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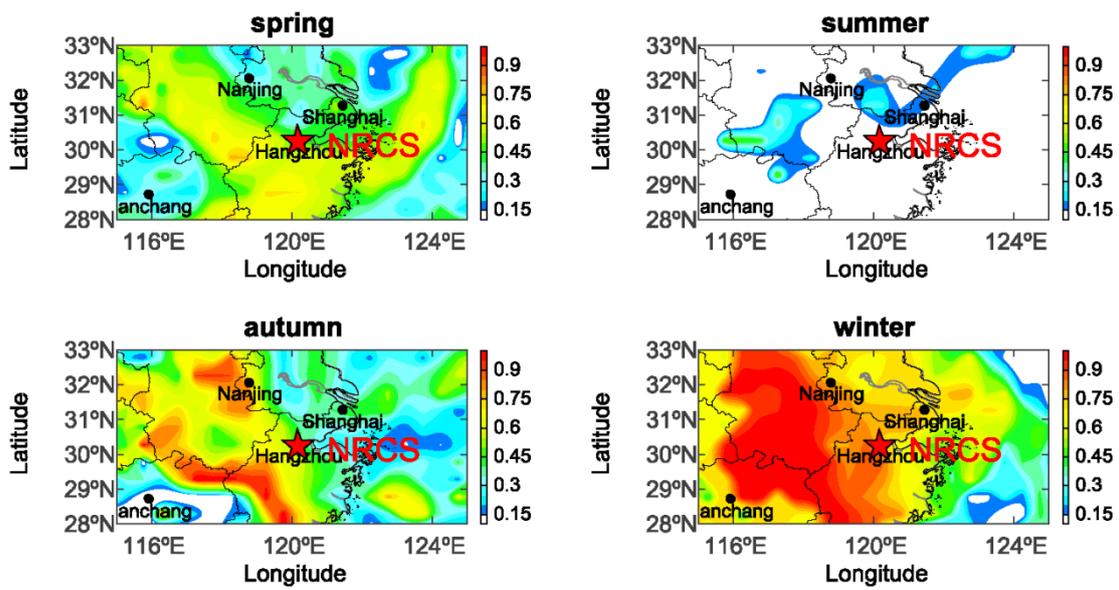
99 Fig. S3c. Seasonal and spatial distributions of CO emissions ($\text{kg km}^{-2} \text{mon}^{-1}$) at the surface layer in
 100 China. The sampling site is marked in pentacle.

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



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Fig. S4b. The zoomed view of Fig. S4a

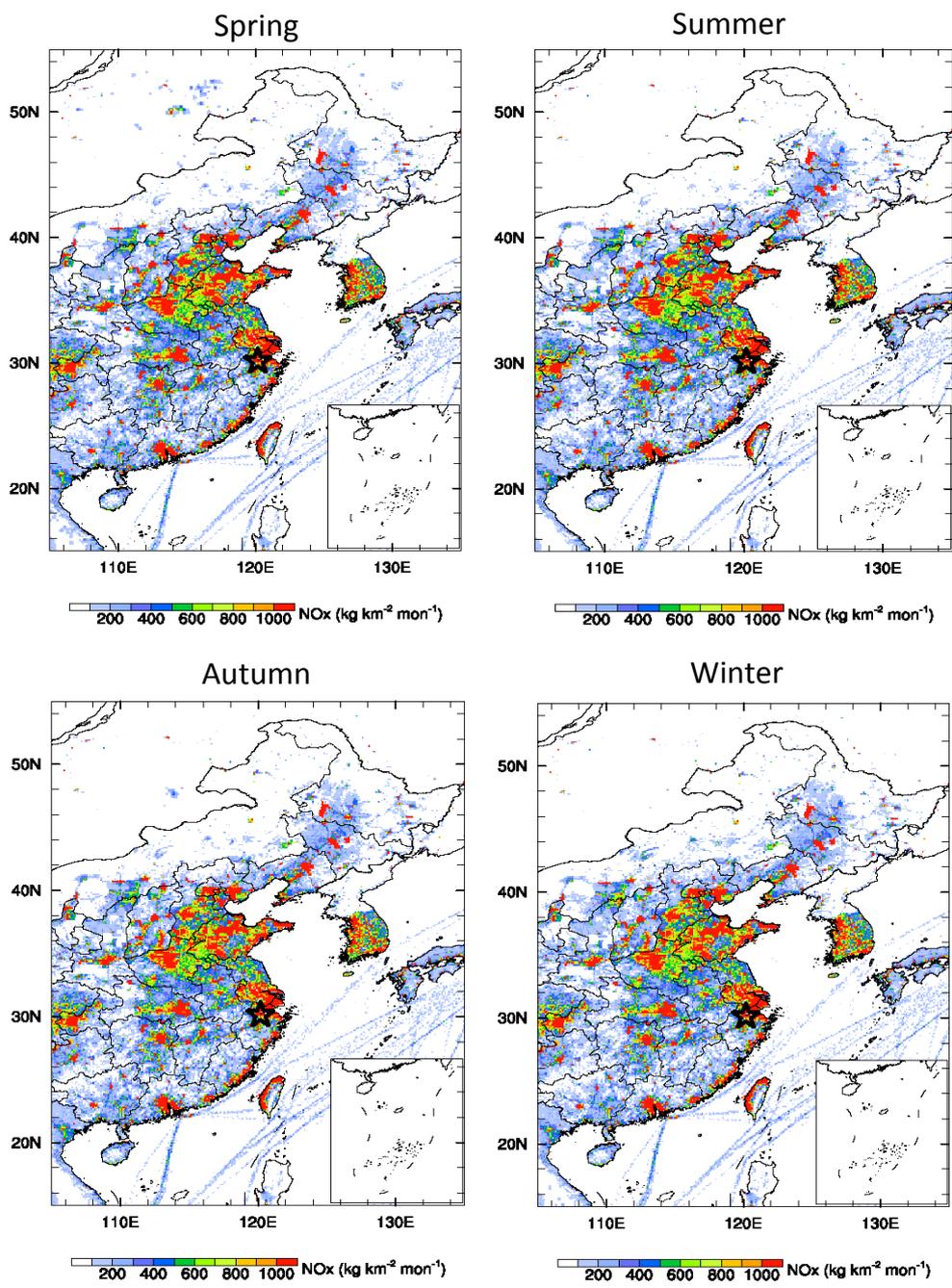
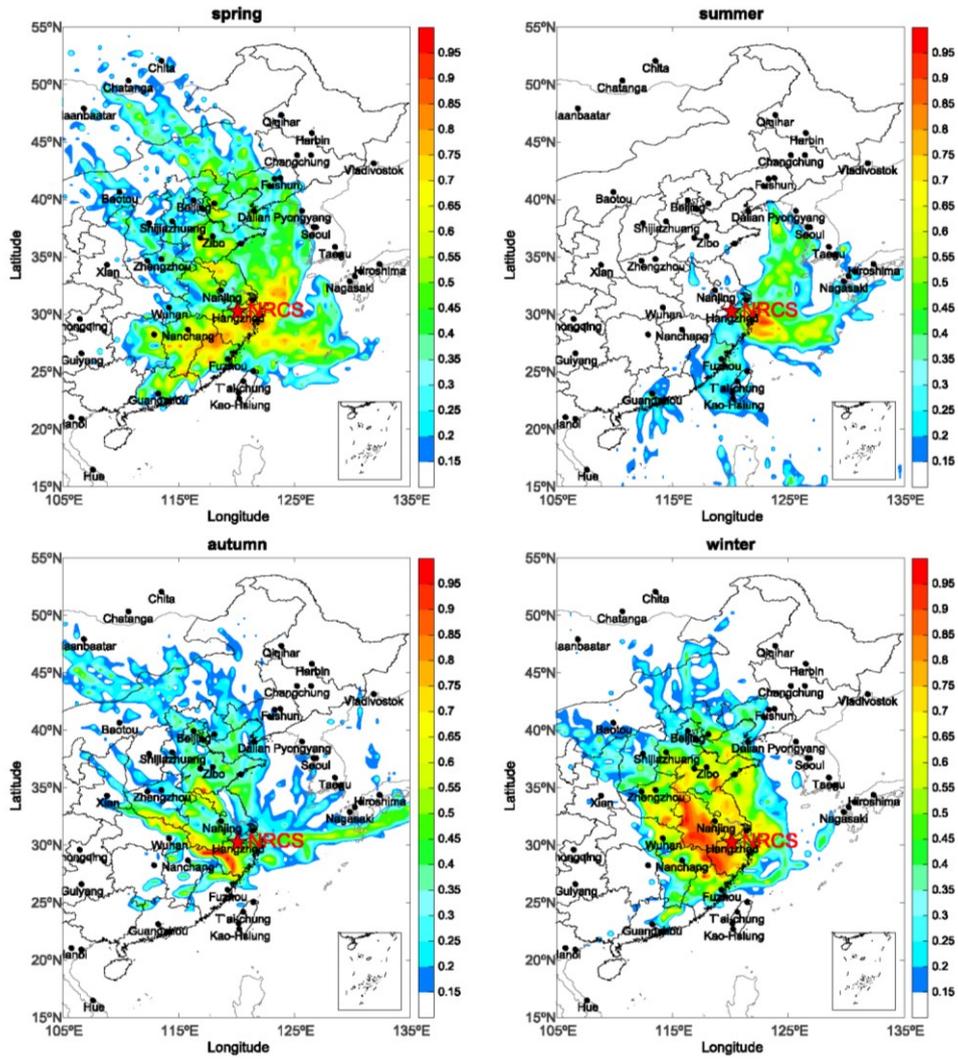
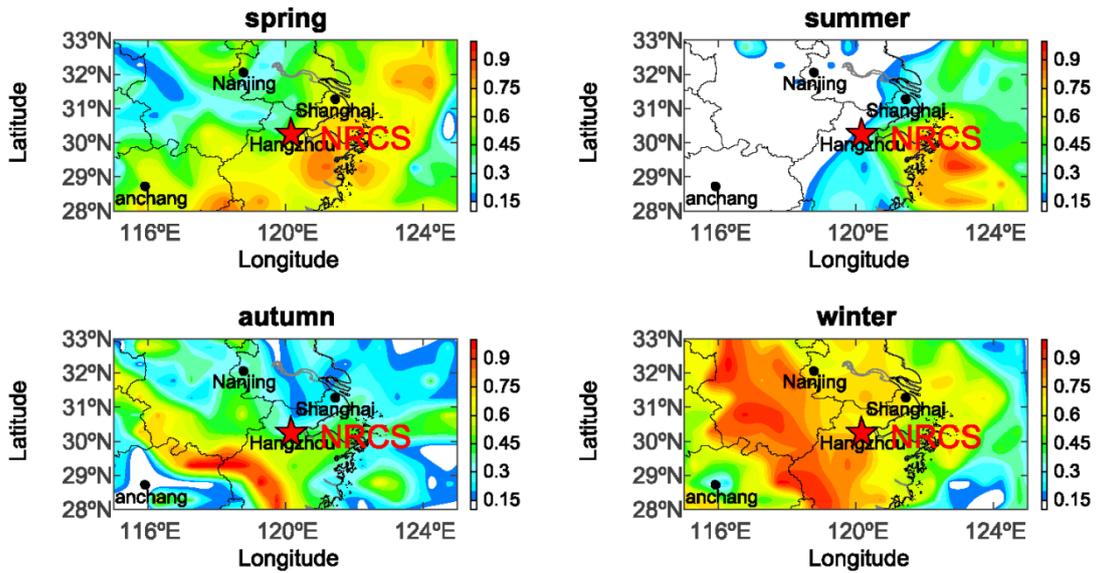


Fig. S4c. Same as Fig. S3c but for NO_x



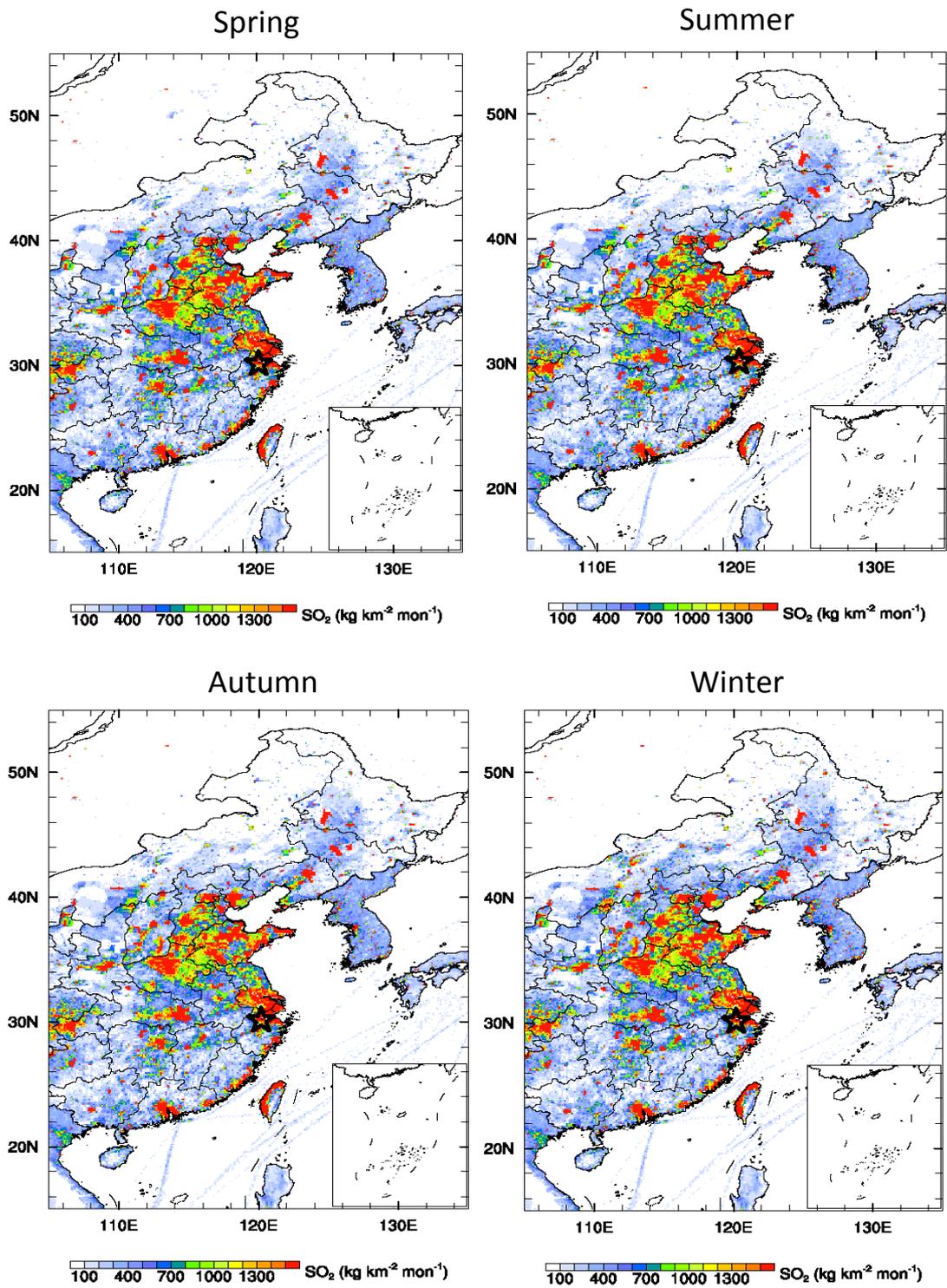
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Fig. S5a. Same as Fig. S3a but for SO₂



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



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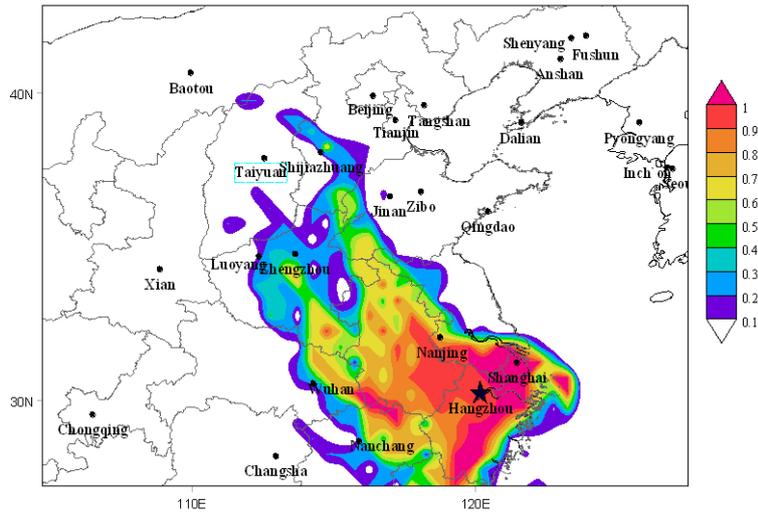
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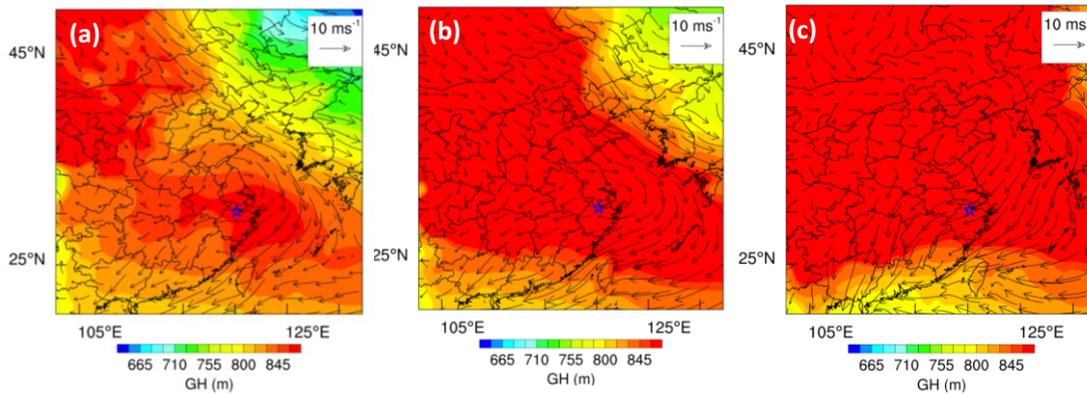
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Fig. S5c. Same as Fig. S3c but for SO_2



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Fig. S6. Weighted Potential source contribution function (WPSCF) of PM_{2.5} during 2-9 Dec, 2013 in NRCS. The NRCS station was marked by pentagram and the WPSCF values are displayed in color.



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Fig. S7. 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, and c)