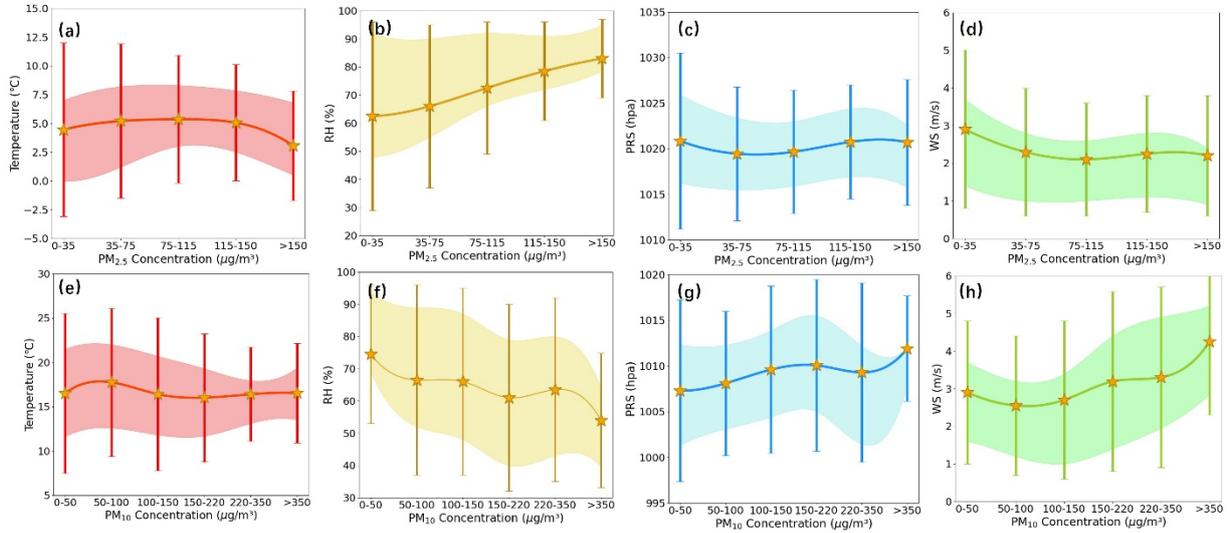


1 Supplement

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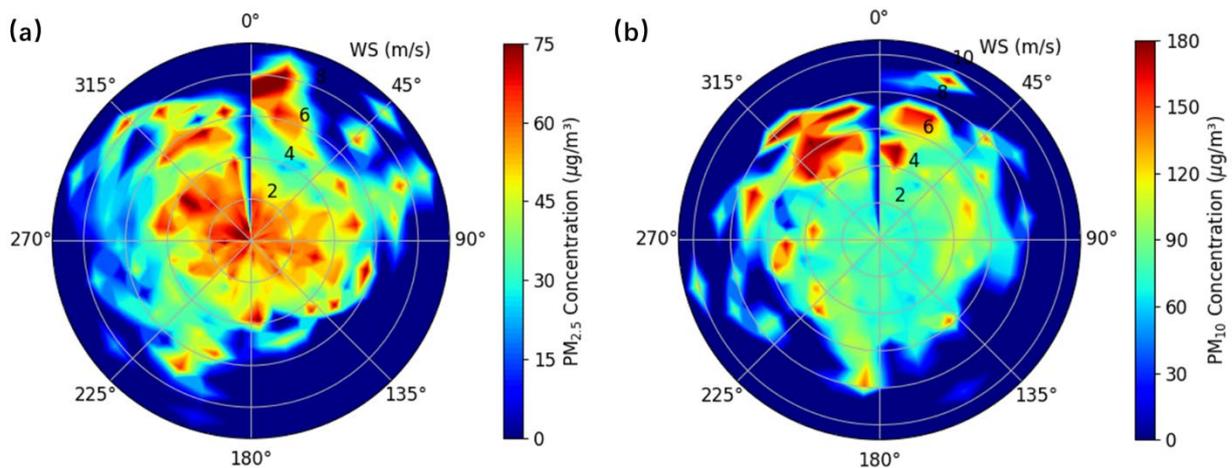


3

4 **Figure S1.** Boxplots of (a-d) PM_{2.5} and (e-h) PM₁₀ concentrations under varied meteorological factors (a&e:
5 Temperature, b&f: Relative humidity, c&g: Surface pressure, d&h: Wind speed). The whiskers represent the
6 90th and 10th percentiles, respectively. The shaded areas represent the 25th-75th percentiles. The stars represent
7 the mean values of the meteorological factors, and the lines connecting the stars depict the trend of mean values
8 across different PM concentration intervals.

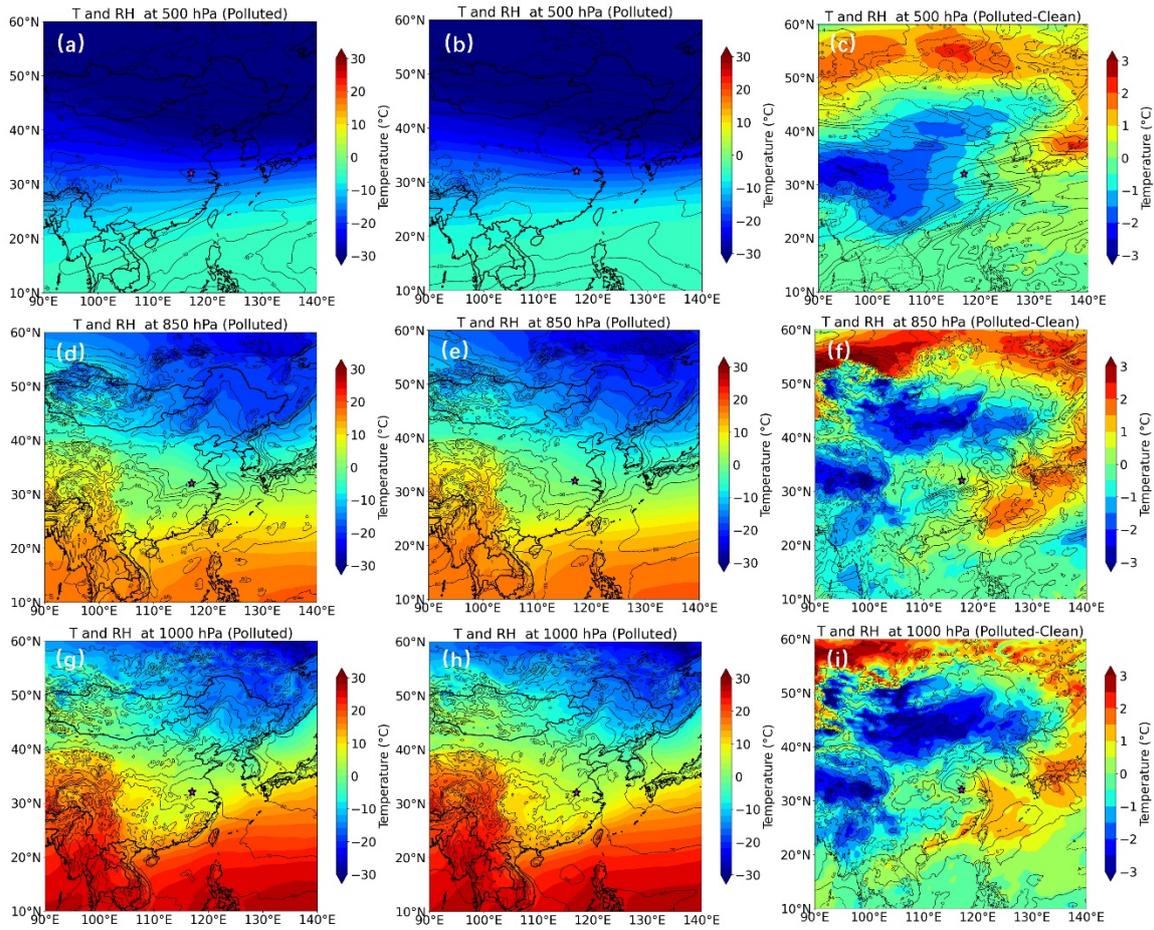
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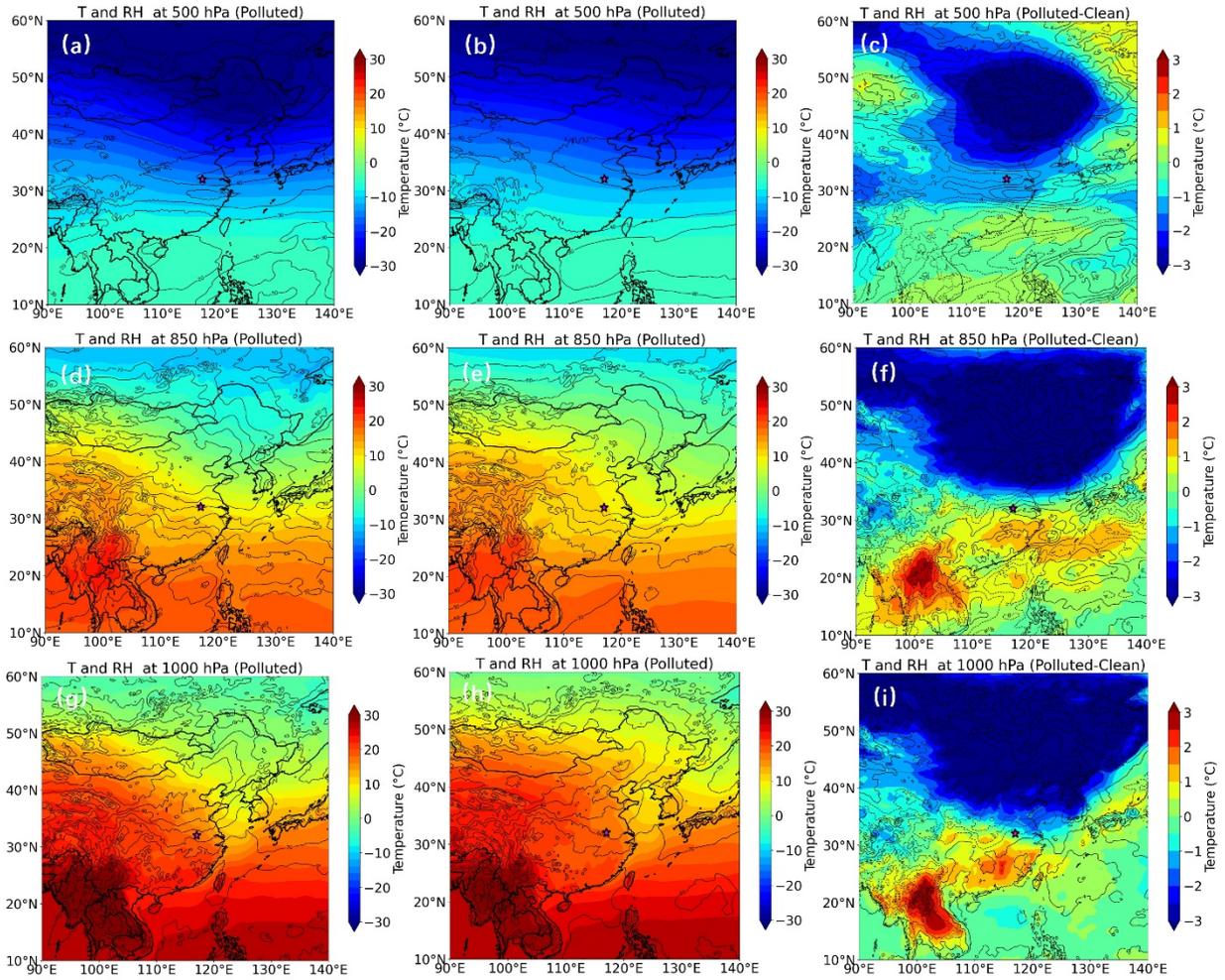
12 **Figure S2.** Comparison of (a) PM_{2.5} and (b) PM₁₀ concentration distributions with wind direction based on the
13 ground-level observations in Hefei. The radial axis represents wind speed (WS, m/s) with a tick interval of 2
14 m/s, and the angular axis indicates wind direction (degrees, °).



15

16 **Figure S3.** Spatial distribution of the relative humidity (black contour), superimposed by temperature (shaded)
 17 at three pressure level (500 hPa: a–c; 850 hPa: d–f; 1000 hPa: g–i) on PM_{2.5}-polluted (left column), clean (middle
 18 column) days and the difference between them (right column), respectively. The areas highlighted with a red
 19 star represents the location of Hefei.

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21

22 **Figure S4.** Same as Fig. S3, but on PM₁₀-polluted (left column), clean (middle column) days and the difference
 23 between them (right column), respectively.

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