



*Supplement of*

**Superimposed effects of typical local circulations driven by mountainous topography and aerosol–radiation interaction on heavy haze in the Beijing–Tianjin–Hebei central and southern plains in winter**

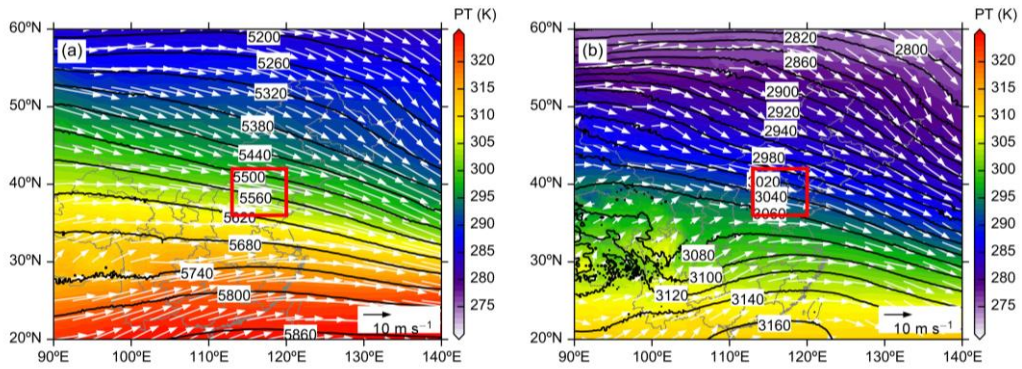
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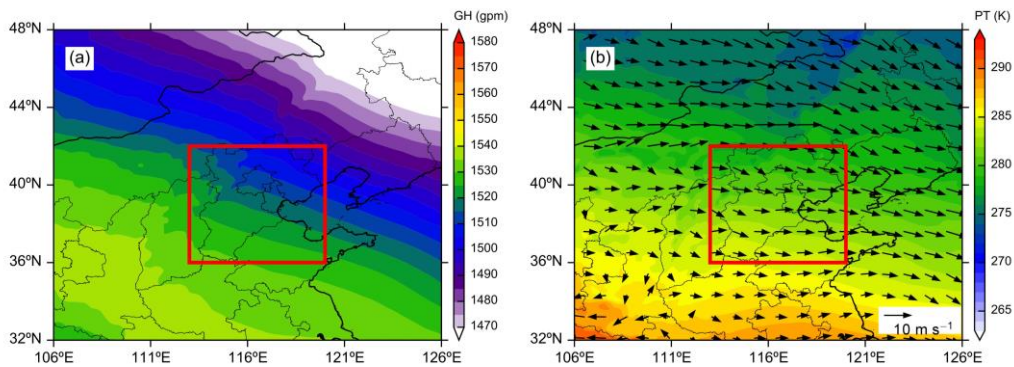
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1 **Supplement**

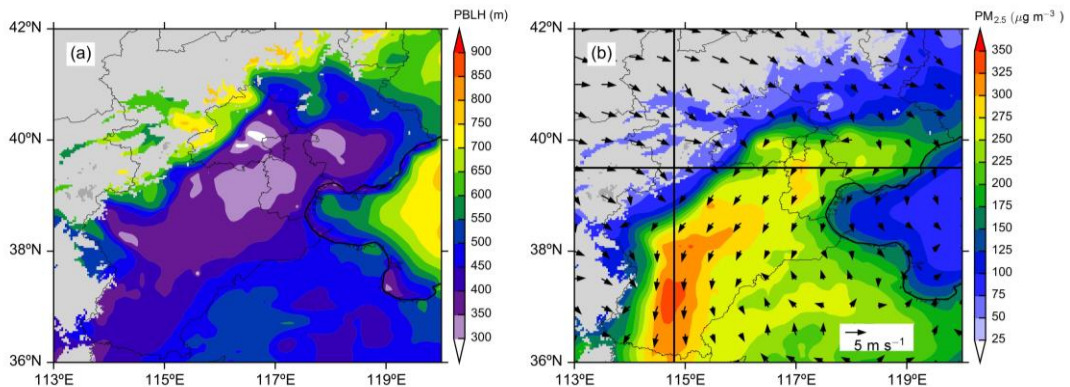
2 The supplement provides the average distributions of the weather situation from the upper troposphere  
3 to the near surface for the three pollution periods.



4  
5 Figure S1. Distribution of GH (black lines), PT (shadings), and wind vectors (white arrows) at (a) 500  
6 and (b) 700 hPa during the three pollution periods. Red rectangles indicate the BTH region.



7  
8 Figure S2. Distribution of simulated (CTL) GH (a), PT (b: shading), and wind vectors (b: black arrows)  
9 at 850 hPa during the three pollution periods. Red rectangles indicate the BTH region.



11 Figure S3. Distribution of simulated (CTL) daytime (09:00–16:00 BJT) PBLH (a), near-surface PM<sub>2.5</sub>  
12 concentrations (b: shading), and wind vectors at 10 m (b: black arrows) during the three pollution periods.  
13 The grey shadings denote the terrain height over 1000 m. The black lines indicate the location of the  
14 vertical cross-sections shown in Figure 8.