

Electronic Supplementary Material to: Seasonal Characteristics of Forecasting Uncertainties in Surface PM_{2.5} Concentration Associated with Forecast Lead Time over the Beijing-Tianjin-Hebei Region*

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ESM to: Du, Q. Y., and Coauthors, 2024: Seasonal characteristics of forecasting uncertainties in surface PM_{2.5} concentration associated with forecast lead time over the Beijing-Tianjin-Hebei region. *Adv. Atmos. Sci.*, **41**(5), 801–816, <https://doi.org/10.1007/s00376-023-3060-3>.

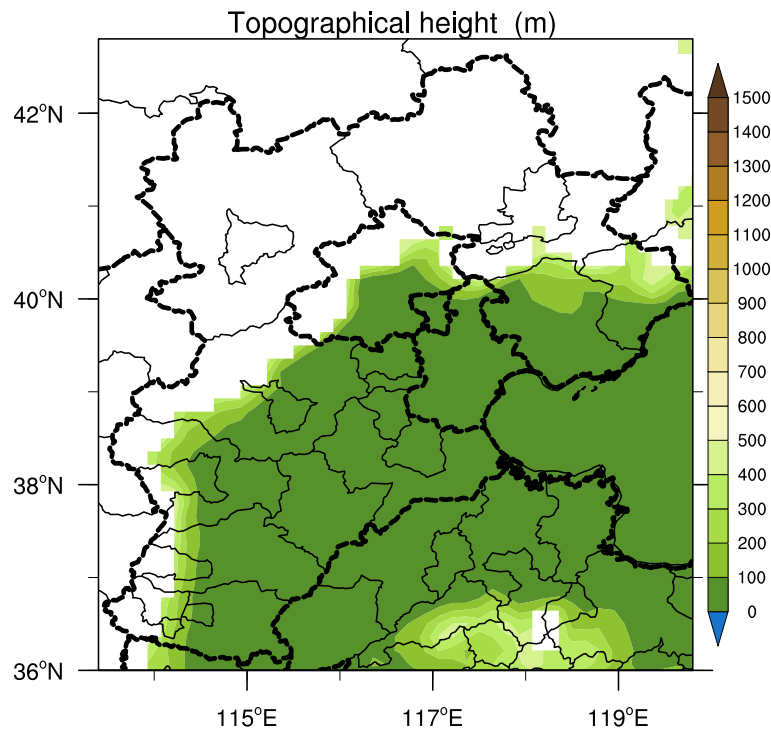


Fig. S1. Focused area of the analysis in this study. The shaded area denotes the area with a topographical height of less than 500 m in the BTH region.

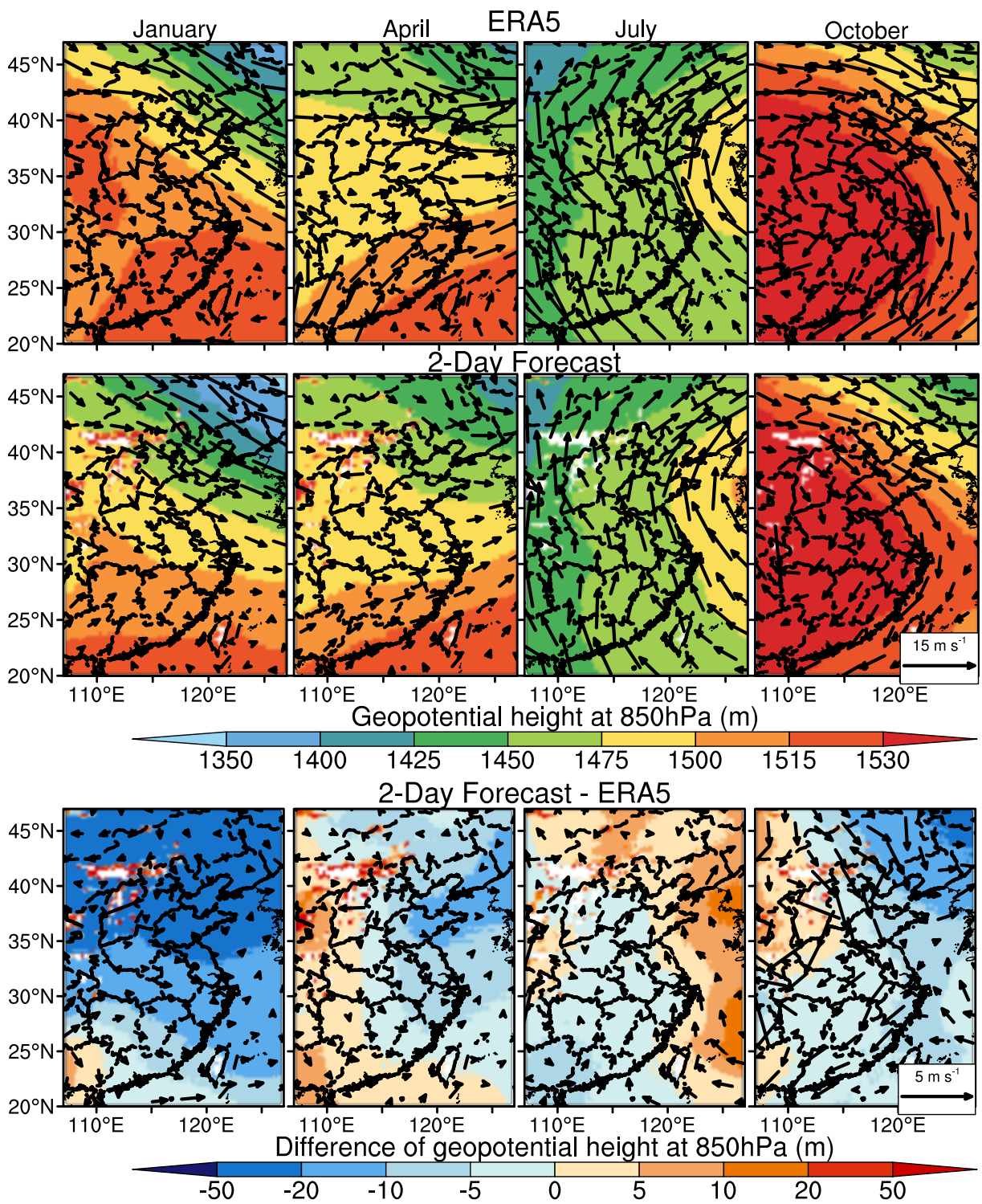


Fig. S2. Spatial distribution of 850-hPa geopotential height and wind from the ERA5 reanalysis dataset and the 2-Day forecast in January, April, July, and October of 2018.

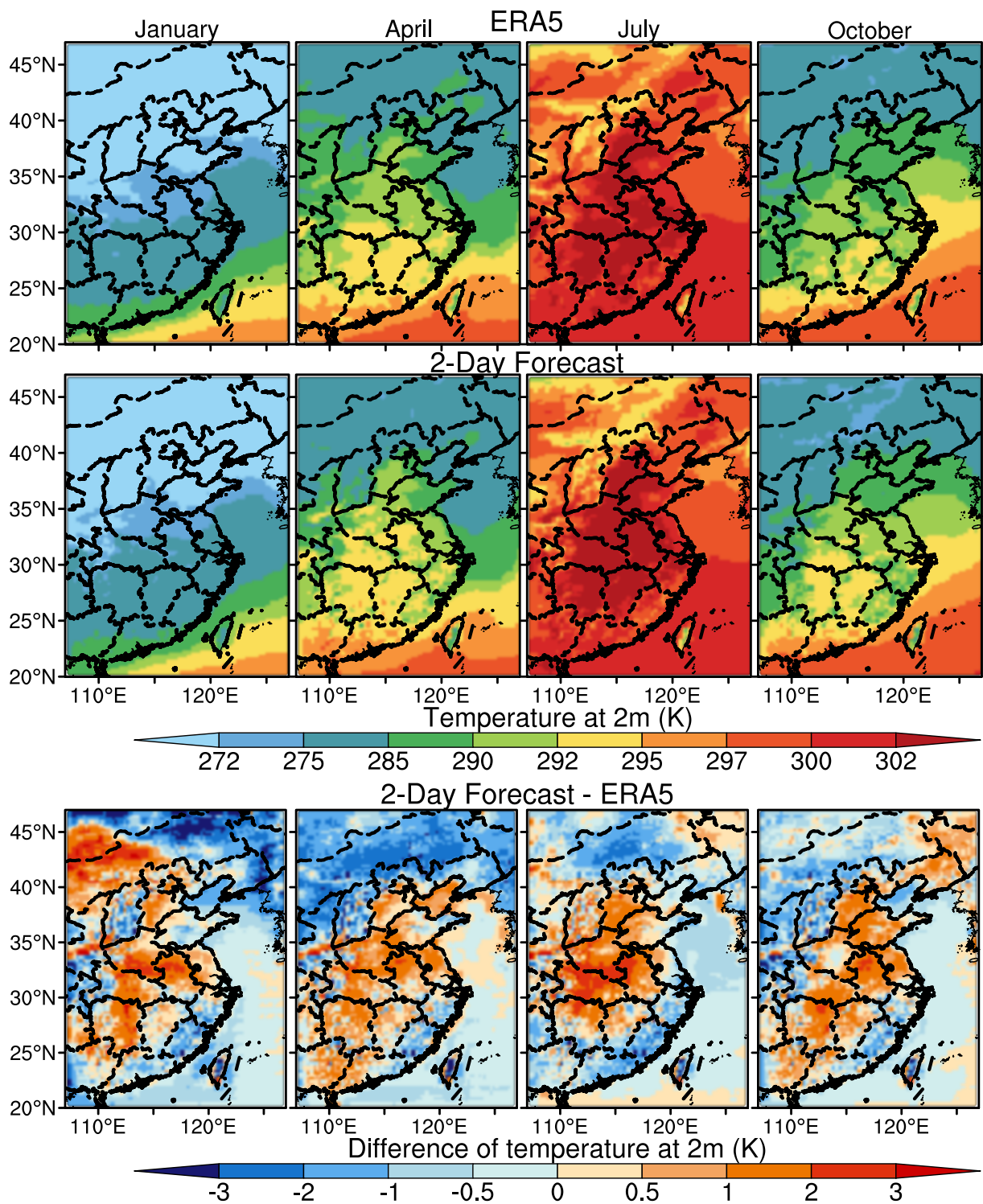


Fig. S3. Spatial distribution of 2-m temperature from the ERA5 reanalysis dataset and the 2-Day forecast in January, April, July, and October of 2018.

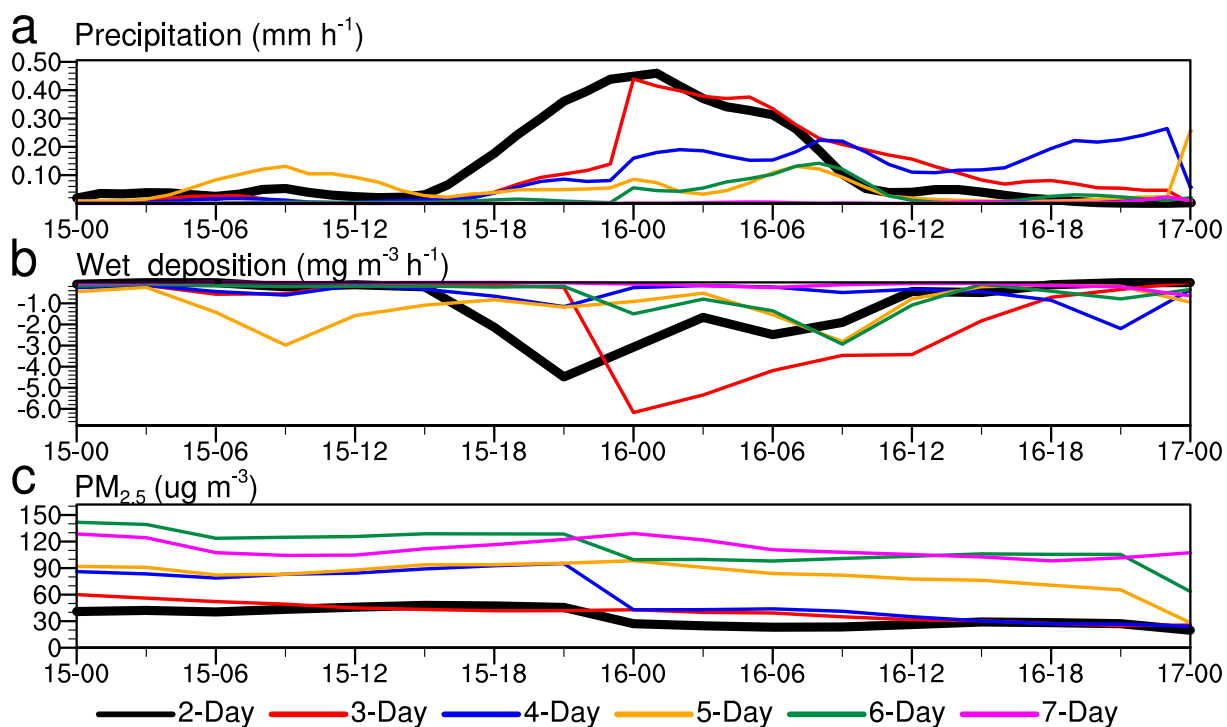


Fig. S4. (a) Time series of hourly precipitation, (b) contributions of wet deposition on surface $\text{PM}_{2.5}$ concentrations, and (c) the surface $\text{PM}_{2.5}$ concentrations over the BTH region from the 2-Day to 7-Day forecasts from 0000 UTC 15 October to 0000 UTC 17 October 2018.

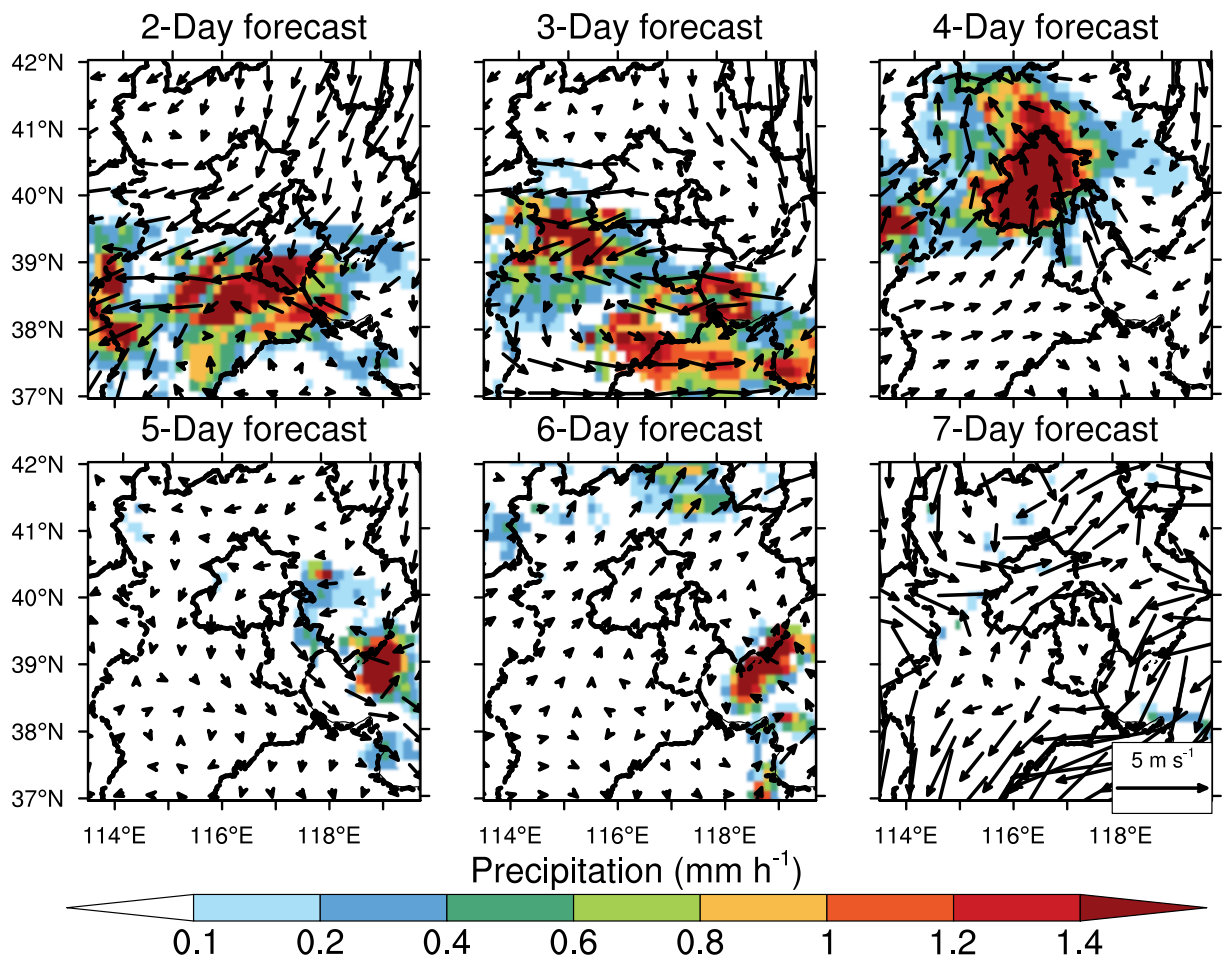


Fig. S5. Spatial distribution of hourly precipitation and 850-hPa wind fields from the 2-Day to 7-Day forecasts at 0200 UTC 16 October 2018.

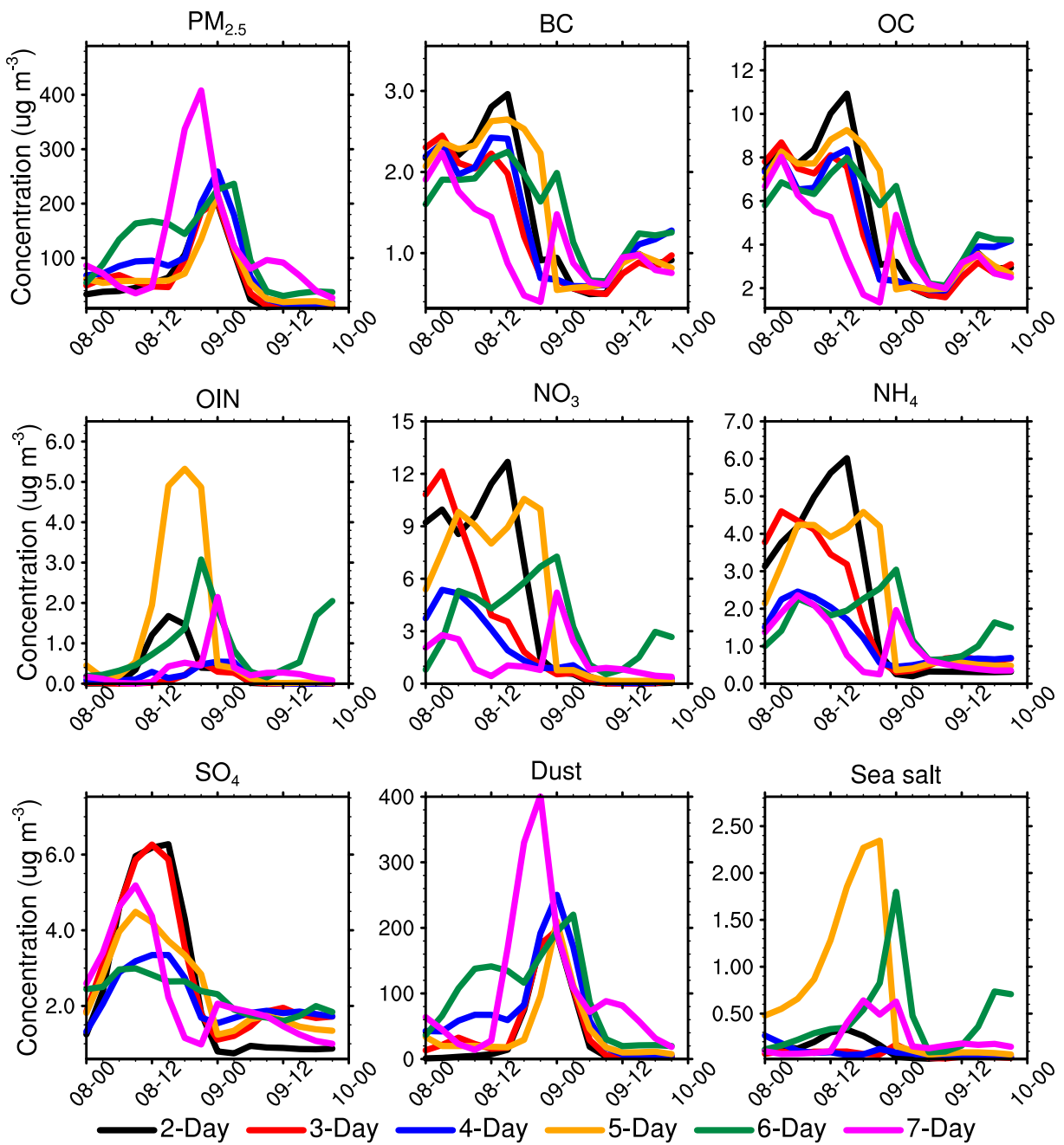


Fig. S6. Time series of surface concentrations of $\text{PM}_{2.5}$ and $\text{PM}_{2.5}$ compositions over the BTH region from the 2-Day to 7-Day forecasts during 0000 UTC 8 April to 0000 UTC 10 April 2018.

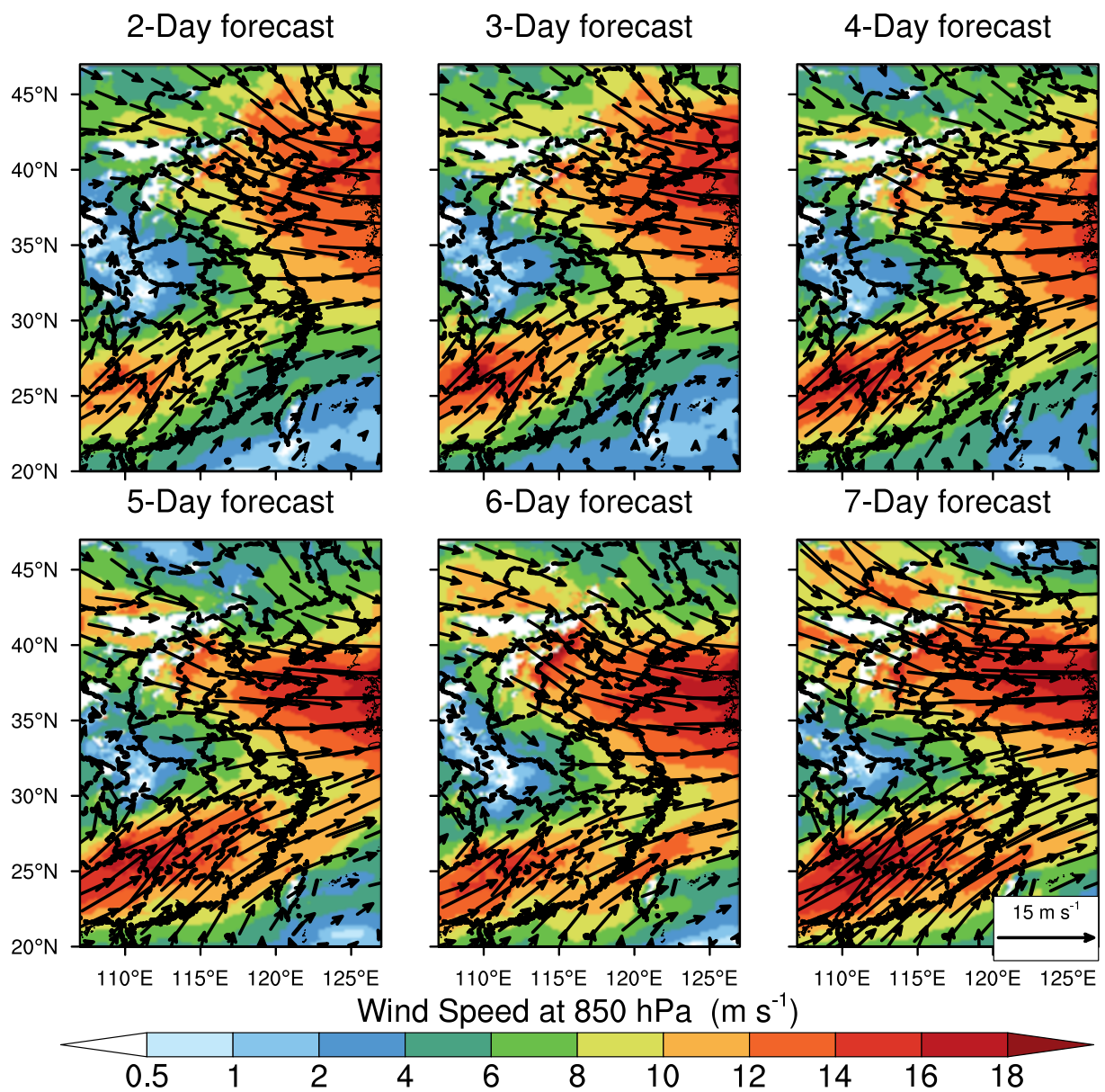


Fig. S7. Spatial distribution of the 850-hPa wind fields from the 2-Day to 7-Day forecasts from 0000 UTC 8 April to 0000 UTC 10 April 2018.

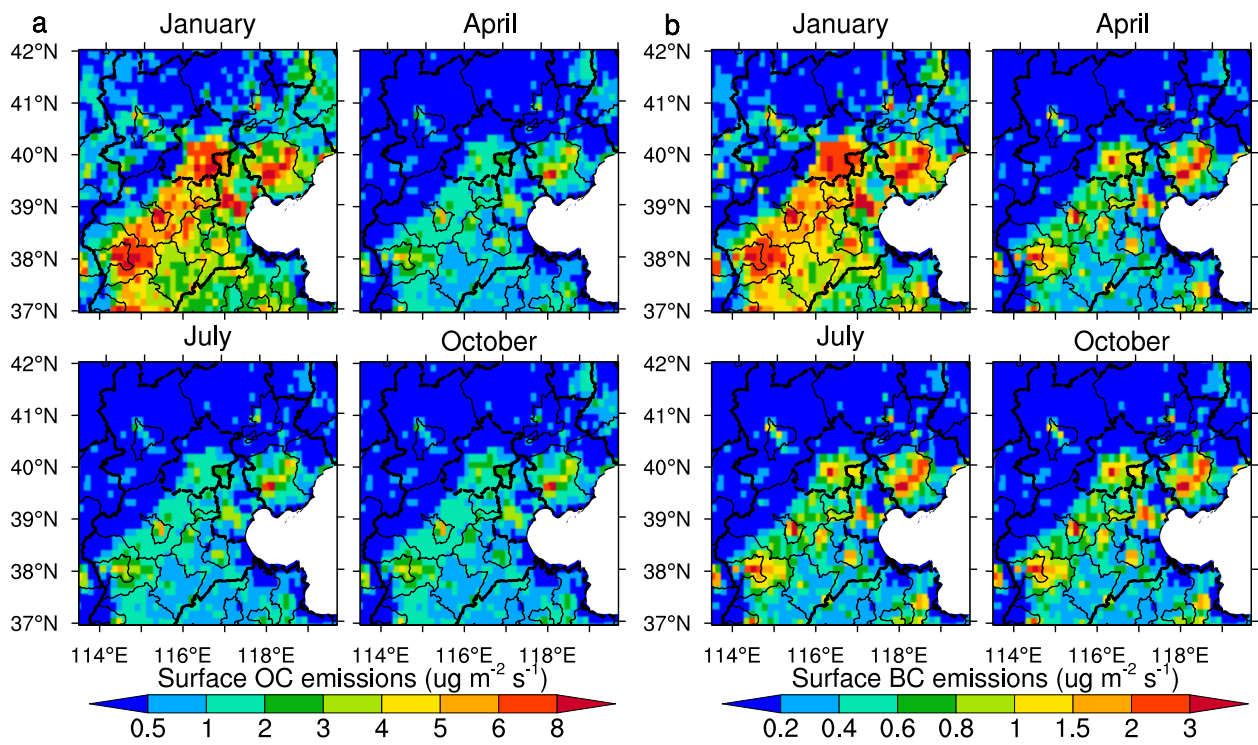


Fig. S8. Spatial distribution of anthropogenic emissions of (a) OC and (b) BC for January, April, July, and October of 2018.