remote sensing

MDPI

Supplement of

Quantifying Contributions of Local Emissions and Regional Transport to NOX in Beijing using TROPOMI Constrained WRF-Chem Simulation

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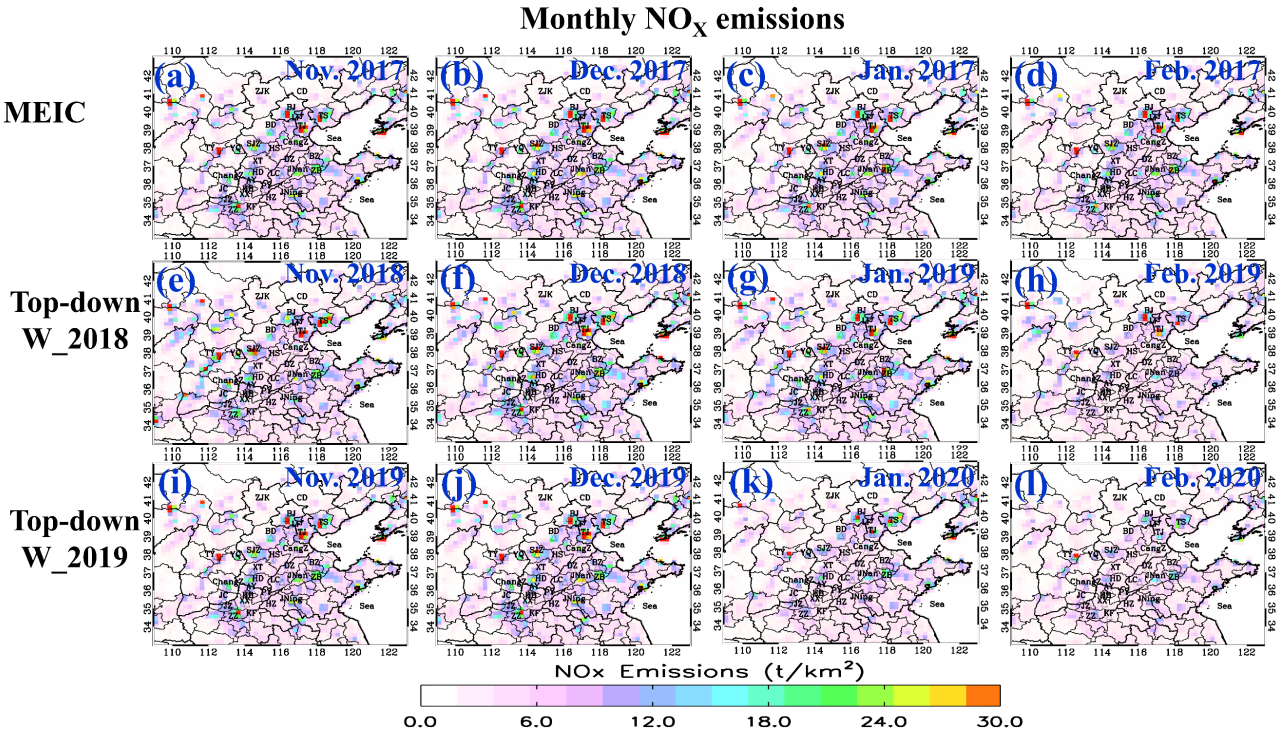


Figure S1. Monthly NOx emissions. (**a**–**d**) Taken from the MEIC-2017. (**e**–**h**) Top-down NOx emissions derived from TROPOMI NO2 VCDs in W_2018. (i–l) Same as (e–h) except in W_2019.

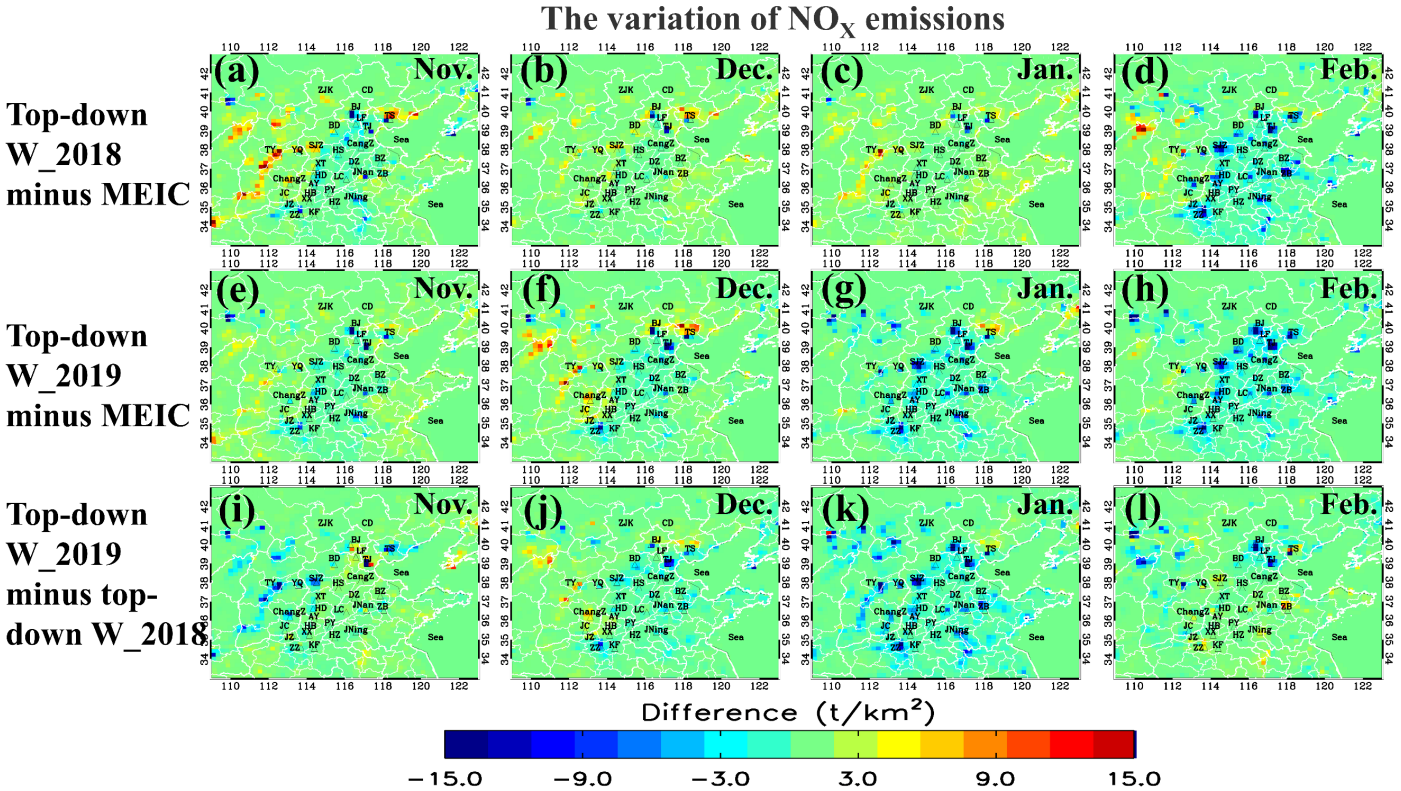
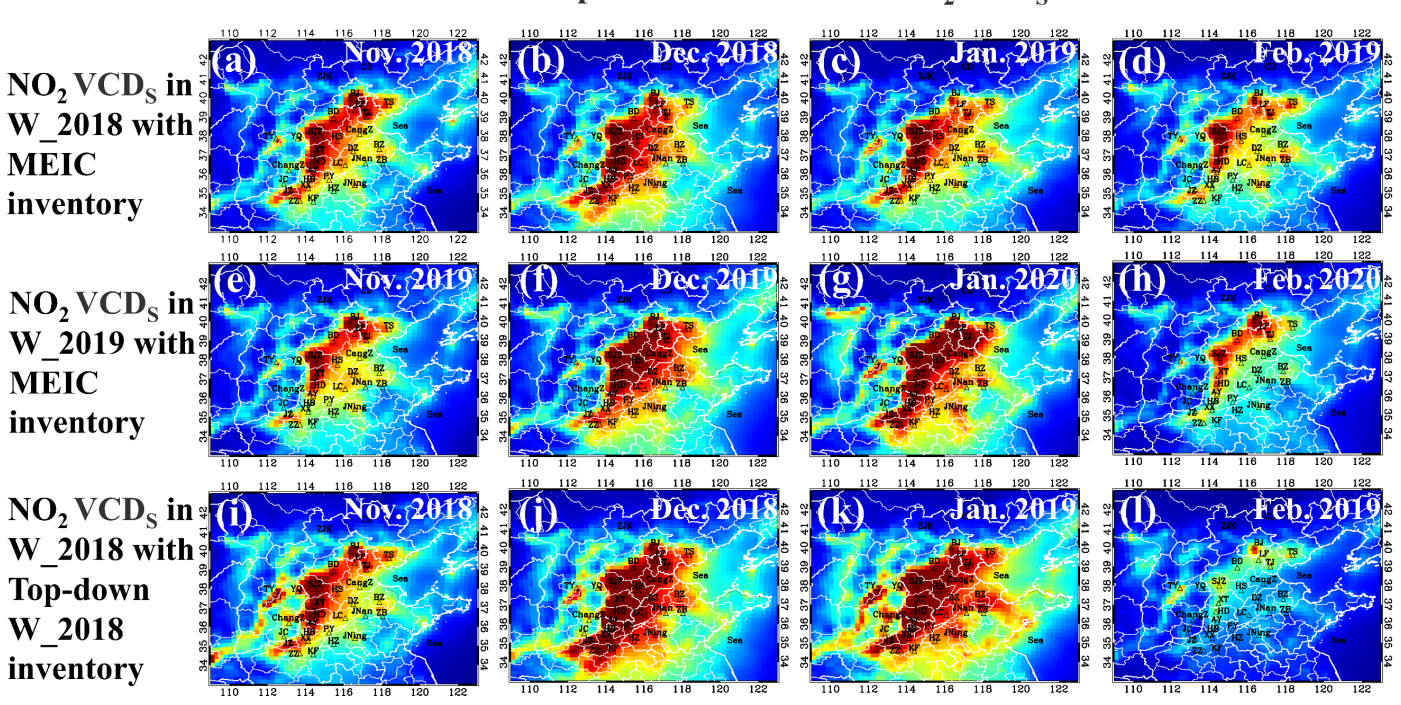


Figure S2. Difference in surface NOx emissions between MEIC-2017 and top-down NOx emissions (**a**–**h**); (**i**–**l**) Change in surface NOx emissions between top-down W_2018 and top-down W_2019.



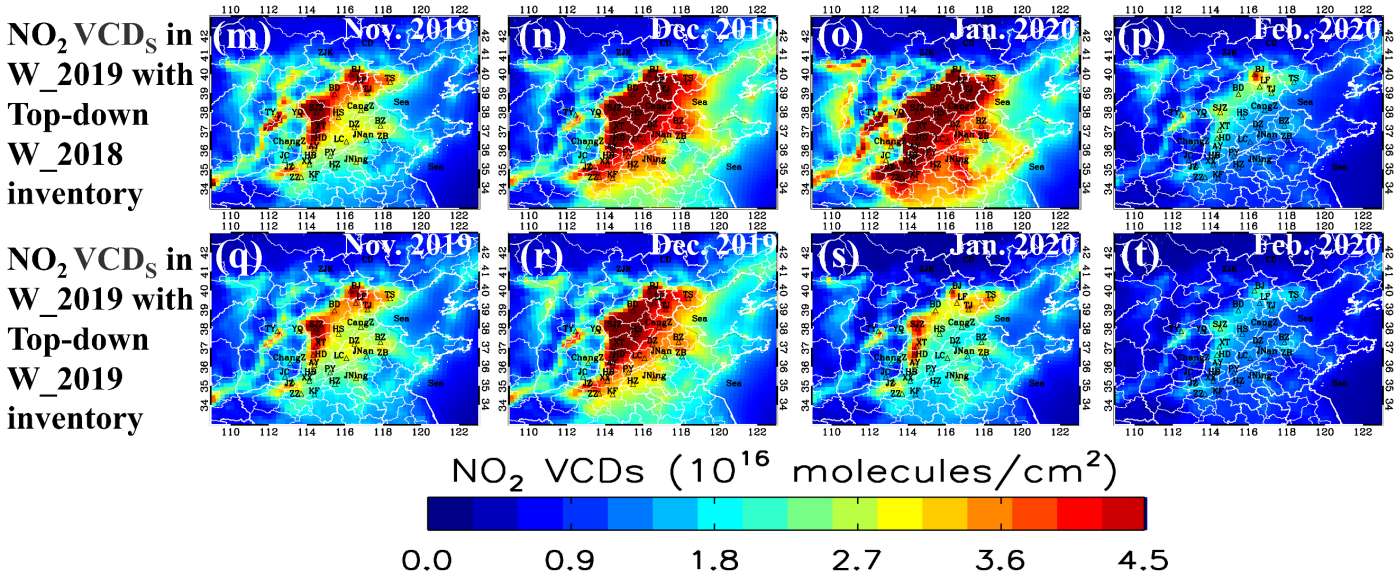


Figure S3. Monthly averaged tropospheric NO_2 VCDs simulated from MEIC-2017 (**a–h**) and top-down NOx emissions (**i–t**). Note that, (a–d) and (i–l) using same meteorological condition (W_2018), while the different NOx inventories. (e–h) and (m–t) also using same meteorological condition (W_2019), while the different NO x inventories.

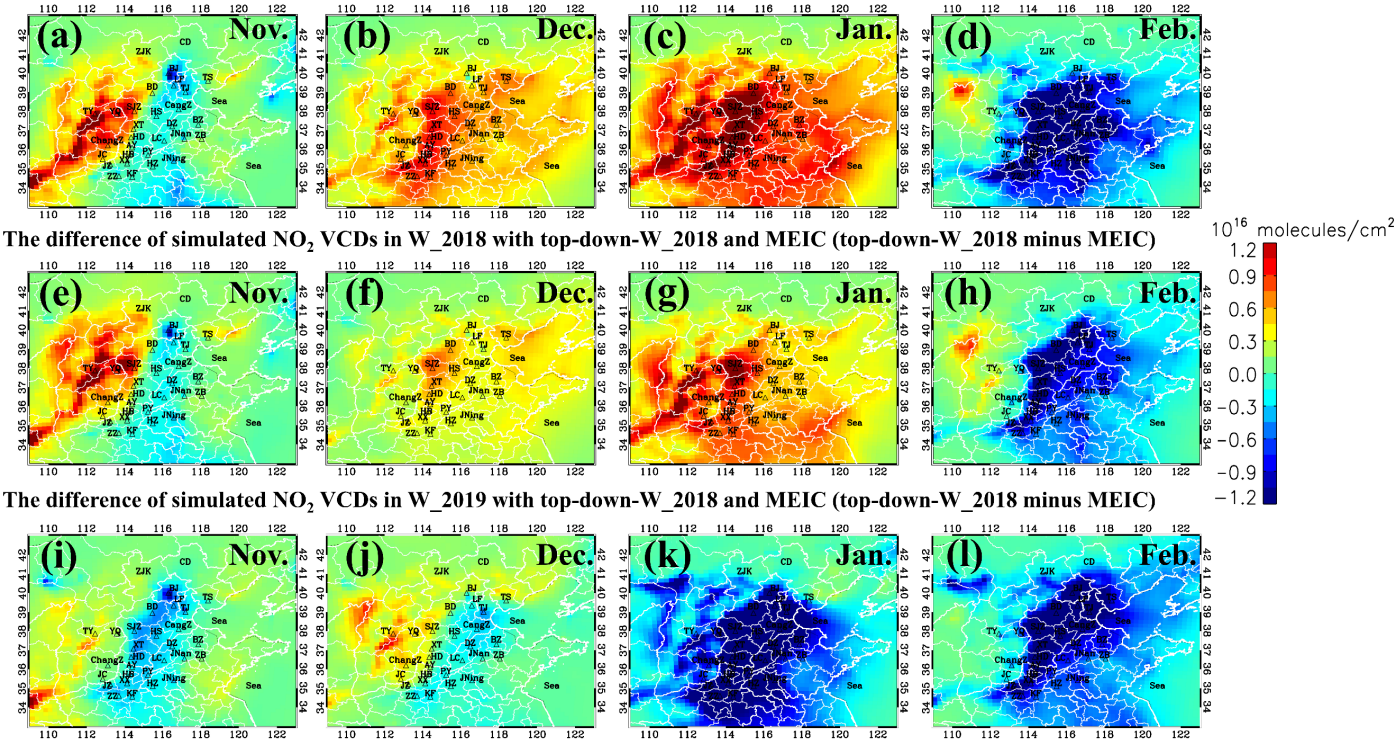


Figure S4. Variation in monthly averaged tropospheric NO_2 VCDs simulated from MEIC-2017 and top-down NOx emissions. Note that, (**a–d**) using the meteorological condition in W_2018, while (**e–l**) using same meteorological condition (W_2019).

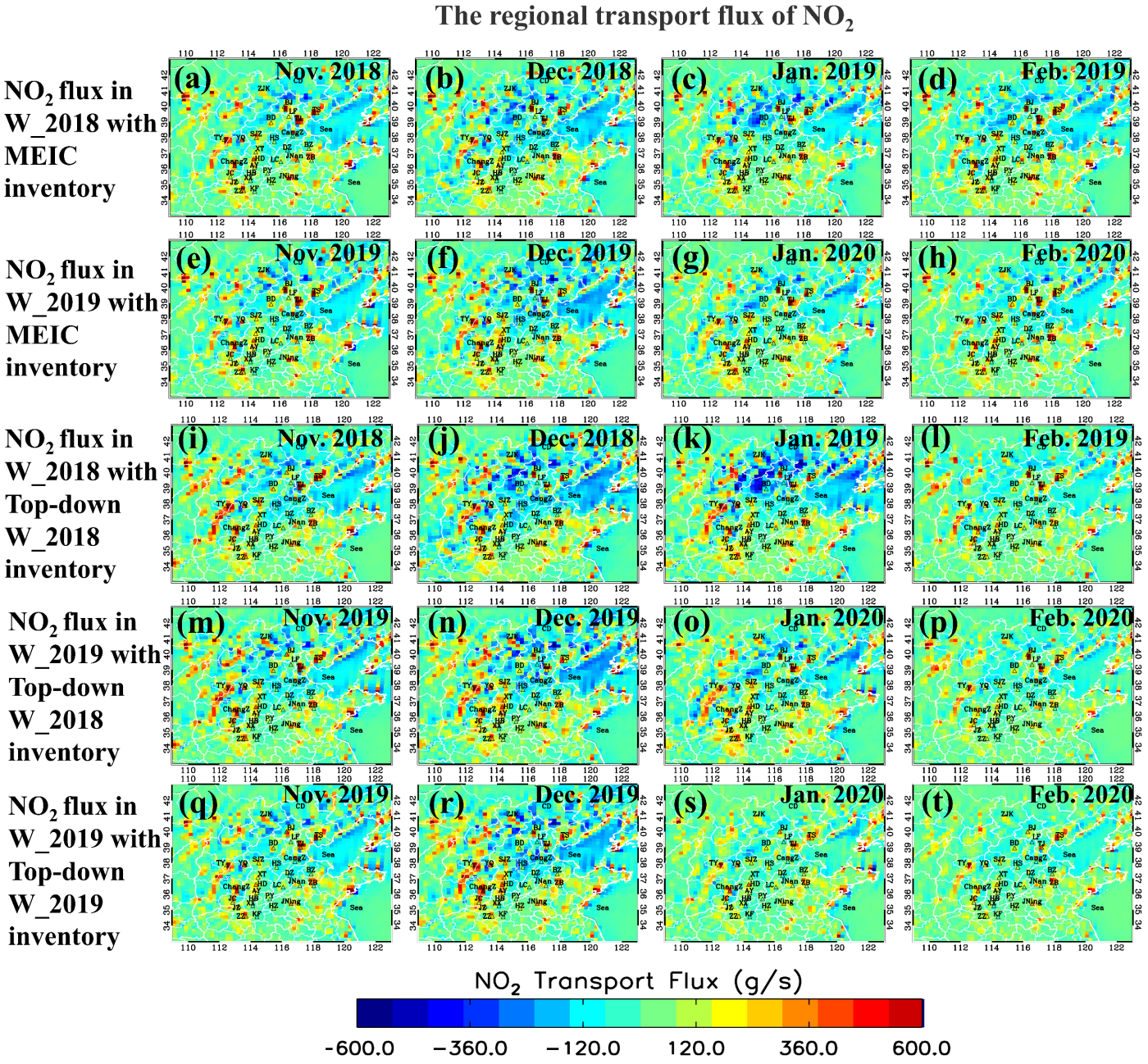


Figure S5. Monthly tropospheric NO_2 regional transport flux drive from MEIC-2017 (**a–h**) and top-down NOx emissions (**i–t**). Note that, (a–d) and (i–l) using same meteorological condition (W_2018), while the different NOx inventories. (e–h) and (m–t) also using same meteorological condition (W_2019), while the different NOx inventories.

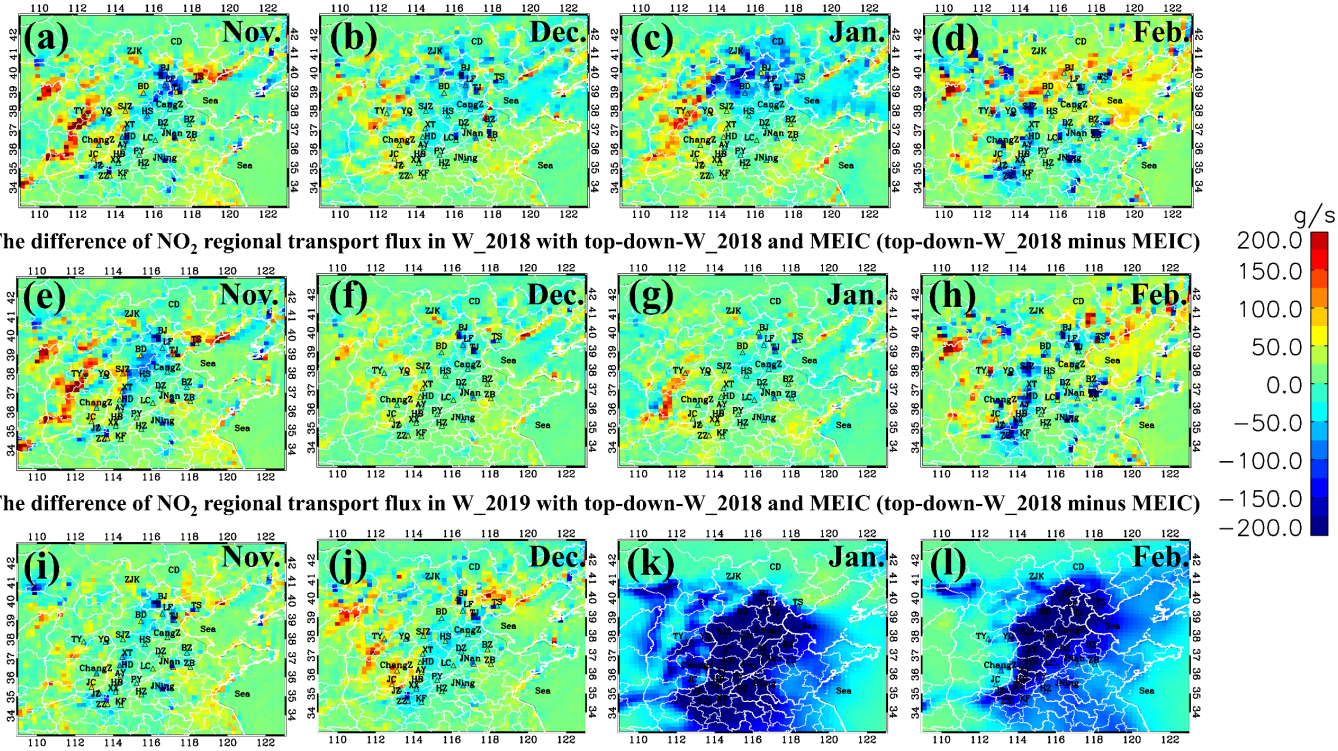


Figure S6. Variation in monthly averaged tropospheric NO_2 regional transport flux drive from MEIC-2017 and top-down NO_x emissions. Note that, (**a–d**) using the meteorological condition in W_2018, while (**e–l**) using same meteorological condition (W_2019).