Airborne Observation of CO_2 and CH_4 in the Urban Atmospheric Boundary Layer in Eastern China

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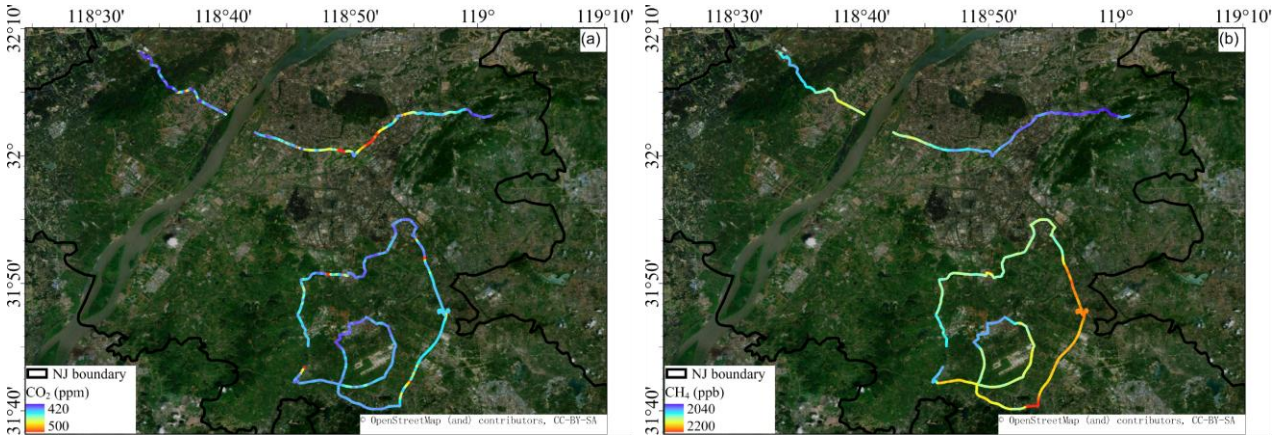


Figure S1: CO_2 and CH_4 concentrations from vehicle-mounted observation in Nanjing. The base map (OpenStreetMap) was produced by ArcGIS.

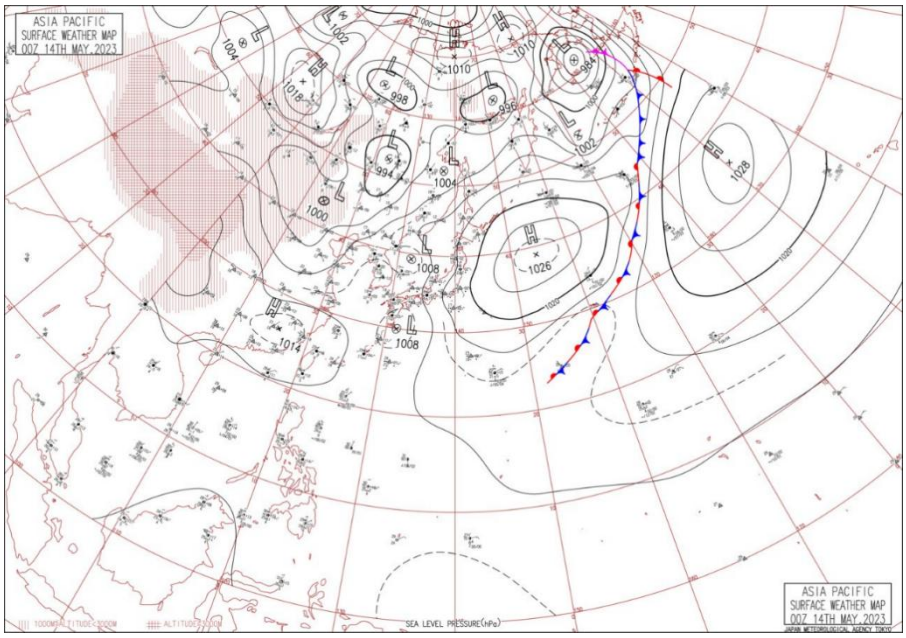
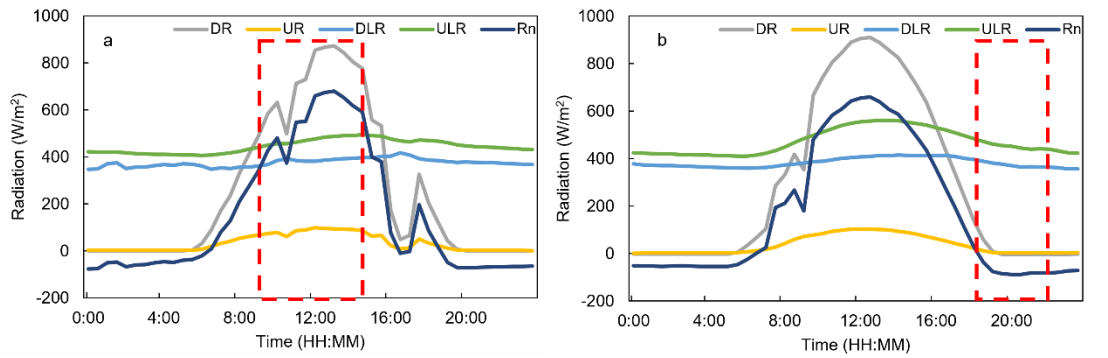


Figure S2: Surface weather map on 14 May 2023.



25 **Figure S3: Half-hourly time series of four radiation flux components at Beijing Meteorology Tower site (a) and at Nanjing University of Information Science and Technology site (b) for the day of the experiment.**

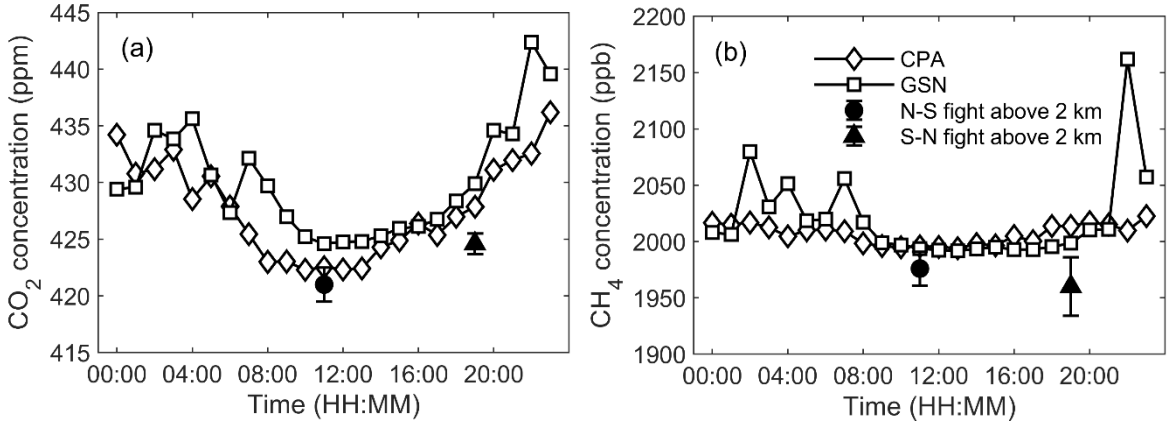


Figure S4: Comparison with background CO_2 and CH_4 concentrations.

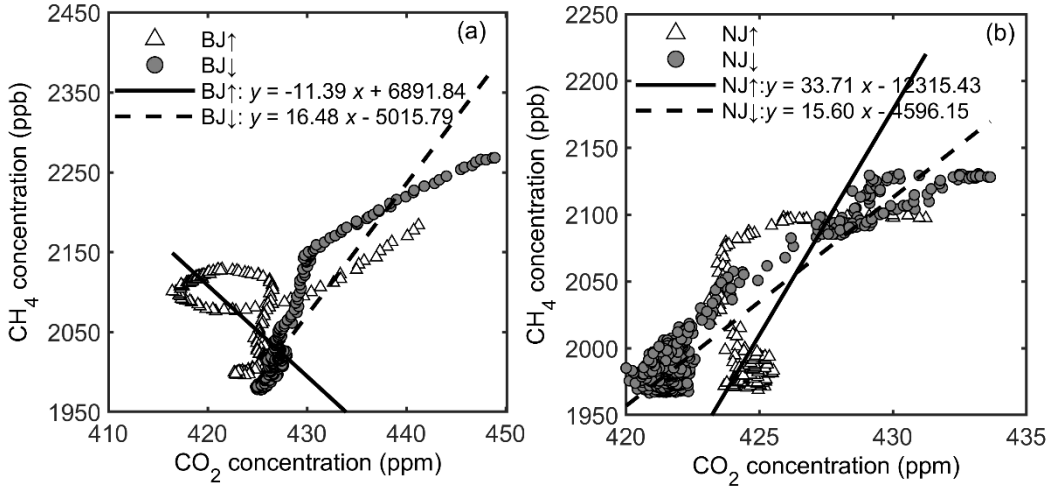


Figure S5: The correlation between CO_2 and CH_4 concentrations above the ABL (a: Beijing; b: Nanjing)

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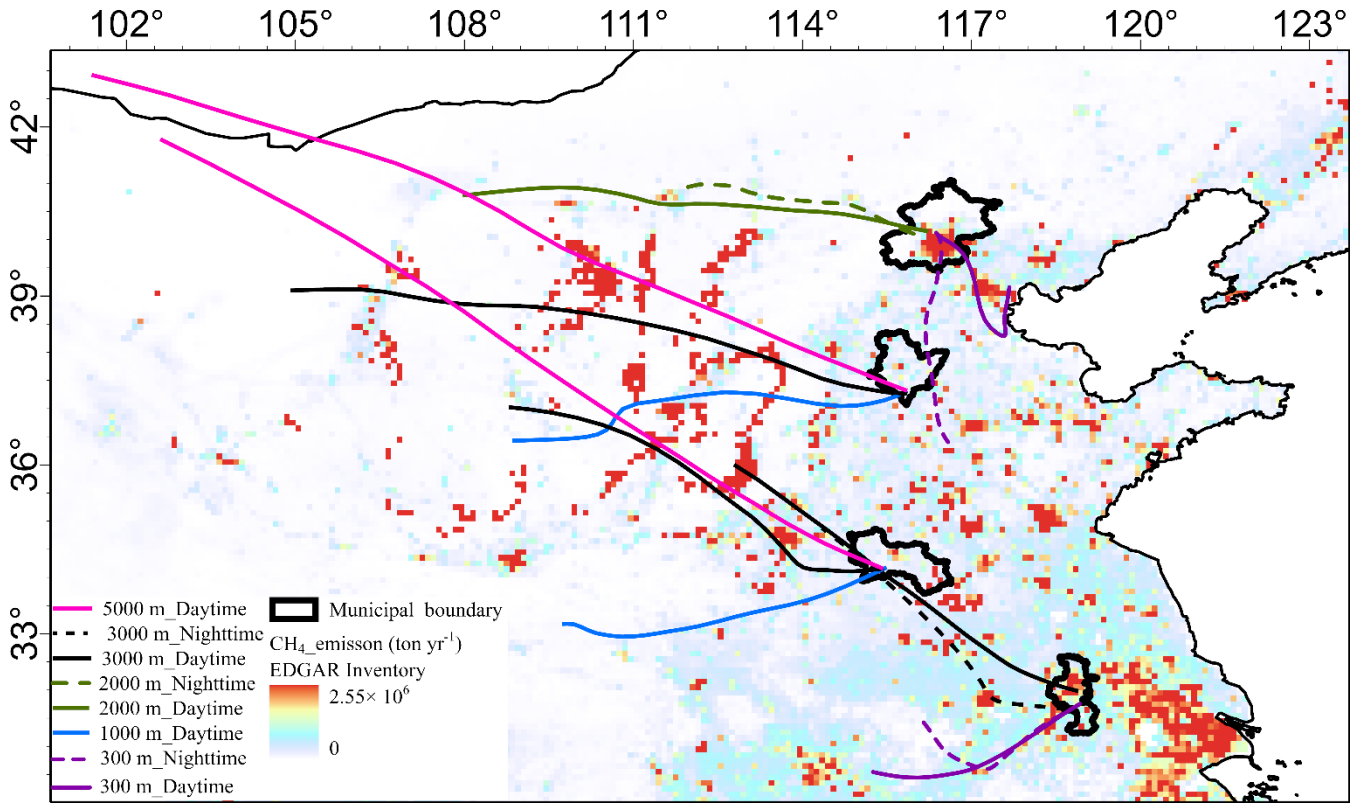

Figure S6: Backward trajectories of air mass at different end heights. Background map shows the EDGAR CH_4 emission inventory with the color scale indicating annual emission amount per 0.1° by 0.1° grid. Trajectory length is 24 h.