

**Response to remarks from the preceding review of the manuscript validation file for MS# egusphere-2025-6197 by Wang et al.**  
(review query in black, response in blue)

1. Regarding figure S1: OpenStreetMap images must include visible attribution on images/snippers. Please repeat the full credit in the figure caption (e.g. “© OpenStreetMap contributors, <https://www.openstreetmap.org/copyright>”).

We have revised Figure S1 in the last response. The original satellite basemap was too dim. The new basemap is based on the land use classification of Gong et al. (2019). This change has been noted in the figure caption.

2. Regarding figure S2: please add the credit ("Adapted from Japan Meteorological Agency (JMA) data" or "Map/data source: Japan Meteorological Agency (JMA), <https://www.jma.go.jp/>") to the figure's caption.

The required information has been added to the figure caption.

**The changes made to the manuscript are listed below:**

1. Spelling correction:  
[Umezawa](#) et al., 2020 (Line 103)
2. Correction to Figure X caption:  
[Yellow](#) dots: ground-based mean values of the vehicle-mounted measurement around the airport in Nanjing. (Lines 257-258)
3. Addition of missing reference:  
Location of the citation in the manuscript: Using large-eddy simulations, Huang et al. (2011) showed that in a fully developed one-dimensional ABL under steady state, the entrainment CO<sub>2</sub> flux is approximately equal to the surface CO<sub>2</sub> flux. (Lines 435-437)

Added reference: Huang, J., Lee, X., and Patton, E. G.: Entrainment and budgets of heat, water vapor, and carbon dioxide in a convective boundary layer driven by time-varying forcing. *J. Geophys. Res. Atmos.*, 116, D06308, <https://doi.org/10.1029/2010JD014938>, 2011. (Lines 592-594)

4. Add publication year to reference:  
Wang, J., Xiao, W., Hu, N., Li, R., Xu, H. Liu, Y., Bu, L., Chen, L., Liu Y., and Lee, X.: Mobile observations of intracity variations in atmospheric CO<sub>2</sub> and CH<sub>4</sub>. *Adv. Atmos. Sci.*, 43(5), 1033–1047, <https://doi.org/10.1007/s00376-025-5059-4>, 2026. (Lines 692-694)