

Response to the editor

Dear authors,

Unfortunately, your reply does not solve some of the issues regarding the compliance with our policy. First, you have stored part of your assets in a GitHub site. However, GitHub is not a suitable repository for scientific publication. GitHub itself instructs authors to use other long-term archival and publishing alternatives, so you must store the assets that you have linked to GitHub in one of the suitable repositories according to our policy.

A similar issue happens with the data. You have hosted them in sites that do not comply with our policy (e.g. acom.ucar.edu or meicmodel.org.cn). You must store them in one of the suitable repositories.

Therefore, please, address these issues and reply to this comment with the information for the new repositories.

Juan A. Añel

Geosci. Model Dev. Executive Editor

Re: Thank you for your efforts and time on handling the paper. We have updated the section of **Code and Data availability** and see as follows: “

Code and Data availability

The data and code are publicly accessible at <https://zenodo.org/records/15737652> (Ren et al., 2025). This includes the WRF-Chem model version 4.1.5 used in this study, the machine learning code, the corresponding training, testing datasets and the CCN observation datasets, the emissions inventory and scripts used in WRF-Chem and the scripts used for plotting, supporting the findings of this study. The release version of WRF-Chem is also open-access and can be publicly available at NCAR https://www2.mmm.ucar.edu/wrf/users/download/get_source.html (Skamarock et al., 2019, last access: 10 May 2025). The initial meteorological variables are from the National Center for Environmental Prediction's Final Operational Global (NCEP/FNL) and available at <https://doi.org/10.5065/D6M043C6> (NCEP, 2000).

References:

- Ren, J., Zou, S., Xu, H., Liu, G., Wang, Z., Zhang, A., Zhao, C., Hu, M., Shang, D., Tang, L., Huang, R.-J., Sun, Y., & Zhang, F.: Machine learning significantly improves the simulation of hourly-to-yearly scale cloud nuclei concentration and radiative forcing in polluted atmosphere [Data set]. Zenodo. <https://zenodo.org/records/15737652>, 2025.
- Skamarock, W., Klemp, J., Dudhia, J., Gill, D. O., Liu, Z., Berner, J., Wang, W., Powers, J. G., Duda, M. G., Barker, D., and Huang, X.-Y.: A Description of the Advanced Research WRF Model Version 4.1, UCAR/NCAR, <https://doi.org/10.5065/1dfh-6p97>, 2019 (code available at https://www2.mmm.ucar.edu/wrf/users/download/get_source.html, last access: 10 May 2025).
- NCEP: NCEP FNL Operational Model Global Tropospheric Analyses, continuing from July 1999, National Centers for Environmental Prediction [Data set], <https://doi.org/10.5065/D6M043C6>, 2000 (last access: 10 May 2025)."