

Dear Dr. Juan A. Añel,

Thank you very much for your response. We have carefully and thoroughly revised the document based on your feedback. Below is our detailed reply.

Comments :

1) First, the declaration on the software and data used in your manuscript should be in the "Code and data availability" section, not in the Section 2.2 ("Data").

Authors' response:

Following your comments, we have updated the corresponding parts of the manuscript. Please find the details below.

Code and data availability

The source codes and related data in our work, including observation data, modelling domain data, sensitivity test data and OIRF-LEnKF v1.0 output data, are openly accessible at <https://doi.org/10.5281/zenodo.17346786> (Li et al., 2025). The open-access reanalysis datasets of CAQRA (<https://doi.org/10.11922/sciencedb.00053>, Kong et al., 2021), CAQRA-aerosol (https://doi.org/10.12423/capdb_PKU.2023.DA, Kong et al., 2025) and ERA5 (<https://doi.org/10.24381/cds.bd0915c6>, Hersbach et al., 2023) from February to March 2022 were downloaded for the development and realization of OIRF-LEnKF v1.0 system, which have been packaged and uploaded at a repository (<https://doi.org/10.5281/zenodo.17359290>, Li et al., 2025) for easier access. The open-access reanalysis datasets of TAP (<http://tapdata.org.cn>, Liu et al., 2022), NP2 (<https://doi.org/10.5281/zenodo.10886914>, Li et al., 2024), CAMS (<https://doi.org/10.24381/d58bbf47>, Inness et al., 2019) and MERRA-2 (<https://disc.gsfc.nasa.gov/datasets?project=MERRA-2>, Randles et al., 2017) during February 2022 were downloaded for the evaluation of OIRF-LEnKF v1.0 system, which have been packaged and uploaded at a repository (<https://doi.org/10.5281/zenodo.17359290>, Li et al., 2025) for easier access.

2) Secondly, from the sites listed in the table in your reply, only the one for NP2 is a repository. The others are not acceptable. Therefore, you must store all the data that you have used from the datasets mentioned in such table in a suitable repository

according to our policy.

Authors' response:

All data used in this manuscript have been re-uploaded into two open-access repositories to comply with the “**Code and Data Policy**” of the journal GMD and all data DOIs were updated in our manuscript. The description is detailed in the following table.

Datasets	Acquisition	Source DOI	Citation	Repository DOI
Source code, observation data, modeling domain data, sensitivity test data and OIRF-LEnKF v1.0 output data	Newly generated data from the manuscript	\	\	https://doi.org/10.5281/zenodo.17346786
CAQRA during Feb.-Mar. 2022		https://doi.org/10.11922/sciencedb.00053	Kong et al., 2021	
CAQRA-aerosol during Feb.-Mar. 2022		https://doi.org/10.12423/capdb_PKU.2023.DA	Kong et al., 2025	
ERA5 during Feb.-Mar. 2022	Download from	https://doi.org/10.24381/cds.bd0915c6	Hersbach et al., 2023	https://doi.org/10.5281/zenodo.17359290
TAP during Feb. 2022	external data source	http://tapdata.org.cn	Liu et al., 2022	
NP2 during Feb. 2022		https://doi.org/10.5281/zenodo.10886914	Li et al., 2024	
CAMSRA during Feb. 2022		https://doi.org/10.24381/d58bbf47	Inness et al., 2019	
MERRA-2 during Feb. 2022		https://disc.gsfc.nasa.gov/datasets?project=MERRA-2	Randles et al., 2017	

Reference

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