

Interactive comment on “Spin-up Characteristics with Three Types of Initial Fields and the Restart Effects on the Forecast Accuracy in GRAPES Global Forecast System” by Zhanshan Ma et al.

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We highly appreciate your positive reminders and suggestions to ensure that the experimental dataset, analysis scripts for the results and the model code can meet GMD's requirements for publishing article. Our detailed responses to each question are listed below.

(1) No model source code. The code and data availability section merely states that code is not available due to "the confidentiality requirement". GMD does permit model code to be withheld from publication if this is unavoidable for reasons beyond the control of the authors. Usually this is because the copyright licence of the code does not

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permit redistribution. However, the reasons that the authors cannot release the code must be detailed in the code and data availability section. In particular, it is important to state who can get a licence and how.

We agree with the Editor and appreciate this helpful suggestion. We have added the reason that we cannot release the code in the "code and data availability" part, which is "the model code cannot be distributed due to the copyright licence requirement from the Numerical Weather Prediction Center of China Meteorological Administration (NWPC/CMA). If someone wants to use the GRAPES_GFS model or reproduce these experiments in this article, he/she can contact the operational management department of NWPC/CMA via email songzx@cma.gov.cn or phone +86-10-68400477."

(2) Version not identified. Neither the title of the manuscript nor the code and data availability section state precisely which version of GRAPES_GFS was used. This makes it impossible to reproduce the work even if one has a licence.

Sorry for our mistake. We adopted the version 2.3.1 of GRAPES_GFS in this research and now have specified it in the manuscript: 1) Lines 17 and 18: "Then, the characteristics of spin-ups in the version 2.3.1 of GRAPES (Global/Regional Assimilation and Prediction System) global forecast system (GRAPES_GFS2.3.1) under different initial fields are compared and analyzed." 2) Line 127: "On 1 July 2018, the GRAPES global 4-dimensional variational (4D-Var) data assimilation system has been in operation (Zhang et al., 2019), which is called version 2.3.1 of GRAPES_GFS (abbreviated as GRAPES_GFS_2.3.1). And the GRAPES_GFS_2.3.1 version was adopted in this research." 3) We also specified the model version in the rest of the manuscript.

(3) Model data is not on a persistent public repository. The model data appears to be on a cloud storage provided by Baidu. This lacks the persistence, non-revocability and persistent identifiers required for a journal publication. The data should instead be stored in a properly persistent archive with a persistent identifier such as a DOI. I note in this regard that the authors are from national laboratories so I would expect such

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facilities to be available to them.

The Editor proposed a good question. However, our lab doesn't provide a data-sharing platform for individuals, so I had to buy cloud storage of Baidu to share these dataset. I have purchased five years of service and will be able to renew my account in the future. Meanwhile, I stored the data in our high-performance computer storage devices. These could guarantee long-term sharing of the experimental data.

(4)No configuration, run, or data processing scripts. The configuration files, run scripts and any data processing or analysis scripts used to produce the results presented in the manuscript need to be publicly and persistently archived, and cited from the code and data availability section. As a guide, every file the user would need to reproduce the manuscript should accessible.

The experimental configuration file and the data processing and analysis scripts used to produce the results presented in the manuscript have been uploaded to the website.

1) The directory of "data_processing_scripts" includes all the analysis scripts for plotting the results. 2) The directory of "model_configure" includes the configure files and run scripts for the GRAPE_GFS.

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