

## **Note on Correction to wcd-2022-12**

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To whom it may concern,

I would like to make readers aware that there was a minor error in the submitted versions of the manuscript involving the GEFSv12 forecast system. In the original submission and revised submission, the GEFSv12 was incorrectly listed and used as a “high-top” system with a model top at 0.1 hPa. In fact, GEFSv12 has a model top at 0.2 hPa, and therefore based on the classification used in the manuscript, it should have been displayed and used as a low-top system. The origin of this error came from my (ZDL’s) misinterpretation of Figure 4 in Hamill et al., 2022.

We have fixed this mistake before the final publication of the manuscript so that GEFSv12 is correctly used in low-top composites and displayed as a low-top model with dashed-lines and/or asterisks next to its name. This has resulted in only very minor changes to the manuscript text and figures, with no impact to conclusions drawn. These are briefly summarized below:

### ***Changes to Manuscript***

In Table 1, the model top for GEFSv12 has been corrected to 0.2 hPa, and an asterisk has been added next to its name.

In Figure 1, GEFSv12 has been moved toward the right side of the figure to be grouped with the low-top systems. The composite means have been updated accordingly, which has resulted in small changes to the composite global annual mean stratospheric temperatures listed in the numbers. The statistical significance of the differences between the high- and low-top composites did not change.

In Figure 2 (and the associated supplement Figure S15), GEFSv12 is now part of the low-top composite. This has resulted in minor changes to the appearance of the high-top composite biases, but the spatial patterns of biases remain consistent, and no conclusions are altered. It is also worth noting again that we have the biases for individual systems in the supplement (Figures S1-S14), and these remain unchanged.

In Figures 3, 4 (and the associated supplement Figures S16-S17) GEFSv12 is now plotted with dashed lines, and has asterisks next to its name in the legends to denote it is considered a low-top system.

In Figures 6 and 7, there are now asterisks next to GEFSv12 in the legends to denote it is considered a low-top system.

In the text, there were a few spots that referred to GEFSv12 as a high-top system which have been corrected. However, the substance of the statements did not change. E.g.:

*“However, it is still worth noting that at 10 hPa the magnitude of the low-top biases all exceed 1 K, while **all high-top systems except for GEFSv12 and NCEP** are below 1 K.”* was changed to *“However, it is still worth noting that at 10 hPa the magnitude of the low-top biases all exceed 1 K, while **all high-top systems except for NCEP** are below 1 K.”*

*“The **biases for the high-top systems** are generally smaller in magnitude, but there are some exceptions: for instance, **the CESM2-WACCM, ECMWF, GEFSv12, and NCEP systems** have biases at some levels that are as large or larger in magnitude than the low-top systems.”* was changed to *“The biases for the high-top systems are generally smaller in magnitude, but there are some exceptions: for instance, **the CESM2-WACCM, ECMWF, and NCEP** systems have biases at some levels that are as large or larger in magnitude than the low-top systems.”*

*“Several of the systems with the largest global- and annual-mean warm biases in the stratosphere are those in the “NOAA family”, including the **high-top GEFSv12 and NCEP CFSv2, and the low-top GFDL-SPEAR**”* was changed to *“Several of the systems with the largest global- and annual-mean warm biases in the stratosphere are those in the “NOAA family”, including the **high-top NCEP CFSv2, and the low-top GEFSv12 and GFDL-SPEAR**”*

I apologize for the error and any confusion it may have caused.

Sincerely,  
ZDL

## References

Hamill, T. M., Whitaker, J. S., Shlyueva, A., Bates, G., Fredrick, S., Pegion, P., Sinsky, E., Zhu, Y., Tallapragada, V., Guan, H., Zhou, X., & Woollen, J. (2022). The Reanalysis for the Global Ensemble Forecast System, Version 12, Monthly Weather Review, 150(1), 59-79.

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