

Answer to reviewers for the article gmd-2021-96:  
*The CHIMERE v2020r1 online chemistry-transport model*  
by Menut L. *et al.*

## Message from Editor Fiona O'Connor

Dear Laurent and co-authors,

Thank you for submitting your responses to the reviewers' comments and for submitting your revised manuscript.

After reading them, may I please ask you to address the following: 1. It was unclear whether the ozonesonde data used had been subject to a recent re-processing or not. Can you please add this information, as requested by Reviewer #1?

*Answer:*

Yes, that is right that our answer was about the sensors used but not about the data quality. We just go back on the database website and we did not see any re-processing informations. But when we received the Reviews in July 2021, we have re-downloaded the data. We have thus redone the vertical analysis. Therefore if any of the data used in the vertical profiles has been subjected to a correction it has been taken into account in the comparisons provided in the article.

The following sentence was added in the manuscript:

We have also included validation for vertical profiles of pressure, temperature and ozone using the data downloaded from the World Ozone and Ultraviolet Radiation Data Centre (WOUDC, <https://woudc.org/home.php>) resulting from ozonesonde measurements. The database used is the one of July 2021. From around 25 stations that are in our domain only 9 have consistent data for the year 2014.

While Reviewer #2 was somewhat more critical of the manuscript, this is a paper on model development specific for Geosci. Model Dev. and as such, the application of the new model developments to address a specific scientific question, is not necessary for publication. My view, from both an editor's and a model developer's perspective, is that the manuscript provides a broad overview of all the model developments in CHIMERE and that it is better to have that information in one paper rather than split across two.

On this basis, I'll be happy to recommend publication.

*Answer:*

Thanks a lot for your work!

Regards, Fiona O'Connor

Best regards,  
Laurent Menut  
October 8, 2021