

## ***Interactive comment on “Implementation of the Community Earth System Model (CESM1, version 1.2.1) as a new basemodel into version 2.50 of the MESSy framework” by A. J. G. Baumgaertner et al.***

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We thank the reviewer for the helpful comments on the original version of the manuscript and respond to each point below.

*Additional model output is referenced as Baumgaertner (2015), which is around 1800 pages of plots for a selection of variables. While it is excellent to see this detail provided as a reference, it is difficult to make sense of this output. I would strongly advise the authors to publish a proper scientific evaluation of the set-ups presented here, either as a continuation of the year-2000 timeslice, or as a pre-industrial control simulation. Additionally, one model year is not long*

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*enough to draw any meaningful conclusions as to scientific validity - I would suggest much longer simulations. This evaluation paper would also be of great interest to the community.*

In this manuscript we publish the technical details about the newly developed model system CESM1/MESSy and therefore provide only minor aspects to motivate that the system is working correctly. However, a more explicit evaluation pushes the boundaries of such a publication. Thus an additional evaluation paper is anticipated, as already indicated in the manuscript.

### **Specific points**

*p 6539, l 4-5: The authors state "Similarly, an exemplary comparison of surface OH and Antarctic ozone as examples for atmospheric chemistry functionality shows good agreement." Given the short length of the simulations presented here, I would not make such a statement in the conclusions, especially as the authors state on p 6538,l 11-13 "Note that the chosen variables and types of comparisons have no scientific justification for a full model evaluation, but are only example applications."*

Rephrased to: "Similarly, an exemplary comparison of surface OH and Antarctic ozone shows the principal functionality of the atmospheric chemistry in the model."

### **Typographical Errors**

*p 6524, l 16: "allowing to use MESSy". I think that this should possibly be "allowing the use of MESSy".*

Rephrased as suggested.

*p 6525, l 5: "earth" should be capitalized.*

Corrected as suggested.

*p 6531, l 7: should be "metadata"*

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Corrected as suggested.

***p 6531, l 15: should be "(Jöckel 2006)"***

Corrected as suggested.

***p 6531, l 28/p 6531 l 1: I'm a little confused here - do the authors mean that "the number of columns can be different for all rows"?***

Corrected to "the number of columns can be different for all rows".

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