Response to Referee 1 comments for the submitted manuscript: Ozone dry deposition through plant stomata: Multi-model comparison with flux observations and the role of water stress as part of AQMEII4 Activity 2

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We thank the referee for their insightful and helpful comments. We have made several changes in response to the comments provided. Below, we respond to each of the referee's comments.

Referee comments and author response.

This manuscript presents a multi-model comparison of O_3 dry deposition from chemistry climate models with the same observed flux-based estimates at six locations in the Northern Hemisphere. The observational dataset includes a good number of station sites distributed across continents with a good temporal resolution and are or can become available under request. The methodology followed is well explained and properly referenced. Results are clearly presented and discussed. Comparisons with other results in existing relevant literature and the characteristics of each evaluated site justify their findings. The authors made a comprehensive revision of previous studies including stomatal conductance models. The manuscript tries to fill a gap in our knowledge and is relevant for the scientific community, especially for atmospheric chemistry modelers. I only have some suggestions that will improve the quality and readability of the manuscript.

1. Line 147, equation (5): the authors explained all the terms in the equation except for B. Could the authors briefly describe what B represents?

   Response: We have added an explanation of the B parameter. This can be found at line 145 of the revised manuscript.

2. In lines 259 and 260, it is said that the number of sensitivity simulations depends on the model, which can be seen in Figures 4 and 5, and after that, the authors explain the reason behind that. However, I think the manuscript

would be clearer if the number of sensitivity tests and the perturbed parameters per model were summarized in a Table.

Response: We have added this information to tables in the supplement.

3. On a related note, Table 2 lists the parameters perturbed in the sensitivity test with their corresponding range of values. However, the reader does not know the default values for each parameter and model nor the magnitude of the perturbations with respect to that default value. I think it would be interesting to see this information, perhaps adding it to the table I suggested in point 2.

   Response: We have added this information to tables in the supplement.

4. Line 399: it is the first time that B_{VPD} appears in the text, but it is not explained what it means. Please, include a brief description.

   Response: We have added an explanation of the B_{VPD} parameter at line 401 of the revised manuscript.

5. Line 405: wrong reference to Figure 5 (it should be Figure 3).

   Response: We have corrected the figure reference. The correction can be found at line 407 of the revised manuscript.

6. Lines 419 and 420: "...a reduction from 0.191 to -0.008 cm s−1 for MLC-CHEM...". Please, revise either the values in the text or the values plotted in Figure 4. In that figure, the values of the wilting point for MLC-CHEM in July go from around 0.2 to something close to -0.2, if I understood correctly.

   Response: By "reduction in median difference" we mean the reduction to a median difference closest to 0 from the median difference of the base simulations. The correct way to interpret Figures 4-5 is to look at the reduction in the median difference from the bold lines with filled circles to the dashed line with open circles that is closest to 0.

7. Line 465: "..50 cm depth depth..", please, delete the repeated "depth".

   Response: We have made the correction at line 481 of the revised manuscript.

8. Line 552: "...the most important driver of the the...", please, delete the repeated "the".

   Response: We have made the correction at line 567 of the revised manuscript.