

The authors have improved the manuscript quite a lot. The discussion now contains much more explanations to bring the results into context. I still have some more remarks, and would say that revisions are still necessary.

1. In the authors' response to my general comment 2 (i.e., (2) The innovativeness of the present version cannot be observed and was not highlighted in the Introduction.), I think the authors still did not point out the novelty of the study. Indeed, assessing model uncertainty is already common knowledge from the point of view of input data and model structure. This does not seem to be a point of innovation. The authors still need to state the innovations of this study in detail.

Thank you for addressing this. I have added paragraph/sentences in introduction and conclusion. Despite focusing on the uncertainties only, I provide some agreements between models/products as focus in a point of innovation.

2. In the authors' response to my general comment 3, ok, the authors have provided some description on JULES-ES model in the revised version. Indeed, these basic descriptions can be found through the original references. However, the reader is more interested in how the authors applied the model to this study. For example, the authors did not provide details on model parameter and their settings in your study area; how to determine some important parameters relevant to this study and how the model was validated by site-based observations. Despite the fact that the authors cite relevant publications, this is still hard to believe the results of their study, and I strongly request the authors to provide the results of the validations based on site observations (i.e., Flux Tower Eddy-Covariance Measurements). Although JULES-ES model is one of DGVM and is widely used, the authors need to further test it using observations when applying it to Indonesia, which is directly related to the reliability of this study.

The model description of JULES-ES has been explained in the supplementary that I attached in the previous answer-question. I will add the parameter settings that I use in this model in the supplementary as you suggest.

I agree that validating the model with site-based observations such as EC tower is important research, but I believe this is out of scope of this research. As our main focus are addressing global/regional/country-level models/product uncertainties and find the agreement amongst them. Evaluating JULES-ES model is not our goal, apart from that JULES-ES is only one of many models we use in this study (18 DGVMs, 3 BKM & 2 NGHGI). So, there is no point focusing on evaluating one model only, as the uncertainties will remain there when compared to other models/product. We use JULES-ES in one section just to illustrate how different LULCC affect the uncertainties.

3. The authors mentioned that 'JULES-ES is one of Trendy V12 and has been widely used'. If the 0.5 degree resolution was adopted in this study, it appears that the results of this study can be obtained directly from Trendy v12. This study appears to look like repetitive work. In addition, 0.5° is fine for large-scale assessments like the globe, while caution is needed when using it for regions. The authors have introduced a lot of uncertainty by resampling some of the higher resolution data (30m) to 0.5°, even though the authors state that it is for better comparisons. I would strongly recommend that the authors add the assessments of 30m to the supplementary to make the results more reliable.

There is no repetition in this research with Trendy v12. As our simulation use Mapbiomas Indonesia 1.0 (MB1) directly, but Trendy v12 use MB1 that has been adjusted with HYDE. We run this MB1 directly in JULES-ES to do assessment, before this new input widely utilize in

trendy. Apart from that, we also run MB2 that is not in Trendy v12. However, we use the similar setting for the land use change and PFT parameterization to make it consistent, so it reduces the potential of other uncertainties. Then we can focus to the uncertainties from the different land use change input.

Regarding the 0.5 resolution, this is not only use for global assessment only. This is also use in regional assessment, known as RECCAP (Regional Carbon Cycle Assessment and Processes). One of the RECCAP region is Southeast Asia, where the area is dominated by Indonesia.

I will add the map comparison of land use in the supplementary, similar with my previous answer-question. However, running the JULES-ES or other models in the 30 meters seems unnecessary to be implemented as we do not have climate forcing with resolution of 30 meters. Even if the 30 meters climate forcing is available, the running with this will result in more uncertainty as there is uncertainty caused by different climate forcing. This will result the research broader and not focus to the main goal.