

Geosci. Model Dev. Discuss., author comment AC2  
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## Reply on RC1

Shanlin Tong et al.

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Author comment on "Impact of changes in climate and CO<sub>2</sub> on the carbon storage potential of vegetation under limited water availability using SEIB-DGVM version 3.02" by Shanlin Tong et al., Geosci. Model Dev. Discuss.,  
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Dear reviewer,

We extend our deep appreciation to reviewer for the constructive comments and suggestions toward improving our paper. Acknowledgement is added in the revision. According to reviewer's comments, the main works we did in this round of revision can be summarized as below (The details of revision are given after each comment and suggestion).

(1) The definition of carbon-stock is clarified in more informative ways as well as the research purpose of potential vegetation carbon-stock we used.

(2) The physical meaning of equations in SEIB-DGVM are explained in the revision.

(3) The evaluation of model uncertainty on simulation accuracy is explained.

(4) The more information of water effects on carbon-stock is added, and the applicability of SEIB-DGVM in arid region is discussed.

With substantial changes in this round, we believe our contributions to this topic are more clearly highlighted. Point-to-point responses to all the comments are attached to the supplement. The manuscript was also revised accordingly.

Best,

Shanlin Tong

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Please also note the supplement to this comment:

<https://gmd.copernicus.org/preprints/gmd-2021-383/gmd-2021-383-AC2-supplement.pdf>