

Comments to the Author:

The authors did a good job in revising the manuscript in line with the concerns of the reviewers. Nevertheless, the manuscript requires further minor revisions before becoming acceptable for publication:

(1) the comment about equifinality (reviewer 2) echoed by the handling editor in the initial decision was not addressed in the revised manuscript. This is still an outstanding concern. "The comment about equifinality (reviewer 2) is an important comment and should be discussed in a separate paragraph."

Response to comment (1):

We have addressed the question, and used the concept of equifinality as a general term to lead the discussion about model uncertainties (Section 4.3, first paragraph). Two related citations have been added to the reference list (L838-841).

(2) Ask a native English speaker (preferably a colleague in the lab) to check the grammar of the manuscript. The manuscript can be understood but there are several (small) problems with for example the use of the word "the" and "a", tenses of verbs, ... Carefully check the manuscript for typos and small mistakes. I found many and listed few below. This kind of problems require the reader to read a sentence more than once before it could be correctly understood which reduces the chances that the reader will use and cite your work.

Response to comment (2):

We have revised thoroughly the text for these grammar corrections. The corrected places are all marked in red color in the revised manuscript.

Examples of edits that would improve the readability of the manuscript:

Start the abstract with a sentence that gives the context of the study. Try not to make the abstract any longer than it currently is.

Response:

We have revised the beginning of abstract (L13).

L110-120 should be moved to the method section (between L123 and L124) or should be deleted.

Response:

This content has been removed as suggested.

L157 Mention that the model is then used to answer scientific question. Give the question.

Response:

The studied questions have been addressed here, see L143-145.

L468 Leech should be replaced by leach

Response:

Revised as suggested (L454).

L549. Define qualitative labels such “reasonably” or even better don’t use them at all and leave it to the reader to decide whether they find this is a poor, reasonable or good fit. L549 could be deleted. Check the rest of the manuscript for undefined qualitative labels, for example, L573 “well”.

Response:

These lines and expressions have been revised as suggested (L535, 558).

L551 Replace umol by μmol .

Response:

The units are revised (L392, 536, 537, 547).

L559 Mention the statistical test that was used to test the significance of this increase. If there was no statistical test use “substantially” instead of “significantly”.

Response:

The description has been revised to "substantially" (L663).

L610 Should the r in M_r be written as a subscript instead of superscript?

Response:

The R letter should be superscript, following the definition in equation (14).