

We thank the reviewer for his comments on our manuscript and for the time spent on the reviews. Please find below a detailed point-by-point reply to the comments and suggestions to reviewer 1.

Point-by-point response to the reviews:

- 5 – Line 200, (5): I think this formula might be misleading. I cannot find a reference to or a description of Nexcretionrate(a) anywhere else in the text and tables and I think (especially when referring to Table 2) Nexcretionrate(a) should be changed to (1-Nretained). We agree, Nexcretionrate(a) needs to be expressed rather as (1-Nretained). It has been changed in the text.
- Line 341: change sensibility to sensitivity : Change done and modified also in the abstract (line 14).

10 **Response to the notification from 12 of December 2022:** The tables inserted as figures in the supplementary material have been renamed as tables and the corresponding references in the main text have been corrected.

Response to the Topical Editor from 14 of January 2023: The DOI creation is in progress and will be given to the Editor as soon as it is transmitted to the authors. In the meantime, a specific page dedicated to the ORCHIDEE code used has been also created : <https://data.ipsl.fr/catalog/srv/eng/catalog.search#/metadata/db1cf5ce-6fd2-4b4c-a3d1-598e2283c19d>