

Dear Editor,

We thank you very much for your patience. We have responded carefully to the comments by both reviewers and made a great effort to restructure the manuscript, improve its coherence and thus make it easier to understand for the reader.

The introduction, methods, results and discussion sections were re-structured to make clear that this paper aims to make a synthesis of the P cycle of the Amazon basin. In particular, using a simple mathematical model our study explores and provides insights about the importance of P redistribution by animals within and between seasonally flooded and non flooded ecosystems in the context of 3 different sub-basins. Although the paper became more extensive, we hope this new structure makes it easier for readers to follow and interpret our results.

One of the main concerns by Reviewer 1 was a possible error in one of our equations. In the reply and in the revised manuscript we explained the logic behind the equations, provide some additional plots that were suggested so that it becomes easier for the reviewer to check that the model is correct. The new suggested plots are now included in the manuscript as we found them useful to make the model results easier to follow.

Another substantial change is adjusting the names of the sub-basins. We now refer to Cerrado as Xingu sub basin since the Cerrados are not a sub-basin in the strict sense.

In the new version of the manuscript we took into consideration all comments and suggestions by Reviewer 2 and hope to have addressed them satisfactorily. Specifically, we extensively re-worked the results section to explain better model outputs and results, and more clearly separated discussion points stemming from the model results from those stemming from the synthesis of previous works on P cycling, explained them in more detail in the context of the Amazon basin.

Best regards,

Corina on behalf of all co authors