

Manuscript number: BG-2021-335

Journal title: Biogeosciences

Title: Main drivers of plant diversity patterns of rubber plantations in the Greater Mekong Sub-region

On behalf of my co-authors, we appreciate Associate Editor Ben Bond-Lamberty very much for his positive and constructive comments and suggestions on our manuscript entitled "Main drivers of plant diversity patterns of rubber plantations in the Greater Mekong Sub-region" submitted to Biogeosciences. We have studied the comments carefully and made the revision according the comments of the Associate Editor. The following are major changes (in blue) in the revised MS and responses to the comments.

**Comments to the author:**

Both reviewers have re-read the manuscript and find that your revisions have significantly improved the MS, while addressing all their major concerns. I have read it as well and concur. There do remain many small issues of language and proper citations to fix -- please see list below -- but this should not take much work.

1. Line 26: "diversity, followed by China"

Response: Done.

2. L. 30: "Random Forest analyses" (note capitalized Random Forest, the name of the algorithm; please change throughout ms)

Response: Done.

3. L. 55: "Previous studies have shown that"

Response: Done.

4. L. 68: "Previous studies have also demonstrated"

Response: Done

5. L. 72, 107, 237, 244: start new paragraph - either because new idea, or too long

Response: Done

6. L. 82: "To test"

Response: Done

7. L. 104: "and thus"

Response: Done

8. L. 118: WorldClim2? Cite Fick and Hijmans 2017

Response: Thanks for the comments. Revised and cited the reference.

Reference:

Fick, S.E., Hijmans, R.J. (2017) WorldClim 2: new 1-m spatial resolution climate surfaces for global land areas. *Int. J. Climatol.*, 37(12) [https://DOI: 10.1002/joc.5086](https://doi.org/10.1002/joc.5086)

9. L. 141: provide citation for Random Forest (usually Breiman 2001, but could be something else)

Response: Thanks for the comments. Revised and cited the reference.

Reference:

Breiman, L. (2001) Random Forests. *Machine Learning*, 45, 5-32.

9. L. 144: cite R correctly (see "citation ()"), and provide versions used (both of R and all packages). Also cite the vegan package correctly.

Response: Thanks for the comments. Revised as follows and cited the below references.

In order to understand how plant compositions are structured by environmental factors, a redundancy analysis (RDA) for the importance value of species was carried out using the Vegan packages (version 2.5-7) (Oksanen et al., 2020) in R (version 4.04) environment (R Core Team, 2021). Statistical significance was assessed using Monte Carlo tests with 999 permutations.

Reference.

R Core Team (2021). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL <https://www.R-project.org/>.

Oksanen, J., Blanchet, F.G., Friendly, M., Kindt, R., Legendre, P., McGlinn, D., Minchin, P.R., O'Hara, R. B., Simpson, G.L., Solymos, P., Stevens, M.H.H., Szoecs, E., Wagner, H. (2020). *vegan: Community Ecology*. Package. R package version 2.5-7.

10. L. 232: "latitude ranks second"

Response: Done

11. L. 235: "are consistent with a previous study"

Response: Done

12. L. 240: "One study suggested that"

Response: Done

13. L. 243: "from our previous study in which elevation"

Response: Done

14. L. 247-249: unclear sentence; please reword

Response: Revised as follows:

Anyway, temperature could largely contribute to explaining the latitudinal diversity gradient patterns of rubber plantations.

15. L. 266: "was reduced...enough; not all"

Response: Done

16. L. 268: "follows"

Response: Done