Ps. Maximum 50 words per question

1. What is the scientific question you are addressing?

Whether the inclusion of trait variability in a vegetation model affects Amazon carbon sink responses to reduced precipitation and what is the role of the different components of functional diversity (richness, evenness, divergence and composition) in determining these responses.

1. What is/are the key finding(s) that answers this question?

Including trait variability in vegetation models is crucial for representing vegetation carbon storage.

Communities with higher trait variability are more resilient due to its capacity to functionally reorganize owing to the diversity of responses it holds.

Functional diversity and the way that communities occupy functional trait space affects ecosystem functioning under future scenarios.

1. Why is this work important and timely?

This work show that trait-based models are fundamental to asses the vulnerability of ecosystems to climate change through a new perspective, by accounting the role of functional diversity in determining ecosystem functioning. This is pivotal in a time that climate change is affecting biodiversity at unprecedent rate and the impacts in hyperdiverse ecosystems, such as Amazon, remain elusive.

1. Does your paper fall within the scope of GCB; what biological AND global change aspects does it address?

Biologically, our work helps in advancing the comprehension of the still uncertain effects of climate change on biodiversity (focusing in functional diversity) and how theses effects determines ecosystem functioning and resilience.

In terms of global changes we focused on the projected reduced precipitation for the region of Amazon basin.

1. What are the three most recently published papers that are relevant to this question? This information will assist the Editors in selecting reviewers.

Carmona, C. P., de Bello, F., Mason, N. W. H., & Lepš, J. (2019). Trait probability density (TPD): measuring functional diversity across scales based on TPD with R. *Ecology*, *100*(12), 1–8. https://doi.org/10.1002/ecy.2876

Schmitt, S., Maréchaux, I., Chave, J., Fischer, F., Piponiot, C., Traissac, S., & Hérault, B. (2019). Functional diversity improves tropical forest resilience: insights from a long-term virtual experiment. *Journal of Ecology*. https://doi.org/10.1111/1365-2745.13320

Wieczynski, D. J., Boyle, B., Buzzard, V., Duran, S. M., Henderson, A. N., Hulshof, C. M., … Savage, V. M. (2019). Climate shapes and shifts functional biodiversity in forests worldwide. *Proceedings of the National Academy of Sciences*, *116*(15), 7591–7591. <https://doi.org/10.1073/> pnas.1904390116

6. You are required to suggest at least six reviewers which the Editor may consider. These suggestions must be without a conflict of interest with the authors including former or current coauthors (within the past 4 years), students, mentors and members of the same academic institution.

Isabelle Maréchaux: <https://www.researchgate.net/profile/Isabelle-Marechaux>

Sophie Fauset: <https://www.researchgate.net/profile/Sophie-Fauset>

Lina Mercado

Carlos Carmona : <https://www.researchgate.net/profile/Carlos-P-Carmona>

Ceres Barros: <https://www.researchgate.net/profile/Ceres-Barros>

Christine Lamana: <https://www.researchgate.net/profile/Christine-Lamanna>

Martin De Kawue: https://www.researchgate.net/profile/Martin-De-Kauwe

**7. You may indicate up to three non-preferred referees**. Please indicate the nature of the potential conflict of interest in the next section, Step 5 "Details and Comments." While these selections may be taken into account, the final selection is subject to the Editor’s discretion.