

***Interactive comment on “Nutrient limitation reduces land carbon uptake in simulations with a model of combined carbon, nitrogen and phosphorus cycling” by D. S. Goll et al.***

**Anonymous Referee #1**

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This study focuses on investigating how terrestrial carbon uptake is altered by nutrient limitation. The effect of CO<sub>2</sub>-induced nutrient limitation is thoroughly discussed. The other important process affecting terrestrial carbon uptake is that the productivity could be increased through increased nutrient availability due to increased mineralization of nutrients under climate warming.

The assumption of globally uniform nutrient ratios for P model is restrictive for a global scale study. Although the authors discuss simulations where these are PFT specific these results are not presented and dismissed as not different enough to impact the results. I would prefer if the authors had presented the result of the PFT specific C:N:P

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contents and as a sensitivity analysis allowed the P concentration to be reduced from fixed ratios as is observed under low P availability.

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