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Interactive comment on "On the potential vegetation feedbacks that enhance phosphorus availability – insights from a process-based model linking geological and ecological time scales" *by* C. Buendía et al.

Anonymous Referee #2

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"On the potential vegetation feedbacks that enhance phosphorus availability - insights from a process-based model linking geological and ecological time scales" by Buendia et al. describes a complex model of phosphorus limitation, plant growth, and soil formation of global extent across ecological and geological timescales. As with any such process-based model, this model has many "moving parts" and a large body of mechanistic assumptions that - while not unjustified - are unlikely to hold in toto as scientific understanding progresses. An abler review has come before mine with specific questions about the model's sensitivity to several key assumptions and parameters,

and I trust that the authors will address these to the best of their ability. With these reservations noted (which I emphasize apply to all such models), I applaud Buendia et al. for advancing the field and documenting their work so that it will be valuable not just for the ecological insights it provides, but also as a scaffolding for building future models as our understanding of the mechanistic assumptions that underlie it improve.

Interactive comment on Biogeosciences Discuss., 10, 19347, 2013.