

## ***Interactive comment on “Progress in DGVMs: a comment on “Impacts of trait variation through observed trait–climate relationships on performance of an Earth system model: a conceptual analysis” by Verheijen et al. (2013)” by S. I. Higgins et al.***

**Anonymous Referee #1**

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This comment article is a response to Verheijen et al. (2013)'s paper on trait variation in the JSBACH DGVM, and in particular the discussion of the relative merits of the aDGVM (or more correctly the aDGVM2) compared to their approach in the introduction and discussion sections of this paper. The paper chain of the 'Biogeosciences Discussions' process illustrates that the part of the paper pertaining to aDGVM was missing from the original discussion article, but then occurs in the final 'Biogeosciences' article. The discussion was perhaps prompted by at least one of the referees, who com-

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mented that the paper was lacking in its consideration of alternative methodologies for representing plant trait variation.

The paper appears to not have been subject to a second round of review after the inclusion of this discussion. This is a shame, as this process might well have caught the clearly erroneous comments made about the aDGVM(2), particularly the statement that 'aDGVM does not include trade-offs' (a statement which is wildly inaccurate, given that a large section of the Scheiter et al. 2013 paper is an extensive and highly skillful discussion on the nature of trait trade-offs) . I agree with the authors of this comment, that the discussion of the aDGVM, and also the JEDI model, appears to have been written with the goal of dismissing alternative approaches, and illustrating that the approach suggested by Verheijen et al. is the only methodology of interest. This is a shame, because a humble and constructive discussion of the pro's and con's of the different developing approaches would have been much more useful in this context.

In my view, the representation of plant diversity in modelling frameworks is one of the most interesting areas of development in land surface models in recent years, particularly assisted by the contributions made by the aDGVM and the JEDI groups, and Higgins et al. are quite right to comment upon this unhelpful and inaccurate portrayal of their work.

I do not have much more to add to this, except to say that, for reasons that are fairly clear, the letter adopts a relatively angry tone. I suspect that the authors might well be able to convey the same strength of argument while smoothing out some of their more aggressive statements.

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