Earth System
Dynamics

Discussions

Open Access

EGU

Interactive comment on "Reliability Ensemble Averaging of 21st century projections of terrestrial net primary productivity reduces global and regional uncertainties" by Jean-François Exbrayat et al.

Anonymous Referee #1

Received and published: 17 October 2017

This paper describes statistical analysis of ISIMIP NPP dataset which weights models by their present day/historical performance in order to constrain the range of future estimates of NPP change. This is a well written and generally very clear disposition. I have a couple of small queries about the text, but no major issues.

Comments:

Given the current popularity of the emergent constraint methodology, it would be useful to have a brief compare/contrast of how this method differs, as they seem superficially

similar.

The paper does an excellent job of explaining in appropriate detail the methods, but on page 6, line 1 three REAs are listed, but not explained what they are. It becomes clear in a figure caption later, but it would be good to explain in here too.

I'd like to see a nod towards the uncertainties of the analysis in the abstract, particularly the lack of key processes (nitrogen, phosphorus, etc.) in the DGVMs. The discussion is good on this, but the abstract portrays a more uncritical acceptance of the reduction of uncertainty in the high latitudes, (especially boreal systems), which isn't completely supported by the data.

A brief discussion of the limits of this technique - especially regards whether we're increasing the precision but not the accuracy of the projections – would be useful. This is especially important given the issue about process representation, and the low weighting of the HYBRID model.

The map colour schemes are eye wateringly terrible, as well as not being colour blind friendly. The green in the middle makes it really difficult to read the plots accurately. The figure 4 plots would be enhanced by using different line patterns as well as colour, to help people read it in black and white print as well as colour blind readers. A cursory google or ask around the office should get the authors decent colour schemes. It's really not acceptable to use rainbow anymore.

There's a slightly higher than average number of words without spaces between them. This just needs checking.

Interactive comment on Earth Syst. Dynam. Discuss., https://doi.org/10.5194/esd-2017-83, 2017.