

Interactive comment on “Contrasting responses of terrestrial ecosystem production to hot temperature extreme regimes between grassland and forest” by Y. Zhang et al.

Anonymous Referee #1

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Using the integral of EVI (iEVI) as a surrogate of NPP, the authors explore the NPP response to inter-annual variations of maximum temperature (Tmax) finding a contrast response of forest and grassland sites to Tmax. The methodology is valid and the results contribute to our ongoing understanding to the asymmetric ecosystem responses to climate variations.

My primary concern on the methodology is that the iEVI approach is not as accurate as the authors claimed. For example, if you only look at the temporal correlation between iEVI and NPP, rather than the spatio-temporal correlation, will you still get high R2 like 0.90? The possibly lower R2 does not suggest the approach is invalid but suggest that the uncertainties in this approach are larger than the authors indicated. This should be

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clearly stated in order not to mislead readers.

Minor comments:

Since the results were fully based on the 12 sites, it is still of fairly good risk that the phenomenon found may not represent the general behavior of forests and grasslands. It may help should the authors acknowledge such risks in the conclusion.

The section 3.2 mixed the discussions of spatial and temporal correlations, which is a bit difficult to follow. I think it will be good if they could be separated in two paragraphs.

Page 6003 “Fig. 1” should be “Fig. 2”

Errorbars in Fig. 5 seems missing

Interactive comment on Biogeosciences Discuss., 11, 5997, 2014.