

Interactive comment on “Spatio-Temporal Variations and Uncertainty in Land Surface Modelling for High Latitudes: Univariate Response Analysis” by Didier G. Leibovici et al.

Anonymous Referee #2

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The main goal of the paper is to estimate possible uncertainties caused by choosing LS and GC models to predict the climate effects on Net Primary Production (NPP) of vegetation cover in northern Europe. Some aspects of the LS model application to describe climate sensitive infections (CSI) are also discussed. The land surface - atmosphere interaction under climate changes is a very important direction of modern studies in ecology, biogeochemistry and meteorology. To solve the key scientific problems in the study authors used four various LS models as well as projections of future climate changes provided by consortium of global circulation models (GCMs). For data processing the multi-way data analysis methods are used. The paper consists of several parts including introduction with study motivation, detailed method part,

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the result chapters with sufficient description of the research achievements, conclusion with a summary of the main results. The discussion of obtained results in the paper is relatively short and unfortunately poorly presented. In particular the explanations of found differences in NPP provided by various LS models and their interpretation are not sufficient. Authors consider mainly geographical aspects of the model differences but avoid considering their temporal variations (from year to year). All these questions, I guess, should be considered in the discussion chapter. Another point is related to key objectives and research tasks of the paper. In fact, I cannot clearly see the general study idea and an "internal linkage" of the chapters describing modeling aspects relevant to CSI and NPP predictions. I see some mosaic of separate individual tasks that have to be more closely linked to one another in the paper.

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