

Interactive comment on “Net primary production of Chinese fir plantation ecosystems and its relationship to climate” by L. Wang et al.

Anonymous Referee #2

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Dear authors, the paper “Net primary production of Chinese fir plantation ecosystems and its relationship to climate” presents a study aimed at the evaluation of the relationship between net primary production of Chinese fir and climatic variables at different spatial and temporal scales. This manuscript provides useful information for the readers in the field of plant ecology and environmental sciences. The work contributes to the discussion how remote sensing based observations can be adopted to monitor ecosystem processes and it gives also explanations on the climatic variables affecting most the investigated ecosystems. However some methodological issues have to be addressed before the manuscript can be considered for publication. The authors should specifically focus on the following general points to improve their manuscript: The Abstract is a bit confusing. It would be nice to re-write it trying to highlight only the key messages. The material and methods section should be completed in different

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parts: MODIS data - the way the MODIS data are presented is confusing, the authors refer to MODIS GPP without giving details about the product they are using. Are they referring to the MOD17 product? What they mean with “The FPAR and epsilon max were determined using remote sensing MODIS”? To my knowledge the epsilon max is derived using Biome Parameter Lookup Table (BPLUT). Climate data - the authors describe the study area as “a region of low mountains and hills with a very broken topography and complicated geology”, in such conditions the propagation of the meteorological data from few stations to the whole region can be not trivial. How the interpolation of the meteo data has been performed? How the obtained maps compare with already available gridded meteorological products? Analysis between NPP pattern and climate variables – it is not clear if and how the presence of different land cover classes has been taken into account in the analysis of the spatial patterns of NPP Validation of MODIS data using flux tower data – how the temporal GPP corresponding to flux tower has been derived from MODIS data? how big is the tower footprint? how big is the MODIS area used to extract the GPP trend? The data analysis has some weakness and clarifications are needed. Fig. 4 eddy and MODIS GPP are correlated but the relation is not as good as we can expect; possible reasons of the scatter in the relationship have to be discussed. Attention should be given to other factors (besides temperature and precipitation) that can have an effect on the spatial and temporal variability of fir productivity (fires, harvest, deforestation, stress events . . .)

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