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Interactive comment on "Effects of vegetation heterogeneity and surface topography on spatial scaling of net primary productivity" *by* J. M. Chen et al.

Anonymous Referee #2

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This paper investigates the influence of spatial scale (pixel size) on simulated NPP estimates from an eco-hydrological model. An empirical scaling algorithm is developed to correct for errors in coarse-scale NPP estimates due to sub-pixel heterogeneity. Different explanatory variables were identified that accounted for the differences in NPP estimates, with land cover fraction and slope being the most important. This is a very well-written paper and addresses interesting and relevant questions regarding the effects of spatial resolution on modelled/measured variables and contributes to the considerations of using different/multiple products and the need for correction factors and a comparability study between sensors. My only reservation is the transferability of the findings to different landscapes/ecosystems, in flat areas for example, where slope

differences were not a major factor, would soil depth/soil particle size play a greater role in spatial scaling? Although the correction algorithm works well in this study area, would some local calibration have to be introduced for the approach to be applied over different areas.

Figs. 15 and 16: Are the 1km resolutions plotted on the same x axis scale as the 30m resolution?

Interactive comment on Biogeosciences Discuss., 10, 4225, 2013.