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Interactive comment on "Biophysical controls on net ecosystem CO_2 exchange over a semiarid shrubland in northwest China" *by* X. Jia et al.

Anonymous Referee #1

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There are few studies about the carbon flux in semiarid areas. This work is a kind of pioneer study that systematically analyzed the carbon flux in semiarid areas. This manuscript can be published on Biogeoscience to my understanding although there are some questions need to be clarified. 1. It will be much better to list all the abbreviations and parameters in an appendix so that readers could easily lookup those terms and better understand the article. 2. The gross ecosystem productivity (GEP) and net carbon sink were presented with standard deviation, i.e. 456±8 g C m-2 yr-1 and 77±7 g C m-2 yr-2. No interpretation was ever described in the text, except the authors used bootstrap to analyze the uncertainty in gap-filled data. If it is from spatial variation, the vegetation in semiarid areas usually has extensive spatial and temporal heterogeneity, and the variation seems small to my understanding. The uncertainty analysis needs to be clarified. 3. Should the uncertainty generated by bootstrap be standard deviation

or standard error? 4. Table1 and figure 2: as the authors described in the text that October in 2012 is an exception when study the correlation between NEE and PAR. However, there is no further explanation about the causes of the exceptions. 5. This work analyzed the relationship between NEE and environmental variables. Is it possible to generate comprehensive models to predict the NEEday, NEEnight, and GEP using related environmental variables together?

Interactive comment on Biogeosciences Discuss., 11, 5089, 2014.