

Interactive comment on “Water table fluctuation and its effects on vegetation in a semiarid environment” by L. Duan et al.

Anonymous Referee #1

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Duan et al present an experimental study on the influence of water table fluctuations on vegetation in a semiarid region in China. Using multiple regression analysis they show the interdependence of NDVI with water table depth, precipitation and potential evapotranspiration. While the multi-year data set appears to be interesting, I find the analysis limited in scope and mainly qualitative. In my opinion, simple descriptive statistics do not contribute new insights in the interdependence of subsurface hydrodynamics and vegetation dynamics. Additional time series and geostatistical analysis would be required to make the study a valuable contribution to ecohydrology. Additionally, a modeling study including a comprehensive mass and energy balance analysis would considerably strengthen the manuscript. This would also support the conclusions presented by the authors that are based mainly on a qualitative analysis of an

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interesting long-term data set. Since this type of analysis is beyond major revisions, I unfortunately can not recommend the manuscript for publication.

The information content of the different panels in Figure 1 is rather low since the spatial patterns do not change much in the different seasons. In Figures 4 to 6, it would be more intuitive to plot depth to water table.

Language and grammar require considerable improvement and editing.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 8, 3271, 2011.

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