

## ***Interactive comment on “Monitoring the variations of evapotranspiration due to the land use/cover changes in a semiarid shrubland” by T. Gong et al.***

### **Anonymous Referee #1**

Received and published: 17 October 2016

It seems Gong and his/her colleagues have substantially improved the manuscript in the resubmitted version. Generally, the manuscript is written clearly and understandable, but some grammars are still need to be checked and confirmed, probably by a native speaker.

I like the discussion about the human impact on evaporation, i.e. vegetation degradation and sand dunes bulldozing. The impact of vegetation degradation did not only change the vegetation cover but also modify the soil conditions. I agree with the authors that the processes are complex, and still needs to be further investigated. Summarily, these relative long-term and intensive land surface water and energy observations are important for us to understand the interaction between land surface and atmosphere and even groundwater, especially in this semiarid region where the ecosystems are vulnerable. But there is still space to improve the quality of this manuscript before

publication.

Other comments:

L24: I think it might be okay to generalize the results a little bit to “improve our understanding . . . in the fragile ecosystems of semiarid regions.”

L34: Not clear info. Please rephrase.

L 65: limiting factor for . . .

L66: what do you mean by “common droughts”?

L 62-73: Some detailed information might better go to study site section.

L 81: in situ field. . . ?

L88: "doubtful" is a strong word. You'd better change it.

L97: “. . .is little learned. . .” reads awkward. Please rephrase. Again, “field observations”

L102 probably change measurements to measurement

L123: is it better to say “water demand”?

L141: “as time went on. . .”. Please keep the same tense in one sentence.

L187-189: It might be better to briefly describe how you calculated latent heat flux.

L198: what do you mean by “immediately”?

L266: How did you determine the factors in this equation?

L291-294: Is this the commonly used method to calculate NDVI? If so, you do not need to mention these details. And I have no idea why you describe the NDVI\_Terra and NDVI\_Aqua. Can you clarify?

L398-399: Since NDVI is a normalized factor and you derived the NDVI\_w based NDVI,

I do not think it is meaningful to quantify the impact of NDVI on evaporation. This relationship might be changed in different cases and even with different time series datasets. You can describe this relation, but it is probably not suitable as a highlight and mention it in Abstract.

L412: do you mean “compared Period I with. . .”?

L431-434: The first-order control of evaporation is a long time debate. I agree with the conclusion, but this research might be not directly related to this conclusion. I suggest the authors weaken the tone, to use “probably” or “very likely” etc.

L545: “tolerant to” is probably followed by some "vices", not survive. Please rephrase.

L 550: more water than “what”?

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., doi:10.5194/hess-2016-490, 2016.

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