

Interactive comment on “Surface energy exchanges above two grassland ecosystems on the Qinghai-Tibetan Plateau” by S. Liu et al.

Anonymous Referee #2

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A good scientific paper presents not only what data are but also what data mean. This manuscript is largely a presentation of data and obvious results and thus could be improved significantly. I suggest that the authors keep to a minimum the number of figures that show temporal variations of directly measured variables and focus on figures that show relations. For example, some plots in Figures 1, 3, 4, and 5 may not be needed at all or could be easily described with words in the text. A good example of a figure that shows a relationship is Figure 8. I notice that in numerous places the authors use the phrase “data not shown”. Ironically, most of those data not shown are about a relationship and thus should probably have been shown.

The authors use the concept of ‘drought’ arbitrarily. Soil water content is not a good variable for defining a drought, particularly when two sites with different soils and veg-

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etations are involved and compared. I suggest the authors use the words dry and wet conditions in place of drought and non-drought conditions. The criterion for separating these two conditions should be described and justified.

Data screening procedures may need more caution. For example, the authors only use the data with global solar radiation $> 200 \text{ Wm}^{-2}$ in order to minimize potential problems with low solar elevation angles. This procedure may remove certain cloud types that may be more often at one site than another and thus may affect the comparison of energy balance at the two sites. A better alternative would be to use the solar elevation angle directly.

A number of statements are made without justification. For example, in P9167, line 8, “SWC was lower at AS due to the lower soil water-holding capacity”. What are the soil water-holding capacities at the two sites? Could the smaller SWC be due to less precipitation and/or higher evaporative demand?

P9168, lines 21–25. The albedo-SWC relationship may be a consequence of the correlation between SWC and vegetation status.

P9169, lines 17–22. The explanation of the lowest average ΔT in the growing season of 2007 is weak. How did the higher temperature affect the sensible heat flux?

The summary section. Discuss what you have found and what you have learned to advance the science.

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