Hydrol. Earth Syst. Sci. Discuss., 5, S1935–S1936, 2008
www.hydrol-earth-syst-sci-discuss.net/5/S1935/2008/


Hydrology and Earth System Sciences Discussions



# *Interactive comment on* "Controls on the temporal and spatial variability of soil moisture in a mountainous landscape: the signatures of snow and complex terrain." *by* C. J. Williams et al.

**C. J. Williams et al.**

Received and published: 20 November 2008

**Final response of authors to anonymous Referee #3 comments on "Controls on the temporal and spatial variability of soil moisture in a mountainous landscape: the signatures of snow and complex terrain" - C. Jason Williams, James P. McNamara, and David G. Chandler**

(Reviewer comments in italics, author responses in normal text with text changes noted in bold, all referenced page numbers and figures are to the on-line version of the discussion paper)

1) *I do not believe that the authors have clearly articulated or explained the significance*



Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper

*of the work to a broader audience. Why for example is it surprising that for a semiarid watershed where ephemeral snow drifts occur each winter - that the distribution of snow will have a major and in fact the major influence on soil water.*

While the authors acknowledge the intuitive notion that soils should be wetter where snow accumulates, the comment dismisses the main point of the manuscript. We present that the interaction of static (terrain and soil characteristics) and dynamic (soil water input) variables influence the seasonal organization of soil moisture in a semi-arid snow-dominated mountainous catchment. Soil moisture patterns in this study were not simply dictated by where snow accumulated, but also how snowmelt was routed within the catchment. The processes are more complicated than that presented within the comment. We opine the other reviews (see Referee #1 and Referee#2 comments) have addressed the contribution of this study relative to the understanding of spatial and temporal soil moisture patterns in snow-dominated mountainous catchments.

2) *I am not in agreement that the Tables are particularly useful or even appropriate in a journal article. Yes they are full of data and may be useful to modelers or others who would like to use the data (and could be made available through some other venue) but they do nothing to help communicate the major findings of the paper - unless the reader spend a very long time trying to determine the important trends on their own.*

The authors have included the data for model testing and site comparisons by other users. We acknowledge that sifting through the data may be cumbersome. That is not the intent of the inclusion. We present other supportive figures and information relative to our key findings and conclusions. The authors are willing to remove the data tables if recommended by the editor for the final submission for publication in HESS. Inclusion of the data tables was considered favorable by Referee #2 and no comment on the subject was presented by Referee #1.

---

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 5, 1927, 2008.



**HESSD**

5, S1935–S1936, 2008

Interactive Comment