

## ***Interactive comment on “Numerical simulations of the impact of climate variability and change on semiarid watershed response in central New Mexico” by E. R. Vivoni et al.***

**M. Sivapalan (Editor)**

sivapala@uiuc.edu

Received and published: 15 March 2009

I have read the comments of three reviewers, and I have also read the discussion paper from my personal interest in this paper. The reviewers make valuable constructive and critical comments, which I expect the authors to carefully respond to.

In my opinion this paper falls in the category of "diagnostic" study of the precipitation-runoff response of a semi-arid basin with the use of a semi-distributed water balance model. For examples of a recent diagnostic study, please read Samuel et al., WRR, 44, W06403, 2008; Samuel and Sivapalan, WRR, 44, W09423, 2008).

I think it is a very interesting and valuable study, as any such studies can be, because

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper



it gives us insights into the catchment response, and how they might change under changed climatic or landscape conditions.

However I was disappointed that in spite of very interesting presentation of the spatio-temporal variations of catchment response (seasonal, regional), and in spite of using a semi-distributed model, the results presented are only at the catchment outlet. Much of the interesting spatio-temporal variations are not presented. In this case I am not even sure a distributed model is even necessary.

Secondly, the authors did know that the rainfall varies spatially due to the effect of elevation. Therefore, more should have been done to account for the spatial variations of precipitation, rather than discovering the effects of rainfall variability through poor fits of model predictions to observed data at the outlet.

In summary I would like the authors to do more of a job in bringing out more insights into the spatio-temporal dynamics within the catchment. I look forward to seeing a fully revised manuscript in the future.

---

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 6, 319, 2009.

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper