

## ***Interactive comment on “Runoff evolution according to land use change in a small Sahelian catchment” by L. Descroix et al.***

### **Anonymous Referee #2**

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Review of: Runoff evolution according to land use change in a small Sahelian catchment

L. Descroix et al.

Comments: The purpose of this research was to evaluate land cover change and commensurate changes in runoff on two small watersheds in the Sahel from 1990 to present. Some aspects of the work are interesting but unfortunately the results are not presented or interpreted in a particularly compelling fashion and as a result the manuscript, in its current form is primarily a case study that confirms what is now quite a well documented hydrological change in the Sahel in response to changing land cover. The work may be publishable but not in its current form. In order for the work to be publishable the authors need to make a much more compelling case that new and

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meaningful information has been generated from this project.

My recommendation would be a major revision that focuses on clearly articulating a basic problem and knowledge gap that this paper identifies. There have been several very strong reviews on the topic in the last couple of years—most notably Favreau et al. (2009). This might be a good place to begin. Using that paper and others summarize the basic phenomena. Ideally these review papers will have identified some key knowledge gaps that the current manuscript is addressing. Once the key knowledge gap has been identified one then has a strong basis of the research objectives of this project.

The current Introduction, to my mind, is quite disjointed. It bounces around from a brief and not very compelling overview of the issue to the Boserup theory to re-greening of the Sahel. All of these topics may be of importance but it is not clear to the reader exactly how they are connected. The objective statement may be ok but since no fundamental knowledge gap has been identified it is not clear to me that this work is much more than a case study confirming what we already now know.

The Results are quite straight forward but it is not clear to me what additional insight was provided by the modeling analysis.

I would then rework the Discussion focusing on what new information has been gained from this study and how might it be applied across the region. What do we now know that we did not prior to this work.

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 8, 1569, 2011.

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