

Interactive comment on “Relative impacts of land use and climate change on summer precipitation in the Netherlands” by E. Daniels et al.

Anonymous Referee #1

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The submitted manuscript entitled "Relative impacts of land use and climate change on summer precipitation in the Netherlands" by Daniels et al. is a well written paper with clear clear description of methods and structure. They have analyzed the impact of land use changes on historical precipitation patterns and the impact of future land use changes on precipitation patterns. This is a very timely and relevant study. Thus it should be published. I have a few comments for improving the paper: - The results of the study show the intensifying impact of land use change on resulting precipitation patterns in the past. However, in future changes in land use have a less intensifying role of precipitation patters. The authors briefly mention the differential impacts of future land use change on extreme precipitation patterns. The paper can benefit from a deeper discussion about the impacts of future land use change on extreme precipitation patterns.

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– Closely related to the previous point is the role of impervious surfaces on precipitation trends. The authors have used quite fine resolution land use maps in their study. It will be worthwhile to take into consideration the proportion and spatial patterns of increase in impervious surfaces, which will lead to greater runoff and flooding in urban areas. This measure can be accessed from fine resolution satellite images such as Landsat.

– Finally, given the main aim of the study is to examine the impact of land use changes on precipitation patterns. The authors need to take into consideration the impact of land surface temperatures in their simulations along with atmospheric conditions.

[Interactive comment on Hydrol. Earth Syst. Sci. Discuss., doi:10.5194/hess-2016-146, 2016.](#)

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