

Interactive comment on “Runoff generation processes during the wet-up phase in a semi-arid basin in Iran” by H. Zarei et al.

Anonymous Referee #1

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Review HESS Discussion paper 11, 3787-3810, 2014 Authors: Zarei et al., Title: Runoff generation processes ... in a semi-arid basin in Iran

This short paper describes a study of the catchment rainfall-runoff relationships in a semi-arid catchment in a under-represented areas of the world, Iran. The paper is well written and the results are of interest to catchment hydrologists. Despite recognizing the fact the authors may have been operating on a limited budget and had time constraints as well, I cannot recommend this paper move beyond a discussion paper to a final paper published in HESS for the following reasons:

1) The study relies on only 2 rain gauges in the 283 km² catchment. Therefore, one does not have much confidence in the computed runoff ratios, which form a major part

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of the findings and discussion.

2) The study samples 7 events following a very lengthy dry period (during the wetting up period). The study stops abruptly before the catchment has completed wetted up. The next several storms would likely have changed the findings related to the relationship between runoff ratios and total cumulative rainfall, and perhaps baseflow. In all, fewer than 150mm of a total of some 825 mm (the mean of n years) are considered in the analyses. It is almost certain that the next few storms would change the relationships found: for example, runoff ratios would not continue you increase exponentially with cumulative rainfall (RR exceeds 100% after < 500mm). Only knowing what happens when the catchment is wetting up seems to me an incomplete story.

The goal of the study is to improve our understanding of hydrological processes to facilitate better catchment management. Because of the limitations discussed in items 1 and 2, this goal is not achieved.

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