

Interactive comment on “Assessment of streamflow decrease due to climate vs. human influence in a semiarid area” by Hamideh Kazemi et al.

Anonymous Referee #2

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The manuscript is about using Budyko method and HBV model to investigate mean annual streamflow changes, due to climate variation and human influence, in the important Karkheh River Basin in western Iran. Although this manuscript is an interesting study but this study doesn't identify any major contributions in terms of process understanding or developing new methods. However as stated in the manuscript, authors claim that their approach combining HBV and Budyko is novel and for the first time used in Iran. However, the knowledge gap/novelty and the importance of this work is still missing throughout the whole manuscript and it needs to be clearly stated. The method section is too long with elaborated with details. In other hand, the discussion (section is too short and general repeating the same message said earlier rather than

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putting the results from this study in a broader context of studies in similar regions and worldwide.

In the conclusion, authors claim that “The outcome of this study can be used to assist policymakers and water professionals in proposing a proper water management plan to prevent the further reduction of streamflow and groundwater storage”. How the results of this study would help policy makers to prevent reduction of streamflow and groundwater storage? When the results show that we have a combined effect of both human (increased irrigated area and reduction of forests), and climate (decreasing annual precipitation) on streamflow reduction almost all over the basins (20).

Authors need to work properly with all figures for instance order of figures should be improved, authors refer to figure 2 and then figure 9 and then back to figure 3. Figure 11 can be removed from the discussion part and Figure 12 is not necessary.

This a big assumption in this work that streamflow has not been influenced by human activities before the breakpoint. Please clarify!

I believe that this manuscript does not warrant a publication in HESS now and requires intensive additional work to be modified and re-considered for any possible publication in future. .

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