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Interactive comment on "Rainfall-runoff processes in the Loess Plateau, China: Temporal dynamics of event rainfall-runoff characteristics and diagnostic analysis of runoff generation patterns" *by* Qiang Wu et al.

Anonymous Referee #1

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This research examined the runoff generation mechanism at the catchment scale to understand thechange in runoff generation based on long-term series monitoring data, which could make fundamental progress in the prevention of flooding hazard and the management of water resources in the Yellow River. The paper presents the research in a logical format and the methods are clear. However, the paper presented in its current form has a number of issues that do not make it publishable at this stage. Therefore, I would recommend make major revision based on the following suggestions: 1. The novelty of this paper, in particular the method used is limited in the current version

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and should be emphasized. 2.Why chose the 5 catchments for analysis and the representative of the 5 selected catchments should be clarified. 3.The analysis of effect of land use and climate change on the runoff pattern was too simplified, more detailed quantitative analysis is needed to enhance our understanding. 4. How to consider the hetergeneous of underlying surface and rainfall in the 5 catchments, and detailed hydrological parameters such as infiltration rate is lacked. 5. Line 315 “The effect of antecedent soil moisture and rainfall on the runoff was not considered “Thus, medium and large rainfall events were selected, and 340 runoff events were identified in the five catchments, which did not have large-scale water conservancy project constructions but had implemented ecological protection measures”. This was not exactly true as many check dams have been constructed in the Chabagou, how the runoff was influenced by these anthropogenic engineering measures lacked correspond analysis. 6. Ecological recovery has double-side effect on the runoff, is this the reason for runoff reduction in Yellow River or the shift from HOF to DOF need more detailed explaination and evidence.

Other minor comments Grammar and spelling mistakes such as P7 Line 143 “developmen”.

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