

Interactive comment on “Identification of the main attribute of river flow temporal variations in the Nile Basin” by C. Onyutha and P. Willems

Anonymous Referee #2

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The authors in the paper tried to answer three main questions. First, the spatial and temporal variability in the basin. Second, the relation between the rainfall and runoff and if the rainfall can be used solely to explain the variability in the flow. Finally, if the response of the catchments have changed in simulating the rainfall-runoff relation. The answers for the first two questions were expected and agree with some of the literature the authors cited in their paper. The third question, is the most interesting and may increase our knowledge of the behavior of the basin. However, the approach the authors adopted is not very thorough. For example, they used three different hydrological models without giving a lot of details about these model and the simulated processes inside them. I would rather select one model and verify that is able to accurately simulate the complete hydrological cycle of the basin. What are the inputs for these models, how

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well do they simulate other variables that are important for the hydrological cycle, for example, temperature and radiation. These details need to be verified before reaching a conclusion about the behavior of the basin to simulate the rainfall-runoff relation. Finally, the organization of the paper is good, but the authors should elaborate their discussions and include more details.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 12, 12167, 2015.

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