

Interactive comment on “Hydrological characterization of watersheds in the Blue Nile Basin” by S. G. Gebrehiwot et al.

Anonymous Referee #2

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General comments:

I suggest publication of this manuscript only if there is clarification of the relevance of the past-data study to the current-date water resources management policy decisions regarding water scarcity in this basin (that is so passionately expressed in the Introduction section). Also, I feel that in regions like the Nile and the Blue Nile basin, the extension of the manuscript's analysis to the prediction of seasonality that is essential for the more important securing of dry-period water resources (also mentioned at least twice in Introduction section), has not been given adequate focus.

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Specific comments:

In particular about the analysis time period relevance, even though the methodology is good, the conclusions are mainly relevant for the 1959-1963 data collection years as reviewer # 1 also points out. Considering that climate, land use etc. are likely to have changed with the prevailing hydrological non-stationarity in the climate system, how do you propose to [1] collect similar modern-day data, even in some basic form (manually? google earth? satellite remote sensors? others?) [2] build a companion methodology to adapt the results to have relevance on current-day management decisions? About the seasonality, which of all the data used have seasonality components that are useful towards seasonal predictions? Is there a seasonality in the correlation? Finally, sources of information are increasingly available that provide spatial variability information on some of the variables used. Is it possible to use such information to better explain the variation of hydrologic variables?

Technical corrections:

Page4103,Lines4-6: Please clarify this line; what covers the temporal variability and of what in the catchment: characteristics or hydrologic response?

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