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Hydrology and Earth System Sciences Discussions

Interactive comment on "Assessment of climate change impact on hydrological extremes in two source regions of the Nile River Basin" *by* M. T. Taye et al.

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Thank you for making clarifications on this matter in your manuscript. I would like to add that it is of course perfectly acceptable to use long term means in the PM equations when actual values for data other than temperature are not available. However, when comparing time series of precipitation with time series of ETo derived in this way, it is very likely that you miss the actual changes that occur in ETo rates over the last decades. All available literature has shown that wind speed and solar radiation changes are the most important drivers of ETo changes so with your methodology you

will not capture these changes. In most cases ET0 is decreasing as both wind speed and radiation have been decreasing on a global scale during the last decades. I would expect a discussion which perhaps evaluates long term trends of relevant meteorological variables from stations in the regions where such data is available or a sensitivity analysis for reduced wind speeds and radiation. In any case trends in ETo should be regarded as an important part of your analysis in order to get meaningful results.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 7, 5441, 2010.