

# ***Interactive comment on* “Evaluation of Climate Change Impact on Extreme Temperature Variability in the Blue Nile Basin, Ethiopia” by Mostafa A. Mohamed and Mohamed El-Sayed El-Mahdy**

## **Anonymous Referee #2**

Received and published: 28 December 2020

In the manuscript entitled “Evaluation of Climate Change Impact on Extreme Temperature Variability in the Blue Nile Basin, Ethiopia” the authors analyze monthly temperature data from 10 meteorological stations in the Blue Nile basin for the period 1950–2018 to assess long-term trends of annual and monthly temperatures. To achieve that, they use a combination of the Mann-Kendall (MK) test with the Sen’s slope estimator. They find that the annual maximum and minimum temperature is increasing significantly with a magnitude of  $0.037^{\circ}$  and  $0.025^{\circ}$  C per decade, respectively, in the period from 1950 to 2018. The trend analysis revealed a significant increase in the mean

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minimum and maximum temperatures for all months, with the rate of increase for the minimum temperature being more pronounced than the maximum.

My main concern is that, although the authors present some valuable information on the trends of extreme temperature in a vulnerable-to-climate-change region, the manuscript does not fall within the Aims and Scope of the journal. Specifically, the Geoscientific Instrumentation, Methods and Data Systems (GI) journal gives “emphasis on the synergy between science and technology”. The specific manuscript may deal with “Earth science” (which is one of the four areas of interest of the journal), but does not include any technology that facilitates advances in geoscientific instrumentation. Also, the methods and data presented in the manuscript are not innovative or new.

Due to the above-mentioned observation, I, unfortunately, have to reject the manuscript. However, I encourage the authors to take the reviewers’ comments under consideration and submit their manuscript to a more relevant journal.

The authors may find some suggestions for improvement in the annotated pdf. The use of English language is poor in some sections (for example, Abstract, Introduction, Types of Data, see also annotated pdf). The text flow also has some problems (Introduction, Methods). The methods used can be enriched (see for example the similar publication of Worku et al., (2019): Worku, G., Teferi, E., Bantider, A., Dile Y. T., Observed changes in extremes of daily rainfall and temperature in Jemma Sub-Basin, Upper Blue Nile Basin, Ethiopia, Theoretical and Applied Climatology (2019) 135:839–854). I would also encourage the authors to conduct an analysis on a daily time scale, at least for the stations for which the daily data are of good quality. I believe that with some improvements on the existing manuscript, the authors will be able to publish their manuscript in a more relevant journal.

Please also note the supplement to this comment:

<https://gi.copernicus.org/preprints/gi-2020-34/gi-2020-34-RC2-supplement.pdf>

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