

Review of: "Precipitation and Temperature Trends over the Lake Tana Basin, Ethiopia"

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This paper reviews the existing literature on the precipitation and temperature trends in the Lake Tana Basin. It presents no original research. The authors describe how they selected the papers to discuss, but give no indication of how they exercised quality control: which results are trustworthy and likely to be correct, and which are unreliable and should not be considered.

In order to make this paper more useful to the reader it is necessary to make realistic estimates of the uncertainties of the values reported. For historical trends (Sec. 4) this requires evaluation of the quality of the statistics. This is, in principle, possible, although most geophysical time series contain correlated variations that introduce more uncertainty in trends and other inferences than estimated by naive application of elementary uncorrelated random variable statistics.

Predictions of future trends suffer from model uncertainty---we do not know how good climate models are. Uncertainties in the forcing functions are one issue, but even more important are uncertainties in the climate physics---cloud formation is the best known and likely largest contributor, but there are others. The climate sensitivity is uncertain within a range of a factor of two. Much worse is the uncertainty in extreme events. Past extreme events can be studied statistically, but climate models are incapable of predicting future extreme events, which are weather rather than climate (by definition, climate is average weather, averaging over all fluctuations, from small to the most extreme events).