

**Interactive comment on “Forecasting droughts in East Africa” by E. Mwangi et al
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The paper is an excellent attempt to improve the existing drought forecasting capability in horn of Africa using dynamical model forecast and recently available initial conditions (ERA interim. Its shape in terms of scientific significance and quality is excellent. It has been presented in coherent manner. It attempts to build on currently available consensus forecasting in the horn of Africa. Therefore, it has border societal impact. It is therefore a publishable paper.

We thank the reviewer for the comments on the paper. See our comments in red below.

Some observation:

1. General

The model forecasting skill performs better in the OND than MAM season. I suppose the MAM season is more important than the OND season in terms of agricultural activity. I believe improving the skill in MAM has broader impact to human security in that part of the world. Therefore, you may suggest areas of improvements required towards enhancing the MAM drought predictability.

There is an ongoing effort at ECMWF to improve the model over the region. Some initial diagnostics point to some limitations of the model in propagating the rainfall anomalies inland, that are likely associated with the strength of remote teleconnections in the model, and land/atmosphere interactions. Such improvements in the coupled model would result in large skill improvements in precipitation. However, this work is still in an early stage, and we cannot provide a detailed and concise reply to this question.

2. Specific

Page 10213, line 21-23

“The set of hindcast are initialised using ERA Interim reanalysis for the period 1981–2010”. My analysis cloud cover using the ERA40 product shows higher cloud cover activity in the Eastern Africa (particularly Ethiopia), which means higher rainfall incidence than actually is. I am not sure about ERA how far the improvement is in the interim product but what is the level of performance of ERA interim in the horn of Africa? Can we undermine the effect of initial conditions in introducing bias?

This is an interesting question and we did not evaluate in detail ERA-Interim over the region. However, due to the nature of the remote forcings ,in particular during the OND season, we do not expect to find a large impact of the initial atmospheric conditions over the region. On the other hand, this might be more important during the MAM season. Dutra et al. 2013a evaluated ERA-Interim precipitation over the Horn of Africa, and found a reasonable performance of the reanalysis when compared with several global precipitation datasets.

Dutra, E., Di Giuseppe, F., Wetterhall, F., and Pappenberger, F.: Seasonal forecasts of droughts in African basins using the Standardized Precipitation Index, *Hydrol. Earth Syst. Sci.*, 17, 2359-2373, doi: 10.5194/hess-17-2359-2013, 2013a.

3. Can we fairly conclude the Consensus Outlook is still the better alternative tool for drought forecasting in the horn of Africa?

With the forecasters knowledge put into the outlook forum it would be difficult for dynamical systems to wholly beat this but with the added information given by processing the dynamical products then these products can prove to be very useful for drought forecasting.