



EGUsphere, community comment CC1  
<https://doi.org/10.5194/egusphere-2022-458-CC1>, 2022  
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## **Comment on egusphere-2022-458**

Paolo Tasserón

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Community comment on "Linking reported drought impacts with drought indices, water scarcity and aridity: the case of Kenya" by Marleen R. Lam et al., EGU sphere,  
<https://doi.org/10.5194/egusphere-2022-458-CC1>, 2022

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This study discusses the possible linking of drought indices with text-based documents by a drought management authority in Kenya. An assessment is made how drought impacts relate with drought indices and water scarcity under various circumstances, by using a Random Forest Model. In doing so, the authors aim to contribute to ongoing debates about operational needs for drought monitoring. The importance of improving early warning systems to mitigate adverse consequences of drought is corroborated by the study and its results.

In general, I believe the authors present a very well-written manuscript, with clear and complete (sub)sections. The quantity and quality of references to relevant state-of-the-art studies is spot on. I can only suggest some minor and a few moderate revisions require attention prior to publication. These are summarised below. Well done!

### **Minor and moderate suggestions for revision.**

#### **Linenumber**

#### **Comment**

25

Consider changing 'society' to 'societies'

30-37

I think the terms meteorological and hydrological drought do not need such an elaborate explanation. If you think the readership does need this explanation, then

consider adding a short definition of 'soil moisture/agricultural drought' as well.

83-85

Consider including the Köppen classification to describe climatological setting in Kenya, to highlight the diversity between the relatively wet southwest and dry/arid/desert north and east.

117

How was the difference in spatial resolution (0.25 degree) with the other datasets (0.1 degree) dealt with in by the authors?

145

Consider changing 'for each person' to 'per capita'

148

Replace 'have been' by 'was'

159-160

How are the grid cells spread over the different counties? Did you only compute the means of grid cells completely within a county border? Please specify this, also the resolution that was used for the grids.

173-174

So the indices were calculated for 1980-2020, but only used for 2014-2020. What is the added value of calculating 1980-2014, if it is not being used?

194

'have' = 'has'

202-203

does this aggregation have any drawbacks?

Table 3

Could you indicate p-values in this table? i.e.  $p < 0.05 = *$ ,  $p < 0.01 = **$ ,  $p < 0.001 = ***$

243-244

It is a bit unclear what the authors mean by 2, 4, 2 months out of 10/4, 0, 4 months out of 12. Consider rewriting this sentence.

251

The AUC abbreviation was not previously introduced and should be written out fully.

Figure 4 & 5

Font size should be increased. In addition, the range of the X-axis is different for each

figure. If relevant for comparison between the different categories (which I think is the case), consider using the same range for each figure. You might even want to plot the points of multiple categories in one figure with different colours, instead of having 14 individual subplots.

293

Please avoid using the term 'reliable' when talking about an objective appraisal, as this is a subjective judgement without qualitative or quantitative data to support the statement. It would improve the statement to shortly explain how the iterative processes and the focus on abnormal conditions took place, as I do not recall reading about this in the methods section. I believe this is important, because the bulletins form an integral part of your analyses.

298-300

Great to see the authors mention multiple outlets to complement NDMA bulletins!

306

'Good': please quantify this by for instance mentioning the average AUC value, or repeat the AUC value of the top 3 categories.

320

'a kind of lag' – please specify in more detail.

- 339 'low population density does not imply low water stress' – this calls for a reference.
- 350 'should have suffered from water scarcity during periods of drought due to the high population density' – this reads a bit *dark*. Consider rephrasing the sentence so it does not read as if you want these counties to suffer.
- 371-373 this was already mentioned earlier in the manuscript and does not need repetition here.
- 376-378 The authors mention comparisons with these studies are difficult due to different socio-economic and climatic circumstances. That's a fair point, but how do they compare in terms of resolution? Is it practically possible to compare these quantitatively, or does this also not work?
- 400-401 Could you please include a reference to this existing database (or name it)?
- 432-433 Is there any indication of the spatial resolution required to capture the regional differences?
- 431-437 This last paragraph of the conclusion reads

well and contains and sensible information, but I think it undermines the results of the study. It reads as if the work explored in this study is disqualified a bit, since focus is put on the need for finer resolutions to contribute to the development of early warning systems. I recommend the authors to 'praise' their own work a bit more in this last paragraph, instead of talking it down.

Please also note the supplement to this comment:

<https://egusphere.copernicus.org/preprints/2022/egusphere-2022-458/egusphere-2022-458-CC1-supplement.pdf>