Natural Hazards and Earth System Sciences Discussions

Nat. Hazards Earth Syst. Sci. Discuss., referee comment RC2
https://doi.org/10.5194/nhess-2021-152-RC2, 2021
© Author(s) 2021. This work is distributed under
the Creative Commons Attribution 4.0 License.

Comment on nhess-2021-152

Anonymous Referee #2

Referee comment on "A geography of drought indices: mismatch between indicators of drought and its impacts on water and food securities" by Sarra Kchouk et al., Nat. Hazards Earth Syst. Sci. Discuss., https://doi.org/10.5194/nhess-2021-152-RC2, 2021

The authors try to give an overview of existing drought indices with respect to different focus aspects from different disciplines. This might be important as a large variety of drought definitions exist. Nevertheless, I have major concerns with the presented studies. The authors present a more or less pure bibliographic review of which indices exist, how often they are used in which part of the world, and for which purposes, which in my opinion is rather irrelevant for the scientific community. I was highly expecting more investigation like, where are the pros and cons of each index related to different aims and regions, where can they be applied, where are the limitations, which aspects are not covered by the existing indices, how can the indices be interpreted, so to say, what conclusions can be drawn out of the indices with respect for example for mitigation or adaptation strategies, and such aspects. It is definitely not clear to me, how to benefit from the presented study.

Additionally to my major concerns, I have some specific comments.

1) Did you use the NHESS templates for the manuscript and bibliography? especially the references look weird

2) Line 40ff. You state, that the initial driver for agricultural and/or hydrological droughts always comes from meteorology. I do not agree. You can have normal precipitation conditions but excessive land use and water extraction that could lead to AD and HD.

3) For Table 1 you made a selection. Is there a chance to estimate the dark numbers of indices, that exist and that are not listed in this Table? I also miss relative indices like the effective drought index by Byun and Wilhite (1999). Furthermore, the table caption should be at the top of the Table not at the bottom. At the end of the Table some lines are

highlighted in yellow, is there a reason for that?

4) Line 100ff. The reasons how you select the studies and indices is definitely not clear to me

5) For the figures like Fig.5, there should be a short explanation in the text of what this type of displaying represents and how to interpret such figures. Also, what do the squares in the bottom left corner of each figure stand for?

6) There are some error messages in the text for missing references. Lines 241 and 278

7) Lines around 250, I was expecting the total study more in this way like it is done for the SPI