

## ***Interactive comment on “A pan-African high-resolution drought index dataset” by Jian Peng et al.***

**Anonymous Referee #1**

Received and published: 22 October 2019

Earth Science Data

Manuscript doi: <https://doi.org/10.5194/essd-2019-138>

Title: A pan-African high-resolution drought index dataset

Dear editor

Thank you very much indeed for inviting me to review this paper. Having access to high-resolution drought dataset, especially in data-scarce region, is important for drought monitoring and management at watershed/ districts levels. I can be witness that the paper “A pan-African high-resolution drought index dataset” could produce a valid significance for the African continent particularly in the drought vulnerable areas. This dataset is timely, and the paper is fully readable and has a good basis. When authors

C1

address the following comments and suggestions, I recommend acceptance.

Comments Line 35; I couldn't get the access to the dataset. Line 38-39; delete the keywords written in the title (i.e., high-resolution, drought index) Line 78-79; insert “and/or” between “runoff, groundwater deficiency” Line 80; references should be ordered in terms of publication year and authors alphabet. And do the same for the rest in the manuscript Line 90; curiosity on using words/phrases “no best drought index”, as multiscalar and multivariate drought indices are better than the single ones Line 93; change ‘not enough’ by ‘inadequate’ Line 113, curiosity on using words/phrases “too course”. Line 121, Explain how the SPEI-HR dataset will be usefully to minimize the impact of water and food security and support to policymakers and the social sectors. Line 127, How can we sure that SPEI-HR can provide near-real time drought monitoring? Line 128; I have no problem with the name but I wonder why authors used Pan-Africa to represent the African continent. Does it actually represent the whole continent? Line 129; and any plan to provide data continuously in the future. Line 147; I am interested to know if your or any other studies are undertaken in Africa, using CHIRPS for drought assessment. Better if you explain why you chose this dataset for Africa. This is helpful if you refer to studies done in Africa. And the same for the potential evaporation Line 168, 179 and 188; explain why you have chosen these datasets in the context of Africa. Line 200-201, make sure ‘The negative and positive SPEI values 201 respectively indicate dry and wet conditions’ is correct. Line 204-205; how did you mask out and how did you manage it in your dataset Line 210, insert ‘full stop (.)’ after ‘Vicente-Serrano et al., 2013’ Line 296, why the correlations have become low, any possible reasons Line 313, What value does the y-axis represent in figure 4 and 5 Finally, it will be very helpful if you include discussions on how the SPEI-HR is correlated with each of the drought types (meteorological, agricultural and hydrological). This can be useful to plan for short and long-term drought events mitigation based on the datasets provided.

---

Interactive comment on Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2019-138>, 2019.

C2