

Dear Lukas Gudmundsson, Hong Do,

First, I would like to thank you for the evaluation of our manuscript, and the constructive comments to help improving it. I modified the text to take into account your recommendations. Please find below some more details.

Best regards,
Yves Trambly

Dear Yves Trambly,

Many thanks for submitting the revised version of the manuscript presenting the The African Database of Hydrometric Indices (ADHI). One referee has now seen the revised manuscript, who only suggests minor updates. In particular, I suggest considering the suggestion to re-format the lists in section 3.2 and 4 to Tables, since this would significantly increase the readability of your work. Once these and all other referee comments have been addressed, I am happy to consider your contribution for publication in ESSD.

**Best regards,
Lukas Gudmundsson**

Indeed, it make more sense to modify the sections 3.2 and 4 to tables, this has been changed.

The authors have extended the ADHI substantially in this revision, and I believe this data product (and any future updates) will be highly appreciated by the global community. I don't see any major issues and am recommending this manuscript for publication in ESSD.

Thanks for the positive feedbacks on the modifications.

The paper still needs substantial editorial changes, which will perhaps be addressed during the production. However, I have some minor suggestions that the authors might consider in the paper's final form:

- Line 90: specify that the stations cover most "climatic regions".

Added

- Line 124: any reference/number describing the decline of the Africa river network?

It is mentioned in Roudier et al. 2014 for West Africa, already cited in the sentence. A reference over all Africa is missing, while this information could be found in several technical reports. This is why we added the Figure 2 showing this decline.

- Line 141: these two sentences sound fragmented. Perhaps a transitioning sentence would help: "...time series of discharge data. To address these challenges, the focus has been shifted to publishing hydrological indices and signatures, which are useful to..."

We added this transitional sentence

- Line 152: "a minimum of useful information" - the ADHI deserves more than this humble description.

We removed "a minimum of"

- Line 170: please clarify whether the "10 full years" are consecutive.

We added "not necessarily consecutive"

- Lines 259-278: it is unclear what the outcome of the catchment quality control procedure was. For instance, how did the authors treat 37 stations with incorrect catchment areas reported in the metadata? Perhaps the authors would want to have some sort of a coding system to indicate catchment quality (if that has been implemented – please report in the manuscript). This information will be welcomed by prospective users.

Indeed, the sentence "For 37 stations in the SIEREM database, the catchment areas were not correct in the metadata, by comparing the delineated catchments." is misleading and not correct. We did not correct the metadata with computed catchment boundaries but comparing with old technical reports of our institute. So we removed this sentence.

- Line 323: the distinction between indices and signatures might not be clear to many users – some definitions would help here.

You are right. We added the following sentence: "While hydrological indices refer to standard statistical metrics, such as the mean, maximum, or percentiles computed from the time series of discharge data, hydrological signatures are metrics describing the hydrological behavior and the dominant processes in a river basin. (Addor et al., 2018). "

- Section 3: I feel that (i) "Available streamflow signatures and indices derived from daily discharge" might provide more information;

We modified the section title accordingly.

(ii) sub-sections 3.1 and 3.2 could be merged into a single sub-heading "Streamflow Signature";

We did not merge the two sections, since section 3.3 does not describe streamflow signatures but the annual and monthly time series provided.

(iii) the 25 signatures calculated could be presented in a table form and grouped into different "purposes" if possible.

Yes, we removed the list and added a table instead. Thanks for this suggestion; the presentation of the indices is indeed better in a table.

- Section 4: Perhaps this is an editorial decision but the current section reads quite strange (basically two long lists). I am not sure what would be the standard to present the

attributes that have been published through ADHI, but reformatting these two lists into two tables, each of the attributes could be assigned into a specific category, each table is associated with some description might help this section reads more attractive.

We agree, we replaced the list with a table.