

Interactive comment on “The CH-IRP data set: a decade of fortnightly data of $\delta^2\text{H}$ and $\delta^{18}\text{O}$ in streamflow and precipitation in Switzerland” by Maria Staudinger et al.

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We thank the reviewer for the valuable comments and include our response below each comment in italic.

The presented data collection is a unique and valuable contribution for the hydrology community. The accompanying text is comprehensible.

Thank you for this positive comment.

However, there are essential information missing (rainfall and streamflow data, basin boundaries) to make it a complete data collection that is usable for the community.

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It should be in the interest of the authors to provide a complete collection, as it will increase the impact of the published data and reduce misinterpretation.

Yes, we agree that precipitation and streamflow data as well as catchment boundaries might be needed to make our data easy to use for other studies, as we also wrote in the manuscript. Where these other data are available from the respective agencies, we will add these data to the revised version of our data paper (see our response to the comment below).

Rainfall data – to make the dataset comprehensive you need to supply the rainfall amounts (e.g. as basin weighted averages), the link provided to Referee 1 is not sufficient at all, it only leads to a german webpage (not available in english). Even if anyone would be able to go through the registration process it is not at all clear which weather stations are required to obtain data for the specific basins. I guess not each of your basins has a weather station? And the names of corresponding weather stations might not be the names of the basins. I understand that certain institutions will not allow the publication of raw data, but I am convinced that MeteoSwiss will allow publication of the data (especially when providing processed basin weighted averages) as part of a scientific publication (see section “how data may be used” <https://gate.meteoswiss.ch/idaweb/more.do?language=en>)

Motivated by the request of the reviewer(s), we contacted the respective agencies again and inquired whether we would be allowed to publish the data together with our data set. For the basin weighted average precipitation and we got the OK from MeteoSwiss to do so. We will add these data and the source (“Rhires” gridded data product) to the data set and describe the the basin weighted average precipitation in the manuscript.

Streamflow data – Streamflow timeseries are essential for multiple applications, and I would highly recommend to add them to the data collection. In any case, the information that is currently provided is not sufficient. It is not clear where one can obtain

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the streamflow timeseries. In line 207 you mention Swiss FOEN as a data source (for streamflow and basin boundaries), however the stations ROE, ERL, VOG, LUE, AAM are not existing in the public dataset (<https://www.hydrodaten.admin.ch/en/stationsand-data.html>). GUE has a different FOEN ID and coordinates. You need to at least provide detailed information where one can get the data for all basins, but as outlined above I think providing streamflow timeseries would be a valuable addition to the present data collection.

Thank you for carefully checking the stations. We did indeed miss to provide the reference to the Alptal stations (ERL, VOG, LUE) that are maintained by the WSL (Swiss Federal Institute for Forest, Snow and Landscape Research) as well as for the Cantonal stations of ROE and AAM and we will add this information. In Table1, column FOENID there are simply blanks indicating that the stations are not maintained by the Federal Office. We will change that to make clear from where the respective data come. We asked again at the Cantons as well as at the FOEN and the WSL whether we could provide the streamflow time series. Not all gave us the allowance, and we will - for consistency and completeness - within the data set not add the streamflow data to our data set. We will, however, clearly indicate from where the streamflow data of each station can be obtained.

Basin boundaries – It would be great if you could provide basin boundaries for all basins, as for most applications these are needed to clip other data sources. E.g. without providing rainfall data, missing basin boundaries are another obstacle for interested users. It's clear that you have them available and I do not see a reason why you should not provide them.

We agree. We have this info as shapefiles and after confirmation of the FOEN we will be allowed to add these shapefiles to our data set (referring to the FOEN as data source).

Minor Comments:

Line 80 - replace “stemming from” with sth like “collected in”

We will replace that.

Line 141 – In my understanding, the flow percentile that you describe is 0.05, terms are mixed up, I guess you mean the exceedance probability of 0.95 or the percentile of 0.05

Yes, we intended to refer to the exceedance probability. We will change the text accordingly.

Figure 1: increase size of scale and basin IDs

OK.

Figure 8: there is a 1 on top of January

We will remove that, thanks for spotting the mistake.

Interactive comment on Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2020-27>, 2020.

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