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Interactive comment on "The CH-IRP data set: a decade of fortnightly data of δ^2H and δ^{18}O in streamflow and precipitation in Switzerland" *by* Maria Staudinger et al.

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Received and published: 25 August 2020

We thank the reviewer for the useful comments and include our response to each of the points in italic.

Major comments: The isotopic compositions of stream water in 23 catchments are indeed interesting to the hydrologists. I also understand the hard work for such collection. *Thank you!*

However, the main concern for me about this work is that it lacks measured isotopes data of precipitation. Although the authors gave the interpolation values for each catch-

ment, I would love to see measurements of these values.
We also wished we had been able to collect precipitation isotope samples but unfortunately this was not feasible given the available funding. However, we provide the modelled precipitation isotope composition to support other applications.

Moreover, the data set did not provide precipitation amount data. As the author mentioned, the data set is useful to estimate mean transit time (MTT) or run catchment hydrological models. However, the precipitation isotopic ratios and amount are the most important inputs for the models. MTT was calculated by modeling the relationship between precipitation as an input and hydrological components as outputs. Consequently, it can not calculate MTT accurately if there is no accurate input information. From my point, the data set did not support the usefulness which mentioned in the introduction.
Unfortunately, for legal reasons we are not allowed to supply the precipitation amounts, as asked for by the reviewer, but these data are freely available from the Swiss Federal Office of Meteorology and Climatology (MeteoSwiss) on request (https://www.meteoswiss.admin.ch/home/services-and-publications/beratung-und-service/datenportal-fuer-lehre-und-forschung.html) and with these the MTTs can be calculated.

Minor comments: L40 od should be of
We will change that.

L159 Average elevation gradients for each month were calculated. Why the average elevation gradients for each month were calculated? I did not understand this sentence.
We have to clarify that, the gradients are lapse rates that change through the year. The elevation gradients remain the same of course.

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