

Earth Syst. Sci. Data Discuss., referee comment RC3  
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## Comment on **essd-2021-294**

Anonymous Referee #3

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Referee comment on "A new local meteoric water line for Inuvik (NT, Canada)" by Michael Fritz et al., Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2021-294-RC3>, 2021

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This data description paper by Fritz and co-authors presents a very useful data set which covers a data gap in high latitude precipitation at Inuvik over recent periods. Having isotopic data from high latitude stations is always a difficult task but of paramount importance when we look at past and recent climate changes in the Arctic. The paper accompanying the data is well written and well structured.

I have only few minor comments/questions regarding the quite negative deuterium excess values, the sampling procedure, and the way the mean monthly values are calculated. I would like the authors to comments on these points.

- Negative d excess values: I noticed in the data sets that quite negative values are present, mostly (BUT not only ...) centred during summer months. Can you exclude evaporation effects? Are those samples properly preserved/collected?
- Regarding the sampling procedure: how did you perform the snow sampling? Usually collecting snow, it is not an easy task, particularly using the "normal rain" collectors. It was not clear in the text.
- How did you calculate the mean monthly values? Is this an arithmetical mean or you averaged out the values considering the precipitation amount? This is quite important since you then use the monthly data for the LMWL.
- Adding the precipitation amounts, if available, could be an interesting information, although I can understand that this request could be not satisfied.

May you add in Table 3 the elevation of the different stations?