

## General comments

The preprint is exceptionally well written. Very good English and concise wording. The whole preprint reflects that the authors have thorough knowledge of the given field of science. Plus, I could not identify any mistakes or faults in the referencing, which is rare.

## Specific comments/questions

The authors goal is to provide an up-to-date and more robust dataset for calculating the local meteoric water line (LMWL) at Inuvik, Canada. To accomplish this goal, they collected event based precipitation samples from August 2015 to August 2018. The samples were stored in LDPE (low-density polyethylene) bottles at 4 °C. At this point I have a concern: the authors don't mention how long samples were stored before analysis. Samples were stored in Canada and the analyses were made in Germany, far away from each other, so it is reasonable to suppose that the samples were stored for several months. The International Atomic Energy Agency recommends HDPE (high-density polyethylene) bottles for storing water samples for several months, because LDPE bottles are not reliable. This is a very important question to make sure that the stored water samples have not suffered evaporation effect, because there is a small difference between the old and the new dataset and the most significant difference is in the d-excess. The average d-excess of the new dataset is significantly lower (5.7‰) than that of the old dataset (14.9‰). This difference can be caused by a) evaporation during sample storage, or b) climate change. Therefore, it is of paramount importance to check the reliability of sample storage.

I recommend authors to discuss this question in details. If they cannot rule out the possibility of the evaporation effect during the sample storage, then their results are very ambiguous. If they can, then the manuscript is practically ready for publication. I recommend to check the sample storage related to the old dataset as well.

## Mostly technical corrections

Abbreviations (WMO in L65; AWI in Caption of Fig. 1; ARI in L81) should be defined at the first instance.

L88: The d value is -17.8‰, and not 17.8‰. Anyway, this very negative d value indicates evaporation effect, which could take place during the sample storage.

L161-162: "The wide ranges over about 15‰ in  $\delta^{18}\text{O}$  and about 124‰ in  $\delta^2\text{H}$  of monthly means of the new Inuvik data set enable a rather well-defined LMWL." The wide ranges in  $\delta^{18}\text{O}$  and  $\delta^2\text{H}$  values are also characteristic for the old dataset as well.

Anyway, in L138 "dataset" is written, while in other places "data set" (e.g. in L100). The same form should be used all over the paper.