

## ***Interactive comment on “Long-term weather, hydrometric, and water chemistry datasets in high-temporal resolution at the La Salle River watershed in Manitoba, Canada” by Marcos R. C. Cordeiro et al.***

**K. Rasouli (Referee)**

kabir.rasouli@usask.ca

Received and published: 14 August 2017

General comments:

This manuscript presents hourly meteorology, daily streamflow, and weekly water quality data for a watershed in Manitoba, Canada. This is a useful dataset contribution, providing a valuable set of observations, which can be very useful for high resolution hydrological modelling in cold regions. The manuscript is well-organized and could be improved by providing more validation datasets and a better representation of sea-

C1

sonal and monthly variability. I recommend publication in Earth System Science Data as a regular article in the data section after a moderate revision. Below are some specific comments and suggestions for improving this manuscript:

1. I would recommend authors to add wind direction, ground/soil temperature (if available), and soil moisture data and also data for model validation including snow water equivalent, snow depth, and groundwater elevation, which are important for a comprehensive modelling study of water budget.
2. Tables 1-3 need to be reorganized or merged into one summary table. A table that summarizes variables name, current sensors, location, sensor height, mean water year value, data interval, and period of record will be very useful for data users.
3. A wind rose, which shows the prevailing wind direction in addition to wind speed can be quite useful for snow redistribution and sublimation processes.
4. Trends (smoothed curves) shown in the figures are redundant as they are not statistically significant. I suggest removing all the insignificant trends from the figures.
5. Figure 2: For comparison purpose, subplots b, c, and d can be plotted in one plot to assess the interannual variability of temperature ranges. Smoothed curve in this figure has never been explained in the text. Also, it is not clear what LOESS stands for.
6. Figure 6 is not informative, I suggest adding either monthly precipitation similar to Figure 5 or annual and seasonal box-plots similar to Figure 4. It is not clear how smoothed curve in Fig 6c has been obtained.
7. It is hard to follow the source of water yield in Figure 7d as in some years there is no annual water yield. I suggest showing it in a stacked bar plot that can show both water yield from snowmelt and on top of that water yield from the rainfall.

Editorial comments:

The text needs a proof-reading for grammar corrections (e.g., check grammar in lines

C2

14, 19, 52, 60, 80, 160 and 182 ("Similar to" not "Similarly to"), 162 (concentrated), . . .

Change "Basin" to "basin" all over the text (e.g., line 47 and 61), except for the cases you have a name before "Basin".

The word "data" is plural. Check the text to change single verbs after "data" to represent this appropriately; e.g., line 69. 124, 136, 237, 238, 286, . . .

Line 115: remove comma before physically-based and add "and".

Abstract and Line 119-121: For consistency authors need to report annual and seasonal temperatures only for the study area and not for both study area and Prairie Ecozone and explain the discrepancy between values reported in the previous reports and values presented in this manuscript.

Line 186: replace "parameter" with "variable".

Line 203-204: replace "from a research station located at The Point" with "from the Point research station"

Line 206: replace "from the station at The Point" with "from the Point station"

Line 214: modify as to read: "as precipitation data were recorded daily.."

Line 215: modify to read as "Once gaps were filled, daily data were disaggregated into hourly data."

Line 230: add reference after "annealing-simplex method".

Avoid incomplete sentences such as once completed (line 215) and once estimated (line 231).

Line 252: replace "periods of elevated flow" with "highflow events"

Line 259: rewrite the sentence.

Line 267: what does "AAFC" stand for?

C3

Line 334: replace "trends for" with "ranges in"

Line 337: rewrite the sentence.

Line 357: rewrite the following sentence: "An odd peak discharge occurred in July, ..."

Line 439 in the conclusions: Shouldn't it be "daily precipitation data need to be disaggregated into hourly...?"

---

Interactive comment on Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2017-57>, 2017.

C4