

Earth Syst. Sci. Data Discuss., referee comment RC2
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RC2

Anonymous Referee #2

Referee comment on "High-resolution streamflow and weather data (2013–2019) for seven small coastal watersheds in the northeast Pacific coastal temperate rainforest, Canada" by Maartje C. Korver et al., Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2021-423-RC2>, 2022

The pre-print introduces a unique data set from the Pacific coast, Canada. The text is well-written and understandable and the structure of the paper is – in general – OK for me. However, from my perspective the paper is too long and some extensive data analyses could be transferred to a supplement / or appendix. Also, some Tables and figures can be merged showing actually the same information two or more times. I recommend publication after some minor-to-moderate revisions.

Comments

- Title: Daily data? Hourly data? What exactly are weather conditions? Suggestion: Hourly streamflow and weather data (2013-2019) for seven headwaters in Northeast Pacific coastal temperate rainforest, Canada
- Structure of the abstract: The two sentences "Measuring rainfall and streamflow [...] varied by gauging location" (L19-22) are methods, move them up before giving results in the abstract. Please give the URL to dataset in the abstract. Is the last sentence in the abstract really needed?
- Title suggests "BC in Canada", abstract refers to NPCTR, could you make this consistent?
- L63-65: Is this method linked to the sentence before? If so, please connect both sentences in a better way. Instead of claiming the new method (again and again) it would be nice to get some insights in the concept of the method (not detailed, but what is the clue here?).
- L49: How can those rather short data series be used in the context of climate change?
- 1: Inset should be highlighted with a rectangle. I guess Fig.1 and Table 1 should be moved in Chapter 2.

- L102-123: That information is given in Table 1. I suggest so remove or to shorten this section or to focus here more on the differences or specific features of the catchments.
- L159: One station is twice as high as the other stations – has this effect be analyzed?
- Table A2: ROC and constant value columns are in hours? Column names should be more precise here.
- L230: Data is collected on high temporal resolution. Why is now 5, 10 or 15-minutes series available? Wouldn't such a high-resolution data set be interesting considering the rather short length of the time series (i.e. few years).
- If streamflow rating curves are updated every year how is ensured that the derived streamflow flux is comparable across the years? (L243, L494ff)
- L245: Expert correction or automatic routine to correct data?
- L 292: Why is the series now 2015 to 2019? Is 3246 mm the average annual precipitation across all catchments? Why not mm/a?
- 3: The figure suggests a relationship between station precipitation and distance to reference station. Although there is a relationship, I do not understand the purpose of this figure. I guess the purpose is to show the spatial difference in precipitation. Is the relationship even stronger if you replace distance with other attributes of the stations and the reference station (e.g., elevation)? So, Fig 3. and 4 can be merged.
- 5 It might be hard for people with color-vision deficiencies (CVD) to distinguish the 6-7 colours in this Fig. There is a typo in y-label for Air temperature. Perhaps you can arrange these 4 panels in one row and use a wide additional Figure in a second row to show Q and P over the six years (monthly or daily or cumulative for each year). Or even Fig. 7. is enough?
- 6.: Better use a continuous color map and break this into bins. The classes Red and green (also hard to distinguish with CVD) are not there or? Might be helpful to have bins with equal N.
- Table 3: For me it is not 100% clear what is meant by runoff, discharge and streamflow (here and in other parts of the paper). Please clarify the use and meaning of these variables. What is the difference between total runoff and total streamflow in the data?
- 8. could be removed or moved to appendix.
- Is the data set useable for other comparable landscapes or is the specific situation on the island(s) too specific to extrapolate potential findings to other regions? The added value of the specific location to measure such a data set should be emphasized more.
- I recommend to transfer some parts of the draft to a supplement (if possible) to reduce the length of the paper. Also, some detailed (and very interesting) discussion on uncertainty and variation across years or locations could be transferred to such a document. From my point of view the data paper is too long and has to be narrowed down to be more readable.

Technical comments:

- L62: rephrase "heavy" and/or make it more precises.
- L63: "are near impossible" – why?
- L 140: what is combination solar and micro-hydro?
- Table 2: Please clarify, SS streamflow station, WS weather station? Might be better to sort along those two categories.
- L226: ROC can be confused, may be using 'delta'?
- L295: intense windstorms and convert to km/h?
- Table 3: 3h moving averages

