

# ***Interactive comment on “Hydrometeorological data from Marmot Creek Research Basin, Canadian Rockies” by Xing Fang et al.***

## **Anonymous Referee #1**

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### OVERVIEW

This paper presents an impressive compilation of data from the Marmot Creek Research Basin (MCRB) from two separate periods, the first being 1962 to 1986, and the second from 2005 onward. The research site has been subject to numerous studies, a review of which is provided in the introduction, which is both interesting to read and potentially helpful for authors of future studies. The data description is detailed, Table 2 provides a nice example of meta data available for the more recent instrumentation. The portal that hosts the datasets is straight forward to use, and files are easily downloaded after two, three mouse clicks.

Overall, a nice and thorough presentation. I see one important shortcoming. But all other comments and suggestions are either minor and/or a matter of taste.

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## MAJOR COMMENT

If this data is disseminated to allow users "developing hydrological process understanding, evaluating process algorithms and hydrological, cryospheric or atmospheric models", then we need more information about the catchment itself. While a DEM might be easily available to most potential users of this data, how are they supposed to inform their models, e.g., about canopy processes? The data compilation seems incomplete without detailed information about variables such as LAI and canopy closure, in particular given that MCRB was subject to forest management experiments. There is also no information whether the clearings are maintained to remain open or if they are overgrown by now.

Further, "Snow survey data [were] collected from transects near the recent meteorological stations". Given the images in Figure 3 c-f, these data could be collected inside the clearing, in the forest, or across the forest edge. But without having more detailed information it is difficult to use the snow course data for model validation purposes.

I am sure these information are available in one or several of the publications cited in the manuscript (maybe Hopkinson?). But as a user I don't want to read them all before eventually finding what I need. Similar consideration go with soil data.

I guess this shortcoming is easy to fix, but I would ask the authors to reassess their manuscript from the perspective of a modeler who is unfamiliar with the site and does not know how to access auxiliary data needed to set up a meaningful model application.

MINOR COMMENTS AND SUGGESTIONS, reference is given to [page / line number]

[2 / 4-7] split this sentence into two.

[2 / 11] refer to Figure 1.

[3/12-14] please move this sentence to the above section with the literature review. This paragraph here should describe the content of this paper only.

[4/23] it might be useful to mention what percentage of the data had to be removed (which seems a fairly basic descriptor of a dataset).

[4/27] modelers use different time steps for their models. So I would not necessarily call hourly data "modelling data".

[5/1] are these gap-filled data identifiable? If so by what means?

[5/9] apart from gap filling, I am not sure "estimated data" should be included in this data assembly.

[5/19] ventilated? radiation shield?

[6/9] what is "due to the length of measurement" supposed to mean?

[7/16] I would go by the same order as the previous section. Recent data first, historical then. Or the other way around, but be consistent.

[8/4] and [8/20] some info on the discharge measurements should be added. Is there a maximum capacity of the V-notch? Until what flow level is the streamflow data safe to use, the rating curve established, respectively? Was the stationarity of the rating curve monitored? Looking at Figure 3, more info is certainly needed.

[8/23] replace "after 2012" by "in June 2013".

[10/8] consider merging sections 9 and 10.

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Interactive comment on Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2018-117>, 2018.

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