

Interactive comment on “Diagnosis of future changes in hydrology for a Canadian Rocky Mountain headwater basin” by Xing Fang and John W. Pomeroy

Anonymous Referee #2

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I do mostly agree with referee #1. The paper is a very valuable contribution to the understanding of climate change effects on the hydrology of small high mountain catchments. Its strength are the modelling tools that were used to provide a physically and process based analysis, and the clear and well-structured text of the paper. Very well done. Likewise, I am no native speaker, but there is an issue with the use of articles all through the text. See my supplement. I would also suggest to always add "ecozone" after its name. Other things that would improve the overall value of the paper:

- a brief explanation of how the ecozones were derived
- some more words about the generation of the PGW simulation (particularly extending

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"The climate perturbation was derived from 19-model ensemble mean change from the fifth phase of the Coupled Model Intercomparison Project (CMIP5; Taylor et al., 2012) under a "business as usual" forcing scenario: representative concentration pathway 8.5 (RCP8.5; van Vuuren et al., 2011)."

- a map of the HRUs

Everything else: see supplementary comments.

Congratulations, a very nice paper, very interesting, and fun to read. Good work!

Please also note the supplement to this comment:

<https://www.hydrol-earth-syst-sci-discuss.net/hess-2019-640/hess-2019-640-RC2-supplement.pdf>

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2019-640>, 2020.

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