Manuscript Title: Quantifying Spatiotemporal and Elevational Precipitation Gauge Network Uncertainty in the Canadian Rockies

General review: Bertoncini and Pomeroy quantify uncertainty in precipitation estimates using a network of in-situ precipitation gauges in the triple continental divide area of the Canadian Rockies, a region where precipitation can vary immensely across elevation bands and differently, depending on storm systems. Using the WMO guidelines for station density in mountainous areas, the authors transform and back-transform precipitation data (for normalized distribution), quantify a cumulative distribution function, and use a kriging and lapse rate approach to calculate and track precipitation standard deviation and coefficient of variation across space and time. In this way, the authors are able to determine areas where precipitation estimates are more and less uncertain and the areas where added in-situ observations would be most valuable in the future (e.g., relatively higher elevations). Much of the analysis, and thus manuscript text, includes a very clear description of the methodology used. I include no major changes to the workflow and thank the authors for their thorough depiction of the work in text and figures and for making the important and relevant connection to downstream hydrology. Limitations to the work, including the select reanalysis product, could be further discussed. As could a connection to other spatially distributed precipitation products. Otherwise, the small number of minor suggested changes I have made are with respect to clarifying language around some of the statistics (e.g., when uncertainty "rose" vs. "fell") and domain description. The following line-by-line comments should provide more clarity with these items, with the goal of better emphasizing the importance and value of this work, which I envision will serve as a frequent reference for many future projects.

Line-by-line comments

Line 121: Please define the threshold used to determine "continuous lower elevations."

Line 157: Please describe why the ERA5-Land reanalysis product was selected over other similar products.

Line 186-188: Please provide a rationale for implementing this transformation and then later back-transforming with respect to the need for a normalized distribution prior to kriging.

Figure 2: Suggest, within the associated text, interpreting the two panels for readership. I.e., what does a daily precipitation value of 60 mm versus 2 (unitless) mean with respect to CDF? Also please specify where these example data came from.

Line 232: Please specify why the lapse rate relationships (and associated rate caps) in the Marmot Creek Research Basin have been selected here.

Line 280-281: Please list average change values associated with each area when mentioning, "Uncertainty fell in Montana" and "uncertainty rose in the upper Bow River basin", etc. It would also be helpful to read additional details on these areas – similar to the way Mount Robson was listed as the study domain's highest peak.

Like 345: Please define “very significant.”

Line 411-414: Within the previous discussion section, suggest the authors point to identified limitations to the methods and/or provide a clear rationale. The series of steps taken within the methodology is well cited, but could be better defended – e.g., why ordinary and indicator kriging over other methods used in the introduction? The answer may be because these methods are frequently used – not just in past studies but in ongoing snowpack and hydrologic modeling research and operational applications. On that note, it would be impactful if the authors linked this approach to modeled or satellite-based precipitation products, which likely use some of these in-situ observations and cover these domains.