

Title: Lake O'Hara alpine hydrological observatory: Hydrological and meteorological dataset, 2004-2017.

Authors: Jesse He and Masaki Hayashi.

This manuscript introduces a comprehensive new dataset available for an alpine catchment in the Canadian Rockies. This kind of dataset are rare and therefore its relevance for hydrological studies in alpine catchments. In general the paper is well structured and properly written, however, I think there are things that need to be improved before accepted for publication. My main comment is the lack of details provided for the dataset and a more comprehensive examination of them. Data are easily accessible through the provided .csv files. I recommend this manuscript for publication after minor revision. Please find below more detailed comments.

#### General Comments:

A table summarizing the entire dataset, including gaps, recording frequency and available period is needed.

Refer to "temperature" as "Air temperature" throughout the manuscript. This will avoid confusions with water temperature.

I understand this is a "data manuscript" but, nevertheless, I would like to see a little bit more of data analysis. For example, more about inter-annual variability of the fluxes (e.g. precipitation, streamflow, air temperature), is there a year particularly interesting in the dataset that it is worth to look at in more detail, runoff ratios (easy to calculate and very informative) and mean hydrograph.

Provide coordinates for the weather and hydrometric stations (not found in the .csv files).

#### Specific comments:

L39: Do you mean "mean monthly air temperature"?

L78-79: If sensor height has changed this should be noted with the associated height and date, a table could be a good idea.

L94-97: The procedure used to fill precipitation gaps requires more details. For example, how much of the data this had to fill? And when exactly? This kind of details is very important for future hydrological applications. How much did the precipitation changed after wind undercatch correction (percentage)?

Figure 3: include coefficient of determination ( $R^2$ ), the period used to generate this linear equation and you should force the line to pass through (0,0) to avoid negative precipitation events.

L121: For what years exactly water levels are not available?

L145-146: I would expect LiDAR to be much more accurate than any older and lower resolution DEM.

L159: Speculation, remove.

L167: Did you perform a statistical test to investigate runoff change? Your period of analysis is probably too short to do this.

Figure 4: Missing a legend.