

## ***Interactive comment on* “Spatially distributed water-balance and meteorological data from the rain-snow transition, southern Sierra Nevada, California” by Roger Bales et al.**

### **Anonymous Referee #3**

Received and published: 8 July 2018

I reviewed the paper “Spatially distributed water-balance and meteorological data from the rain-snow transition, southern Sierra Nevada, California” by Bales et al. for publication in Earth System Science Data. I found the paper to be well written and the datasets compelling. I have asked for minor revisions to handle several major comments/suggestions below. The paper is a welcomed contribution to help fill the gap in hydrometeorological datasets in gauged mountain catchments.

Major comments: Add some explanation of the 2012-2015 drought and its novelty in terms of observations at the site. I would like to see this added to section 3.

The online dataset was 2 GB, which presented challenges for downloading. I suggest

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Discussion paper



breaking into smaller parts.

Add a bit more detail about the quality control and gap filling techniques. Instead of referencing other papers solely, add enough context for the reader. See page 5, line 25 as an example. There is a lot of subjective choices needed to perform gap filling (e.g. what is the minimum correlation necessary, when were gaps deemed too long to fill, etc.).

Could the authors also create a shapefile or similar spatial dataset, rather than requiring transcribing the UTM coordinates out of the table.

Consider changing section 8 summary to a section about possible applications of the data. Things that come to mind are drought response and streamflow generation under a changing mix of rain and snow.

Minor comments:

Figure 1: Background images would look better as lidar tree heights than orthophotos of different quality

Figure 2: Please add arrows to describe locations (open, drip edge, etc) and the sensor locations (snow depth, temp/rh, etc)

Figure 3b: Is the moisture storage data released? It is not explained how this is calculated

Page 2, line 3: add citation

Page 2, line 6, add citation

Make a note that multiple lidar and hyperspectral datasets have been collected over the site

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Interactive comment on Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2018-69>, 2018.