

***Interactive comment on “Eleven years of mountain weather, snow, soil moisture and stream flow data from the rain-snow transition zone – the Johnston Draw catchment, Reynolds Creek Experimental Watershed and Critical Zone Observatory, USA” by Sarah E. Godsey et al.***

**J. Dozier (Referee)**

dozier@ucsb.edu

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The manuscript makes an excellent case for the possible uniqueness of this dataset.

Page 2, Line 31; and Page 5, Line 18: “near freezing”: I think you mean “near melting.” 0°C is the melting temperature of ice, whereas the freezing temperature of water in the atmosphere can be as low as -40°C.

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Page 6, Lines 13-15: For clear skies, it would be useful to calibrate Prata’s [1996] equation against the longwave data from elsewhere in the RCEW. Generally, we don’t measure precipitable water, instead we (and Prata) infer it from surface vapor pressure. I’m not sure of the elevations of the data that Prata used, but my own experience in comparing the data at CUES (also in this issue of ESSD) is that Prata’s equation systematically over-estimates longwave radiation at the CUES elevation. The form of the equation is fine, but the coefficients should be adjusted where nearby data are available.

Page 6, Lines 25-31: Can you expand the text here slightly to explain how the various estimates and corrections work? In the current form, I have to read Marks et al. [1999, 2013], Hanson et al. [2004], Hamon [1973], and WMO [2008] to have even the faintest idea of what’s involved. I’d be happy to go to the original references for the details, but a few clauses here would help. You provide a goo example, on the next page (Page 7, Lines 19-21). I don’t have to read Ryan et al. [2008] to get a basic understanding of how the data are filtered.

Page 8, Line 4: Jeff Deems wants us to use “lidar” instead of “LiDAR.” Although I don’t have a strong opinion, I do point out to students that we use “radar” not “RaDAR.”

Page 9, Line 8: I’ve examined the website <https://doi.org/10.15482/usda.adc/1402076>. In the polygonal definition of the coverage, it’s not necessary to express latitude and longitude to 11 decimal places, about 1 μm on Earth’s surface. On a positive note, the descriptions of the data are complete enough to unambiguously convert the CSV files to software for analysis.

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