

Author's response to Editor's Decision (Sept 8, 2017)

Editor Decision: Publish subject to technical corrections (08 Sep 2017) by Mareile Wolff

Comments to the Author:

Dear Craig, Garth, Lauren and Randy,

thank you for your respond to the reviewers comments and presenting the suggested changes in your manuscript. I think you have addressed the reviewers' concerns in an appropriate manner and the revised version of the manuscript has significantly improved.

In particular the additions to the discussion chapter resulted in a thorough review of the comparison results and the possibility to measure precipitation with a geolysimeter, also addressing possible limitations of the measurement and processing techniques. The named inaccuracies were corrected, thus improving the clarity of the content.

I'm glad to recommend acceptance of the revised manuscript (based on the version provided on the online discussion forum), only subject to a few technical corrections:

Thank You

Page 2, line 20-24: Please rephrase the Yang(2014) citation a little as it may be confusing, presenting two very different deviations for windspeeds up to 7 m/s. I understand from Yang (2014), that deviation can be 20-50% percent between bush and DFIR in individual cases for the 6-7 m/s wind speed bin. Yang (2014) derives new adjustment functions based on the presented dataset. Those adjustment functions result in a (much lower) deviation between 4 and 10% for the entire wind speed range between 0 and 7 m/s.

I updated this sentence to read more clearly. The text now reads "A more recent long term (1991-2010) intercomparison between the DFIR and Valdai bush gauge by Yang (2014) documented that the Valdai bush gauge can measure up to 20-50% more snow over a 12 hour period than the DFIR for wind speeds of 6-7 m s⁻¹ with the DFIR showing an average undercatch of 3-6% over the entire range of wind speeds." Thank you for finding this discrepancy.

Page 9, line 5-10: Please consider adding the relative humidity value for the period prior to the event to support the added statement that the decline is likely indicative of evapotranspiration.

The humidity range prior to the event varied from 64 to 92% (averaging 75%) supporting the potential for evapotranspiration. I included this in the text.

Figure 1: Please add a) and b) to the figure as you are referring explicitly to figure 1b) and 1 a) in the text

Actually, this was an artifact from a previous version where we had two figures. Rather than changing the figure, I updated the text to refer to Fig. 1 and Fig 1 inset.

Thank you for your choosing HESS for publishing this research.

Mareile Wolff
special issue editor