

## ***Interactive comment on “Evapotranspiration at four sites representing land-use and height gradient in the Eastern Ore Mountains (Germany)” by Uta Moderow et al.***

### **Anonymous Referee #2**

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The present manuscript title implies a comparison of ET depending on land-use types and elevation differences. Instead, it is more focusing on different ET estimates (which are not completely independent) for different land-use types. The work is based on long-term data sets that would allow intensive analysis with comprehensive statistics. Hypothesis with respect to e.g. evaporation from intercepted water can unfortunately not be supported by data. The authors mainly confirm the insufficiency of ET derived from the energy balance residual on different time-scales and for different land-use types. English language should be checked especially tempi (e.g. ‘analysis was done’ (past), but ‘variance explains’ (present tense)), singular and plural, usage of prepositions but also many other issues. The paper should be thoroughly re-written, analysis

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should concentrate more on the land use differences instead of intra and inter-annual differences of the different ET estimates.

Specific comments (without language suggestions):

- LE derived from eddy covariance should be mentioned in the abstract
- Differences between sites should be roughly mentioned in the abstract in case title / focus stays on land-use and elevation
- Uncertainty of EC-data has to be quantified
- Check and reduce repetitions
- Order of paragraphs in chapter 3 should be changed: 1) Eddy-Covariance 2) Heat storage 3) Gap filling 4) Evapotranspiration estimates
- Gap filling data from different year with same crop: what about met conditions?
- Discussion of the results should be more precise instead of using ‘was larger’, ‘closely related’
- Reduce chapter 4.2 (annual scale), instead focus more on seasonal scale, land-use and elevation
- Page 1, Line 23: ‘latent heat of vaporization’
- Page 2, Line 56: do you intend to say that a low mountain range is better suited for such a study?
- Page 3, Line 71: ‘complete years’ or ‘years with complete data sets’?, similar instrumentation for EC measurements?
- Table 1: ‘wind components’ instead of simply ‘wind’, ‘H<sub>2</sub>O concentration’ instead of ‘Humidity’
- Page 10, Line 248: cite Wutzler et al, BGS, 2018

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-Table 3: a bit overwhelming, the ranges as well as extremes of the EBRs could simply be mentioned in the text

-Fig. 7: unclear whether day-time half-hourly values or daily means/sums were used

-Figs. 9 + 10 might be omitted, instead concentrate on land-use/elevation differences

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