

Interactive comment on “Temporal and spatial scale and positional effects on rain erosivity derived from contiguous rain data” by F. K. Fischer et al.

F. K. Fischer et al.

auerswald@wzw.tum.de

Received and published: 7 November 2018

We thank Ref. #2 for his efforts in reviewing our manuscript.

We fully agree with this comment that radar technology does not perfectly resolve precipitation on small temporal and spatial scales. Nevertheless it is important to close the gap between the point data at rain gauges and the spatial scale provided by radar (or the even larger scale by satellite data; see Vrieling et al., 2010, 2014). This is why we used a high-density rain gauge field to include smaller scales.

For the application neither the point scale nor the radar or satellite scale is usually

C1

of interest but this may be plots, fields, or catchments. This means that a user has to decide which data are closest to his scale of interest and he has to close the gap between both scales. Our analysis will guide this decision and provide relations to close the gap. Also the importance of the positional effect strongly depends on the research question and the study area. Importance increases the shorter the time span under focus becomes and the more convective rains prevail in the study area.

Vrieling, A., Sterk, G., de Jong, S.M.: Satellite-based estimation of rainfall erosivity for Africa. *J. Hydrol.*, 395, 235-241, 2010.

Vrieling, A., Hoedjes, J.C.B., van der Velde, M.: Towards large-scale monitoring of soil erosion in Africa: Accounting for the dynamics of rainfall erosivity. *Global Planetary Change*, 115, 33-43, 2014.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2018-305>, 2018.

C2