Natural Hazards
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Corrigendum to
"Brief communication: On the extremeness of the July 2021 precipitation event in western Germany" published in Nat. Hazards Earth Syst. Sci., 23, 1227–1232, 2023

Katharina Lengfeld[1], **Paul Voit**[2], **Frank Kaspar**[1], **and Maik Heistermann**[2]

[1]Department of Hydrometeorology, Deutscher Wetterdienst (DWD), Offenbach, Germany
[2]Institute of Environmental Science and Geography, University of Potsdam, Potsdam, Germany

Correspondence: Katharina Lengfeld (katharina.lengfeld@dwd.de)

Unfortunately an error in Eq. (1) was not noticed during the editorial process. The average of the return periods is not calculated with the area A but with the number of pixels n (Müller and Kaspar, 2014). For pixels of a size of $1\,\mathrm{km}^2$ (e.g. RADOLAN or RADKLIM) n is identical to A. When using other grids with different sizes, it is important to use n.

Therefore Eq. (1) should be as follows:

$$E_{t,A} = \frac{\sum_{i=1}^{n} \ln(T_{t,i})}{n} \cdot \frac{\sqrt{A}}{\sqrt{\pi}}, \tag{1}$$

where $E_{t,A}$ describes the extremeness for a duration t and a spatial extent A and is the product of the mean of the common logarithm of the return periods T for a respective set of n pixels and a weighted measure of the area A (for which Müller and Kaspar, 2014, suggested the radius R of a circle whose area A is equal to the pixel group area).

References

Müller, M. and Kaspar, M.: Event-adjusted evaluation of weather and climate extremes, Nat. Hazards Earth Syst. Sci., 14, 473–483, https://doi.org/10.5194/nhess-14-473-2014, 2014.