

Nat. Hazards Earth Syst. Sci. Discuss., referee comment RC2  
<https://doi.org/10.5194/nhess-2022-96-RC2>, 2022  
© Author(s) 2022. This work is distributed under  
the Creative Commons Attribution 4.0 License.

## **Comment on nhess-2022-96**

Anonymous Referee #2

---

Referee comment on "Meteorological, impact and climate perspectives of the 29 June 2017 heavy precipitation event in the Berlin metropolitan area" by Alberto Caldas-Alvarez et al., Nat. Hazards Earth Syst. Sci. Discuss.,  
<https://doi.org/10.5194/nhess-2022-96-RC2>, 2022

---

### **General Comment**

The paper presents the analysis of a heavy precipitation event affecting the Berlin metropolitan area on 29 June 2017 from different points of view. The analysis is very complete and the paper is well written.

### **Major comment**

I do not have particular comments on the analyses or the results presented, which are very accurate and detailed. On the other hand, I have some comments on the presentation of the results. In my opinion, the most interesting parts of the paper are contained in Sections 3.2 (Lagrangian moisture source analysis), 3.6.1 (Conditional event attribution) and 3.6.2 (Role of Aerosols). Therefore, I would give more space to these parts, that, in the present version of the paper, have a marginal role. Contrarily, I would shorten the other Sections, which basically contain a description of the event. For example, I would include Section 3.3 (Observed lightning activity and accumulated precipitation) and 3.5 (Probability of exceedance and severity) in a new Section 3.1, which would contain the complete description of the event, from the synoptic scale to the impacts at the local scale. This, in my opinion, would improve the readability of the paper. The analyses that go beyond the simple description of the event may be included in subsequent Subsections (or in a new Section 4).

### **Minor and technical comments**

Line 113: lightNings

Line 178: is the resolution of ERA5 25 x 25 km<sup>2</sup> or 31 x 31 km<sup>2</sup>, as stated at line 150?

Line 230: corresponding approximately TO the peak...

Line 480: I do not understand why the 29 June 2017 event is the 29<sup>th</sup> most severe event in the 1951-2021 period.

Line 486: The Ahr flooding in July-2021 (number 7 in Fig. 11). Should be number 9?

Line 488: due to the lack OF observations

Line 563: Rasmund II induced... Rasmund II or Rasmund?

Line 565: triggered several thousand convective cells... is "several thousand" correct?

Line 568: Lightning activity was especially active...repetition

Figure 2: what do the vertical lines in panel b represent?

Figure 12: Is this Figure referring only to the area surrounding Berlin, as written in the caption? If yes, what area? Panel b of Figure 1? Moreover, can you give more information on how data are divided into the two groups?