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Comment

## ***Interactive comment on “Event-adjusted evaluation of weather and climate extremes” by M. Müller and M. Kaspar***

**M. Müller and M. Kaspar**

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Response: We find these sentences of the review as the most important: “I miss a more ‘applied’ view on the results for the test cases including a critical comparison to the alternative methods as well as to the observed severity and damage of the storms. Are the derived WEI values reasonable? What is the added value of this new index?” We have enlarged the discussion (Section 5) according to your comment and hope that it has improved the paper.

Specific Comments:

‘Extremity’ is not the right word in this context. Please use ‘extremeness’ throughout the manuscript instead.

C1846

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Response: We carefully discussed difference between words “extremity” and “extremeness”, among others also with a native speaker (linguist). According to his recommendation, we distinguish between “extremeness of a weather event, of air temperature etc.” and more general “extremity of weather”. Moreover, the paper was edited by two native speakers (American Journal Experts) and they had no problem with the word “extremity”. Therefore, we presume not to accept your comment. Nevertheless, we have replaced “extremity” by “extremeness” at page 4497, line 12 and 13 where it was originally used incorrectly.

Page 4482, Line 7ff: (iii) is difficult to understand, especially regarding the considered area, without having read the paper beforehand. I suggest reformulating this part and adding one more sentence to clarify this point.

Response: Thank you for the comment, the text has been changed – we hope that it is clear now.

Page 4493, Eq. (1): The geometric mean is defined by the  $n$ -th root with  $n$  being the number of grid points. You can't use  $a$ , although it has the same absolute value, because it has the dimension  $\text{km}^2$ .

Response: You are right, of course.

Page 4493, Eq. (2): As a consequence, the ‘ $a$ ’ in the denominator has to be replaced by ‘ $n$ ’.

Response: You are right, of course. We originally confused the symbols because the values are the same (however, units are not).

Page 4493, Line 25: “It follows from Eq. (2). . .” is a bit misleading. Indeed, you use this mathematical theorem to derive Eq. (2) from Eq. (1). I suggest reformulating the sentence.

Response: We have changed the text.

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Page 4494, Line 22ff: Using daily totals for quantifying extreme convective events leads to a significant underestimation of the WEI. Do you have any idea, how to overcome this problem?

Response: Our suggestion is to evaluate also return periods of sub-daily rainfall intensities (the sentence has been added at the end of the paragraph).

Pages 4507 and -8, Fig. 5 and 6: May you explain, why the maximum of the yellow/red curves in Fig. 6 is that much shifted to larger areas compared to the area, where the decrease of the curves in Fig. 5 starts to strengthen?

Response: Maximum of Eta (Fig. 6) fits the inflection point of the curve in Fig. 5. At this point, the decrease in the mean extremeness represented by  $\log(Gta)$  becomes more significant than the increase in the area represented by R. We have added a sentence into the Section 4.3

Technical Corrections:

Response: Thank you for your suggestions regarding English spelling – we have accepted most of them.

Page 4486, Line 25: “one of the methodological issues” - accepted

Page 4487, Line 3: “durations of events” - not accepted

Page 4487, Line 22: “the limits of both the” - accepted

Page 4488, Line 13: “independent of” - accepted

Page 4490, Line 6: This must probably be Fig. 3 instead of Fig. 1. - thank you, it has been corrected (Fig. 2)

Page 4490. Line 21: Leave out the text in brackets. - accepted

Page 4496, Line 6: “or if days” - accepted

Page 4503, Fig. 1: In my printout, the dotted lines (2+3) are not visible. It may improve

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using the dash-dotted linestyle.

Response: We will check it carefully at the end of the editing process (if we succeed :))

Please, see the supplement for the improved text. Thank you once again for helping us to improve our paper!

Miloslav Müller and Marek Kaspar

Please also note the supplement to this comment:

<http://www.nat-hazards-earth-syst-sci-discuss.net/1/C1846/2013/nhessd-1-C1846-2013-supplement.pdf>

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Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 1, 4481, 2013.

## NHESD

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