

**2<sup>nd</sup> Review Report on NHESS-2019-302 entitled “Systematic errors analysis of heavy precipitating events prediction using a 30-year hindcast dataset”**

Compared to the original draft, the authors have made great improvements to the manuscripts. It is way clearer to follow and all necessary results are given to follow the course of this study. With respect to my previous comments, the benefit or added value of this study is clearly stated now as well as the intention of the authors to choose a “coarse” model. Clear statements on how to use the results of this study for future investigations and/or model developments/improvements are given in the conclusions. The authors also worked out in a more profound way, where differences between model and observations may come from and which processes other than considered in this context may also have an influence on the results.

The language usage is also highly improved in the new version of the manuscript.

Nevertheless, I have found some points which definitely have to be clarified or corrected. After revising the manuscript accordingly, I believe it can be accepted for publication.

**General comments:**

- 1) **Figure 5:** I think you included the wrong figure, as there are no red and black dots visible. Please replace the current plot with the correct one!
- 2) Take care on the correct usage of the `\cite` command in latex, e.g. with in the running text or as a given reference. Please see the specific comments below, where to adjust this.
- 3) **Fig. X, Table X, Eq. X,** and also **Sect./Section X** (followed by the referenced number **X**) always in capital letters. Again, please see my specific comments below.

**Specific comments:**

[page line]

[01 002] “...*human and material damage*...”. I would prefer losses in this context.

[01 023] again *...human and material damage...*”

[02 027] “associated *flash* flooding” → flash

[02 29ff] You list factors that contribute to HPEs. This is correct. But please include a short statement that not all factors need to be present at the same time. There are many cases where just one or two of these factors are applicable

[02 057] “Several journal articles...” → “Several previous studies...” sounds better

[03 063] “...implement different methods: the most common of which...” I would add a colon for better readability

[03 071] “*a priori*” → later in the text you put this expression in Italics, maybe here too?

[03 081f] It is always better to sort the references by year

[03 087] wrong `\cite` usage

[03 089] wrong `\cite` usage

[04 096] “*In particular, ...*” → I would add a comma

[04 100-104] “*Section X*” always with capital letters

[04 109] “...*HPE occurrence in the region considered*...” → “considered region”

[04 113] wrong `\cite` usage

[04 121/122] I do not really understand this sentence. Maybe there is a missing word or something is too much. Please re-write it.

[04 124] “For shallow convection,...” → comma after the “for” expression

[05 127] **PMMC** → this abbreviation appears first at this point, please give its total meaning  
[05 135] **ECUME** → this abbreviation appears first at this point, please give its total meaning

[06 148/149] In l.148 the citation format is ok, please use the same in l.149  
[06 149] “*For the kriging method...*” → comma after the “for” expression  
[06 153] please use the same citation formatting as in l.148; and “**Eq.**” with capital letters  
[06 154] “**d=2**”; what is d in this context? It is never specified before.

[10 234] citation formatting of Wernli et al.

[11 262] capital Eq.

[12 293] **QPF** → this abbreviation appears first at this point, please give its total meaning

[14 Fig. 5] As said in my general comments, the plot is incomplete. Please correct it

[15 324] “...*the two components(dashed lines) ...*” → I think there is a space missing between components and dashed

[16 337] “**Section X**” with capital letters

[17 356] “**Section X**” with capital letters

[17 360] “**Colors lines...**” → either “Colors correspond to...” or “Colored lines...”

[17 372] “*better skills for PCMT than for HPEs*” → in my opinion the “than” is too much. Please check

[18 Fig. 8 caption] “...parameterization of the deep **convection (PCMT...**” → “...convection: PCMT...”

[19 396] “For the A-component,...” with comma

[19 397] **B85 mod** → mod should be subscript to B85

[19 401] “**towards a homogeneous distribution**” is given 2x in this sentence

[21 Fig. 10 caption] “**Eq.**” with capital letters

[21 424] old: Fig. 10(a); recommendation: Fig. 10a

[21 430] old: Fig. 10(b); recommendation: Fig. 10b

[21 434] old: Fig. 10(a) and (b); recommendation: Fig. 10a,b

[21 435] “The lowest **values** of S-component...” → I think you mean “the lowest errors”

[22 439] “..volumes , according...” → no space between volumes and the comma

[22 444] “**Section X**” with capital letters

[22 450] is there a deeper reason for “heaviest” to be printed in Italics?

[22 457] “**Eq. X**” with capital letters (2x)

[22 470] **10.000** should have a unit. According to Fig. 13 it should be mm right?

[23 Fig. 11 caption] old: Observation; new: observation

[26 472] “...PCMT, B85, and the observations...” → comma after B85 as it is a list

[26 498] “**Then** the model HPE rainfall objects...” → recommendation without “Then”

[27 527f] “**the rainfall model overall climatology of the model**” → I guess you mean: “the overall rainfall climatology of the model”