

Review of

Use of empirical spatial extremogram to define homogeneous regions for a regional frequency analysis of extreme storm surges

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- Revised Version -

Recommendation

Accept with minor revisions. (Mainly textual, presentation)

Discussion

The authors have adequately addressed my suggestions and questions I had on their original submission. The mathematical explanation of the ESE is much clearer now. Nevertheless, I have some remarks and suggestions for improvement.

Detailed comments

The line numbers refer to the document *nhess-2019-277-manuscript-version3.pdf*.

p 3/4, l 90-115 The notation could be made more consistent. Sometimes, the sites are denoted by subscripts "1" and "2" (e.g., eq. 1 and preceding text), and sometimes as "X" and "Y" (eq. 2 and *parts* of following text).

same para I miss the notion of 'simultaneity'. If you consider the probability that $P[X \geq q_1 | Y \geq q_2]$ (eq. 1), then you have to say something about the time difference between the events at the two sites that you allow for to consider them as 'same'.

p 5, l 166 Is this the definition of φ ? Then the sentence should not start with *It was shown that* $\varphi =$. That beginning of a sentence implies that φ has been introduced before, and that it is now stated that it can be expressed as λ_r/λ . But I cannot find a definition of φ anywhere else. Furthermore, the symbol φ is not used anywhere else in the paper. So what is the use of defining it?

p 5, l 209/210 This definition of SSS is usually called the *skew surge*.