

Interactive comment on “Trends and variability in extreme precipitation indices over Maghreb countries” by Y. Trambly et al.

Anonymous Referee #2

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The manuscript “Trends and variability in extremes precipitation indices over North Africa” by Trambly et al. is focused on a standard index-based analysis of daily precipitation time series, although the application of the FDR approach for the field significance is still not so common in climate science. The topic is interesting and there are almost no studies dealing with that area. The only main comment is on the application of the detection procedure for the identification of potential break points (inhomogeneities). The removal of the (estimated) trend component seriously affects the results of the detection procedure. Furthermore, detection procedures should be applied in a “relative way”, i.e. by using a reference series, to allow a correct attribution of the change point. Indeed, it is worth to highlight that a change point could be caused by either climatic or non-climatic factors (in the latter case, the change point is named

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break point or inhomogeneity).

Specific Comments

3627, 17-18: This sentence sounds odd. 3629, 18: large scale circulation indices. 3629, 25: I suggest to revise this sentence, e.g. “Here, we consider ...” 3630, 10: underwent. 3630, 25-27: I suggest to rephrase this sentence. 3631, 17: I suggest “Several precipitation indices, similar to those of ETCCDI (...), are considered.” 3633, 19: I think there is no need of explaining the null hypothesis of the Mann-Kendall test. 3634, 14: ditto 3636, 14: Please note that you have intrinsically assumed the isotropy of the space 3638, 9: I suggest to write “estimated slope” 3638, 22-25: please give some details on the detrending procedure. Have you estimated and subtracted a linear trend? 3639, 8: local or global significance? 3639, 24-25: I suggest to highlight that heavy rainfall are caused by an interaction of several factors acting at different spatio-temporal scales.

Table 2: Confidence intervals should be added Figure 6: I suggest to write “estimated slopes”

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