Hydrology and Earth System Sciences Discussions

Interactive
Comment

Interactive comment on "Probability distribution of flood flows in Tunisia" *by* H. Abida and M. Ellouze

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"general comment" The paper adresses a relevant scientific question and offers some results that can be compared with the results obtained, by the same procedure, in many other countries in the world. The conclusions are sufficiently reached even if the scientific methods are not clearly outlined, i.e. the authors failed to report almost all the mathematical formulae used in their work and do not define in a correct and unambiguous way the symbols used. Results are described in a confusing way and there are some contradictory comments. The description of the results is not well structured and clear: the parameter values are not reported so that it is not easy to understand the authors' decisions, there are not enough explanations for their decision.

"specific comments" pg. 958 line 13 - What is Generalized Normal distribution ? Are the authors sure that this is one of the most frequently used distributions in the analysis

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of extreme values?

pg. 964 There is not correspondence between the names used in the lines 2-5 and that reported in fig. 1.

Pg. 965 Line 2-3 - It would be better to describe a little the CFA package. Line 9 - "Ěthe study area was divided arbitrarilyĚ" if the author used the three subregions described in ch. 3, it seems rather a climatic-geographic criterion.

Pg. 966 Line 20 - is t4the regional weighted average L-kurtosis, or simply regional average L-kurtosis?

Pg. 967 Line 8 - It should be better to define what is L-moment ratio. Line 18-19 - "Ě comparison of the theoretical curves with the weighted sample average Ě" of what? Line 22-23 - "Ě. cannot be claimed to be homogeneous. ThereforeĚ" It is not true, the central-southern zone is homogeneous (see line 17 on pg. 968) Explain better what you want to say.

Pg. 968 Line 7 - "The smallest L-moments values Ě" Are they the smallest L-moment ratios? Lines 10-12 - The entire sentence can be removed. Line 13 - Is the H-value reported in tab.3 calculated with respect to L-skew or L-kurt? Lines 16-19 - Since the reader is seeing tab. 3 where the results for three simulation experiments are reported, the authors should specify that these sentences concern the second simulation experiment. The values are smaller than 1 (not 2). Lines 28 - pg.969 line 1 - Put this sentence in line 25 and then describe the results of the third simulation experiment.

Pg. 969 Line 3 - underline that part of Tunisia was excluded from the study and no flood frequency distribution is suggested for it. Lines 8-9 - It is not clear why the authors prefer a theoretical distribution to others. What is the criterion? Line 10 - Please show the Z-test values. Line 16-18 Please add in the legend of figures 3-5 how the average weighted value is represented.

Pg. 970 lines 3-4 - Please compare this sentence with that in the previous page in lines

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14-16. Lines 10-13 - Considering only the final result by which Tunisia is divided into two homogeneous regions, there are only two H-values so that the information about the spatial variability is not enough to affirm that there is a spatial trend. There is a difference but not a trend. It could be useful to compare this result with what has been found for similar regions.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 4, 957, 2007.

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