Hydrology and Earth System Sciences Discussions

Interactive comment on "Estimation of high return period flood quantiles using additional non-systematic information with upper bounded statistical models" *by* B. A. Botero and F. Francés

Anonymous Referee #1

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Reaction to Comment 1: The remark on the length of the introduction and the section on Data Classification was prompted by the length of section 4. If that section is improved and better integrated with the section on Data Classification then the paper would feel more balanced. With regards to the authors suggestions on section 4 let me say that I look forward to reading the revised version. As for the conclusion, the authors are quite right, what should be in a conclusion is, to a certain extent, subjective.

Reaction to comment on 9, page 5416: Before publication in HESS either remove line 9 from "Not considering . . ." to the end of line 13 or add references supporting

these arguments. Both extreme value theory and the central limit theorem provide a theoretical background for the use of unbounded distributions to approximate outcomes of experiments with bounded solution spaces. For extreme value theory successful applications can be found in insurance and failure analysis. As stated in my original comment, I feel the argument stated in line 9 to 13 is not essential to the paper.

Reaction to comment on line 5, page 5421. The revised section should answer the following two questions 1) How to deal with years where no information is available 2) How to deal with floods that cannot be linked to a specific year (If I had to guess then this is a case of constants dropping out in the likelihood ratio, but most of your references do put a binomial coefficient in their formula, so a remark on this would be most welcome)

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 7, 5413, 2010.