

Interactive comment on “Regional regression models of percentile flows for the contiguous US: Expert versus data-driven independent variable selection” by Geoffrey Fouad et al.

Anonymous Referee #1

Received and published: 25 January 2017

Title: Regional regression models of percentile flows for the contiguous US: Expert versus data driven Independent variable selection Paper # 2016-639 Comments: The paper addressed the issue of development of regression model of percentiles for contiguous US, which is quite informative and classical research topic for regionalization of flow duration curve (FDC). FDC is significant in evaluating the stream and basin characteristics, the type of flood, to make decisions in streamflow applications, such as hydropower optimization. So far as, the current study may play a significant role in scientific research. The reviewer praise the level of energy put into the revised manuscript to the current level. However, there are some discrepancies listed below

The logic of introduction is not clear and found less attractive according to reader's point

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of view. In Introduction, the authors should focus the main part of study and let the researcher know why they should prefer your research and why we need this research e.g., comparative improvement of this study from the preceding is. The author adopted a model in which FDC percentiles are regionalized independently, this may not guarantee an important property of FDC i.e., congruence of the percentiles which must be non-increasing Lacking significant description of adequacy test for developed regression models. There is a quite possibility that large numbers of variable (descriptors) may ensued in decreasing the efficacy of the regression model because of numbers of issue e.g., multicollinearity. Moreover, it is also expected that after prudently managing the aforementioned issue, the efficacy of the developed regression models could be enhanced. So, for more attractive and significant results, aforementioned concerns should be carefully addressed.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., doi:10.5194/hess-2016-639, 2016.

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