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Discussions

Interactive comment on "Flood Frequency Analysis supported by the largest historical flood" by W. G. Strupczewski et al.

Anonymous Referee #1

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In practice, within the case of small sample size framework, it is a very risky strategy to use Gumbel and Weibull distributions instead of to generalized extreme value (GEV) distribution even the formal hypothesis tests and model diagnostics support these preference. This is because the corresponding decision making statistics lost their power. On the other hand the maximum likelihood return levels confident intervals based on Gumbel and Weibull models might be considerably narrow than the corresponding intervals for the GEV model because of the more precision estimation due to the reduced number of parameters, see Coles at al. (2003). This is the reason to recommend the authors to perform their simulation using GEV distribution and to compare the results with Gumbel model.

Reference: Coles, S., Pericchi, L. R. and Sisson, S. (2003). A Fully Probabilistic Ap-

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proach to Extreme Rainfall Modeling. Hydrology, 273, 35-50.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 1, 6133, 2013.