Hydrol. Earth Syst. Sci. Discuss.,
doi:10.5194/hess-2016-225-RC2, 2016

Hydrology and Earth System Sciences
Discussions
Open Access
EGU

Interactive comment on "Frequency analysis of extreme floods in a highly developed river basin" *by* T. Tanaka et al.

R. Uijlenhoet (Referee)

remko.uijlenhoet@wur.nl

Received and published: 16 August 2016

The paper deals with frequency analysis of extreme floods in managed river basins, where flood control measures have been implemented and where estimates of design floods after implementation of such measures are required. This is a subject of high societal relevance and with appreciable technical and scientific challenges within the broader area of water management. As such, it fits the scope of HESS.

The authors present an application of a largely previously developed (and published) method to a highly developed river basin in Japan. They show that the approach of design flood estimation via a stochastic rainfall generator (calibrated on rainfall time series) based on the Poisson process and hydrologic / hydraulic models is better able to cope with the effects of upstream inundation and/or dams than the classical flood

Printer-friendly version

Discussion paper

frequency analysis approach based on historic discharge time series.

This paper adds another case study to an already large body of literature on this topic, which the authors largely fail to acknowledge, not only in the introductory section of their manuscript, but also -and more importantly- in the discussion section. Where does this work fit into the broader scientific context? In what way is it better or worse than previously published work in this field? How can other researchers and practitioners, under different circumstances (in other climates and countries), learn from the presented results? In the current version of their manuscript, the authors fail to tackle these issues. Therefore, the paper largely reads as a report describing a case study, rather than as a scientific paper.

Therefore, I am inclined to recommend rejection of the manuscript in its current form. I have attached an annotated version of the paper to help the authors improve their work. In thoroughly revised form, this work could be resubmitted to HESS or another scientific journal in the area of water management, as far as I am concerned.

Please also note the supplement to this comment:
http://www.hydrol-earth-syst-sci-discuss.net/hess-2016-225/hess-2016-225-RC2-supplement.pdf

---

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., doi:10.5194/hess-2016-225, 2016.

Printer-friendly version

Discussion paper