Natural Hazards
and Earth System
Sciences

Open Access

Discussions

Interactive comment on "Ensemble flood forecasting to support dam water release operation using 10 and 2 km-resolution JMA Nonhydrostatic Model ensemble rainfalls" *by* K. Kobayashi et al.

Anonymous Referee #1

Received and published: 3 February 2016

This manuscript presents a state-of-the-art scheme to support dam water release operation and to improve ensemble rainfall and flood forecasts using position error correction method. The proposed method is verified by ensemble flood hindcast at a Japanese catchment. And the proposed method is expected to contribute the current rainfall and flood forecasts using numerical weather prediction model, which would be of interest to a broad ranges of the hydro-meteorologic researchers. Overall the paper proposes technically sound method and those detail steps are well documented in a concise manner.

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper

However, I would like to emphasize the need for further research on the interpretation of ensemble outputs, sufficient events for statistical analysis, especially pre/post-processing (i.e., some kind of correction) of the raw ensemble outputs. To reduce the uncertainty of rainfall and flood forecasts, the bias correction and/or hybrid products blending with radar-based prediction are required to achieve more reliable hydrologic predictions. From the further research by the bias correction of NWP model, please verify the applicability through a number of case studies, and please apply to catchment-based flood warning system and optimized release discharge for dam operation.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 3, 7411, 2015.