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Experiences from introducing ensemble hydrological predictions in practice

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The Rijnland water board in the Netherlands seeks to advance their operational management for flood control to be more anticipatory considering forecast horizons of 2-days and more. In earlier studies ensemble hydro-meteorological predictions have been developed, and a hindcast data-set of 8 years has been analysed to develop management strategies taking into account the predicted uncertainties and risks associated with missed events and false alarms. The results of this study showed potential for reduction of flood damage and feasible management strategies following current practises.

Therefore, a pilot real-time ensemble prediction system was developed and installed at the water board in 2010. Development was done inter-actively with policy-makers and operational managers. A trial period started to run in December 2010, involving operational managers to look at the ensemble reservoir level predictions as extra information for pre-alerts and to plan daily pumping station operation.

Experiences from developing the real-time system, inter-actively designing the representation of ensemble predictions, and the trial period will be reported. Feedback received from the practitioners throughout the project will be presented and analysed for lessons learned. An outlook to further implementation of ensemble predictions in Rijnland water board in particular and operational management in general will be provided.