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0.1 Warning system of extreme precipitation amounts for the Dutch Water Boards

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In cooperation with the Union of Water Boards an automated warning system has been developed aiming at providing optimal meteorological information in cases of risks of flooding. The critical precipitation amount depends, among other things, on the geography and the pumping capacity of the particular Water Board, the recent precipitation history, but also on the time of year. Depending on the probability of exceeding this critical precipitation amount (which is different for each of the Water Boards) the water manager may take precautionary actions. This probability threshold depends on the costs of these measures with respect to the estimated losses that are incurred when no actions would be taken.

The warning system covers a 14-day period consisting of a 5-day rainfall history and a 9-day forecast of area averaged precipitation. The history is determined from weather radar reflections. The first 36 hours of the forecast are based on the deterministic output of the Hirlam model which runs 4 times a day. For the remaining part of the forecast range probabilistic output is derived from the Ensemble Prediction System (EPS) of the ECMWF which is used once a day. The warning system is updated every hour. In this presentation recent developments will be discussed.