

Estimating the combined effect of flood mitigation measures

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Abstract

To obtain a reliable estimate of the effect of combinations of flood-mitigation measures we propose a new method that takes into account the interference between separate measures. We applied this proposed Corrected-Discharge Method (CDM) to a case in which maximum errors in estimated water levels of the River Meuse were reduced by 81% as compared to the outcomes from the original method that uses straightforward addition of effects. The new method still allows quick evaluation of combinations of measures and can therefore be used in the planning and early design phases of complex flood mitigation programs. The CDM also has potential for real-time application during a flood threat when the question arises of how to optimally deploy retention areas.

Keywords: Blokkendoos, optelalgoritme, retentiegebieden, Ruimte voor de Rivier, maatgevend hoogwater (MHW), Maas

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