



Estimating runoff coefficients using weather radars

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ABSTRACT

This paper presents a method for estimating runoff coefficients of urban drainage catchments based on a combination of high resolution weather radar data and in-sewer flow measurements. By utilising the spatial variability of the precipitation it is possible to estimate the runoff coefficients of separate subcatchments. The method is demonstrated through a case study of an urban drainage catchment (678 ha) located in the municipality of Aarhus, Denmark. The study has proven it is possible to use corresponding measurements of the relative rainfall distribution over the catchment and runoff measurements to identify the runoff coefficients at subcatchment level. The number of potential subcatchments is limited by the number of available rainfall events with a sufficient spatial variability.

KEYWORDS

Remote sensing, runoff coefficient, urban drainage modelling, weather radar.