

VMOD: AN ADAPTIVE REAL-TIME FLOOD FORECASTING AND WARNING MODEL FOR THE CITY OF VIENNA

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An operational real-time flood forecasting and warning model which is developed for the city of Vienna, Austria is presented. To achieve an optimal control of flood storage and flood management for urban catchments it is necessary to obtain continuous spatially detailed flood forecasts for the complete rainfall period. Therefore the model, called Operationelles Vorhersagemodell (VMOD) is based on a spatial detailed rainfall-runoff model which is characterized by two main components: the first component represents the hydrological processes of rainfall, snow storage and local runoff generation. The second component describes the way in which runoff is routed and transferred along the channel network to the outlet of the Vienna river basin. A discussion on the calibration requirements and rainfall-runoff measurement techniques is presented together with the interpretation of model parameters. After describing the adaptive calibration of the model VMOD on the Vienna river basin, 3 applications for testing hourly rainfall-runoff forecasting with this model are illustrated. Finally, a second use of the model in the Lenne Catchment (since 1993) is reported and followed by a discussion of the steps required to further model development and for a full automatical running.