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DERIVING THE FLOODPLAIN IN RURAL AREAS FOR HIGH EXCEEDANCE PROBABILITY HAVING LIMITED DATA SOURCE

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Abstract

Hydraulic modelling makes possible the identification of floodplain areas for flash floods with discharge of different return periods. High resolution DEMs allow river bed geometry identification, while prior hydrologic modeling results can serve as input data for the hydraulic model. Once the river bed and floodplain roughness coefficient are set, the floodplains can be delineated on the base of MIKE11 model. For the present study the authors have used three gauged small rivers situated in the Zărandului Mountains (Romania). The article shows the procedure to calculate the maximum discharges for high probability exceedance at the entrance and exit of seven villages and to draw the corresponding floodplains, for the benefit of population's protection.

Key words: flash floods, hydraulic modeling, MIKE11 model, return period

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