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The regionalizing of the entropy parameter over the north Algerian watersheds: a discharge measurement approach for ungauged river sites

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**Abstract :** River monitoring is of considerable importance in any watershed management strategy. In the present research, to estimate the discharge rate, an entropy approach based on the estimation of a single parameter  $\Phi(M)$  was tested for the drainage network of a wide region of the central and east part of Algeria. The network covers 1115 wadis (rivers) with a total length of 14 137 km. Four different models were investigated in order to get a mapping of  $\Phi(M)$  usable along channels for any ungauged river sites. A velocity dataset of 50 gauged stations involving 10 000 measurements were used for the analysis. The data for 2/3 and 1/3 of the gauged sites were randomly considered for calibration and validation, respectively. The results highlight a good spatial distribution of the entropy parameter along channels, and a good estimation error level, especially for the regression and slope–elevation  $\Phi(M)$  models

**Key words :** Entropy; River monitoring; Discharges estimation; North Algerian watersheds

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