The title (العنوان):

Calibration of manning's roughness coefficient during floods using hec ras modelcase study: Allala river

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Abstract: The selection of an appropriate value for roughness coefficient is very significant in flood modeling, Moreover, determination of roughness coefficient is of paramount importance to the accuracy of modeled water surface. Hence it is necessary to solve the Saint-Venant equations for hydrodynamic modeling. The aim of the present study is to use hydrometric data to estimate Manning's roughness coefficient for the hydrometric station of sidi Akkacha in Allala river during flood using the hydrodynamic numerical modeling with the HEC-RAS model. This station representing drainage area about 309 km^2. The results showed that the optimals manning's values: 0.053 for the left bank, 0.038 for the main channel and 0.2 for the right bank, for the modeled water surface the Root mean square error (RMSE) ranged between 4 and 10 cm and the Mean Absolute Error (MAE) ranged between 3 and 10 cm during high flow.

Key words: Manning's Roughness ; Coefficient during ; Floods using ; HEC RAS model Case study ; Allala River

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