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The title (العنوان):

OUED EL ABIOD BASIN (ALGERIA) : SOLID TRANSPORT ESTIMATION BY THREE ARTIFICIAL NEURAL NETWORK METHODS

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كل الحقوق محفوظة للمدرسة الوطنية العليا للري.

Abstract :

The assessment of sediment transport in river is important in water resource management such as the design and control dams and other hydraulic structures. In this paper, Three Artificial Neural Network methods are used to estimate the daily suspended sediment concentration for the corresponding daily discharge flow in the river of Oued El Abiod watershed, Biskra, Algeria. The Feed-forward Neural Networks (FFNN), generalized regression neural networks (GRNN) and the radial basis neural networks (RBNN) models are established for estimating current suspended sediment values. The two criteria RMSE and R^2 were used to evaluate the performance of applied models. The comparison of three models showed that the RBNN method provided generally the better than the other methods in estimation of suspended sediment. Therefore, the ANN model had capability to improve nonlinear relationships between discharge flow and suspended sediment with reasonable precision.

KEYWORDS :Artificial Neural Network; Oued Abiod watershed; Generalized Regression; Suspended Sediment

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