عنوان مقاله:

Studying the effects of clay percent, the shear strength of cohesive sediments and flow hydraulic on the deepest equilibrium scour using an inductive approach GMDH

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خلاصه مقاله:

In this study, using self-organizing systems of Group method of data handling (GMDH), the estimate highest depth of scour around bridge piers in bed of sticky soil. GMDH network is developed by back propagation algorithm. To train GMDH algorithm with the above-mentioned method, quadratic polynomial is used in the structure of GMDH. Parameters affecting scour depth include the initial moisture content of cohesive sediments bed, clay percent of the sediments, flow Froude number, and shear strength of the sediments of the bed. These parameters are also specified as algorithm input variables. Assessment of GMDH gives accurate approximation of scouring in the bed of cohesive soils compared with empirical relationships based on regression model evaluation,

کلمات کلیدی:

local scour, bridge piers, cohesive soil, Group method of data handling (GMDH)