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Use of Fuzzy Logic in Modeling Gully Erosion for Modified Bergsma using Remote Sensing Data and Geographic Information Systems Zarkatah Valley, Erbil, Iraq

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Abstract: Study concluded the digital techniques in calculating high-resolution of the erosion locations, and while creation a spatial database to determine the risk of gully erosion. Providing the possibility of creation a three-dimensional model that simulates the reality of the research region to determine the behavior of rivers and reduce their effects in erosion and sedimentation. The possibility of statistical spatial analysis and mathematical treatment of spatially derived Basin data, in case of non-erosion this value is neglected, as the value will be (0) or (1); zero indicates that the condition did not been met and that the element did not belong to the required group or considered as an expression of an inappropriate location. The value (1) indicates full belonging to the values, and all requirements shall be met.

Keywords: Fuzzy logic, Modeling Gully Erosion, Modified Bergsma, Remote sensing, Geographic information, Zarkatah Valley, Erbil, Iraq