

Abstract

Present regional model for prediction of water facies in Ghorichay watershed of Ardabil

In this study, first with the using of base map such as (topography and DEM, geological formations, soil and vegetation) and a using satellite images, the water erosion map was produced. Then prepared maps of the Normalized Difference Vegetation Index (NDVI), drainage density and land use based on satellite imagery and DEM, through with Geographic Information System (GIS). In the next step, by doing field work and research into detailed maps made, independent variables (topography, geology and land formation) and dependent variables (drainage area, vegetation index, land use, and landscape water erosion) classified and relationship between them was investigated. In the third phase with the preparation of Iso erodent map and soil erodibility, the relationship between selected variables with species erosion of facies in the ArcGIS 9.3 software were studied. Finally the independent variables (including selective factors) and the dependent variable (erosion facies types) was determined and create correlation between them, for the path analysis, multiple regression to specify the effects of direct and indirect variables in Spss software and the most important factors in the development of water erosion. Finally, the development of regional water erosion model implementation of watershed characteristics were presented as multiple regression that evaluation assessment severity of water erosion in the ghorichay watershed was performed.

Key words: water erosion, Erosional facies, Map Hmfrsa, Multivariate regression, Qvrychay area



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