Abstract

Flood is a complex and destructive natural phenomenon that leads to considerable annual losses. Flood plains and areas adjacent to rivers are constantly flood risk subject however a lot of economic and social activities in these areas are done. Therefore, it is essential that in these areas, floodgage Location in different flood return periods to be determined. Zoning map of the flood can to be considered as instrumentation to determine the development strategies. In the present study flood zoning of Jiroft city using a HEC-RAS mathematical model and GIS is performed. For this purpose after preparing maps, hydrological data and DEM for study area the analysis and completing of data was done. Then, by using HEC-HMS hydrological model, Halil Rood river basin peak flood discharge in the return periods of 10, 25, 50 and 100 years was estimated and finally, after integrating HEC-RAS model with ArcGIS software, Halil Rood river basin flood zone obtained in the mentioned return periods. The results of the model analysis showed that Halil Rood River has passing ability of flood with10, 25, 50 and 100 years return period. Only residential and agricultural land that have violated to river bed go underwater even at 10-year return period and also results revealed that river right side land are at greater risk of flooding due to low slope that the risk increases with increasing roughness.

Keywords: flood zoning, flood plan discharge, HEC-RAS, Arc GIS, Halil Rood

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