## عنوان مقاله:

Hazard Zonation and Assessment of Urban Flood Damage Using Mathematical Models, HEC-RAS, HEC-FDA and (Geographic InformationSystems (GIS

## محل انتشار:

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## نویسندگان:

A Zadbar - *M.Sc. graduated, Department of Civil Engineering, Central Tehran Branch, Islamic Azad University*,

M Motevalli - *M.Sc. graduated, Department of Civil Engineering, Central Tehran Branch, Islamic Azad University*,

M Talaie - *M.Sc. graduated, Department of Civil Engineering, South Tehran Branch, Islamic Azad University, Tehran, Ira*

## خلاصه مقاله:

Management and assessment of expected annual damage to minimize damage and to control flood in the urban environment is necessary but it has special complexity due to the urban development. Nowadaysthere are many different methods to control flood, which are considered depending on the hydraulicconditions. Using longitudinal embankments, flow diversion, watershed management, etc. are among the methods considered by urban planners. The use of software engineering tools such as HEC-RAS and application of engineering tools such as GIS has attracted the attention of many researchers. This articlepays attention to hydraulic studies of the ravine of Mehraneh-rood River, which is the major surfacedrainage in Tabriz, using a mathematical model. Flood hazard zonation in the city of Tabriz has been performed in northwestern Iran and its possible hazardous areas are determined based on land use, structures and buildings by the riverside. In the following section, the expected annual damages from the floods in this river are estimated using HEC-FDA analyzing software and in the end some methods are taken into consideration to control and mitigate the flood risk with regard to the river regime and the condition of the area, land .use, etc

## کلمات کلیدی:

flood zonation, flood hazard mitigation, expected annual damage, HEC-RAS, HEC-FDA