



Available Issues from Hydraulic Computer Models for Preparation of River Flood Hazard Map (A case study on Damansara river basin, Malaysia)

(1) **S. Alaghmand** and (2) A. Mohammadi

(1) M.Sc. Student of Civil-River Eng. USM, Malaysia (alaghmand_sina@yahoo.com / Tel +6017 4345879), (2) Gonbad High Education Center, Gorgan University of Agricultural Sciences and Natural Resources, Iran.

Natural hazards have been viewed as the detrimental consequences of peoples' use of their environment; beneficial outcomes of environmental use are labeled natural resources. Hazard refers to the probability of a potentially dangerous phenomenon occurring in a given location within a specified period of time. Hazards include geophysical events, hydro meteorological phenomena and etc. Flood is defined as extremely high flows or levels of rivers, lakes, ponds, reservoirs and any other water bodies, whereby water inundates outside of the water bodies area.. Most floods are caused by intense precipitation combined with other factors such as: snow melt, inadequate drainage, water-saturated ground or unusually high tides or waves. Once a potential hazard has been identified, it is important to know its characteristics. The assessment of these characteristics requires a lot of historic data and in most rivers sufficient observations are not available. Therefore to determine these values recourse must be made to some sort of predictive model. Nowadays, computer-modeling techniques have assisted scientists and engineers with determining floods as well as flood assessments. Nowadays the integration between GIS software and hydrological modeling software has been developed for various purposes. One of them is HEC-GeoRAS, which is an arc view GIS extension specially designed to process geospatial data for use with the Hydrological Engineering Center River Analysis System (HEC-RAS). HEC-RAS can be used to perform river flood using floodplain encroachment analysis. The results can be present in a geospatial format using HEC-GeoRAS. The other one is MIKE11 GIS

which is the relation extension between Arcview and MIKE11.

As it clear, wherever which is inundated by flood is not flood hazard. This paper is discussing about the criteria which can be considered for preparing of river flood hazard map from river flood map. These criteria are as follows: inundation, depth, duration and velocity.