

Abstract

Flood is one of the important natural disasters which cause many financial and death damages on different societies every year. Therefore researchers tried to investigate on the quantity changes of this phenomenon accurately as possible as they could. This investigation was done in 20 areas of aquiferous in Tehran and Alborz provinces. The method of research based on document and library literature reviews and investigated morphometric features, flow networks, conditional and fractal parameters (in sum 48 parameters) were count to be as affective factors in flowing water. The data and information were collected by hydrometric stations area included as monthly medium discharge Hydrometric stations from Tehran Regional Water Authority, Tehran Regional Metrology Office, and thirty meters of DEM layers were collected from National Cartographic Center. After the RUN TEST was done the homogeneity and the lack of uniformity and being randomize data climate classification cartographical maps were collected and for investigating on Hydrometric stations of drainage areas related to each one of them were prepared by Arc SWAT software. Then the related calculation to morphometric features aquiferous area, also the flow network parameters were done in order to analysis the related regional discharge analysis and the fractal parameters and then by SPSS software the correlation factor and dual relationship were studied among the regional parameters, flow network and morphometric of area. The result of this research showed the relation among the fractal parameters and flow-water, fractal with the morphometric features and flow network parameters, morphometric with the flow-water. Finally a model was introduced based on fractal and annual medium discharge with (0.526) coefficient determination and another model based on morphometric features and annual medium discharge with (0.828) coefficient determination.

Key words: Fractal, Hydromorphology, Hydrological modeling, Flow water, Tehran and Alborz provinces.



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