

عنوان مقاله:

Investigation and comparison of runoff threshold in different climates of Iran

محل انتشار:

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خلاصه مقاله:

Determining the runoff threshold is a prerequisite for more accurate flood estimates, design and estimation of flood production potential, and knowing its extent can lead to optimal water resource management of watersheds. In this study, using the mean annual rainfall, a map of homogeneous climatic regions of Iran was prepared. Then, at least 30 stations with common statistical period in each homogeneous region were selected. Using a topographic map with a scale of 1: 50,000 and determining the location of the stations, the study area and each of the sub-watersheds were identified and the basic parameters of the watershed were extracted using the GIS. Runoff threshold was simulated using AWBM rainfall-runoff model and after calibration and obtaining optimal model parameters. Watershed zoning was performed based on the values obtained from the model and the percentage of surface cover of the watersheds was calculated according to the amount of runoff threshold for different climatic regions. The results showed that in all three climatic zones, almost half of the watersheds have runoff thresholds in a range of 0-5 mm and have the potential to convert rainfall into runoff and flood production. Watersheds with runoff threshold class (0-5 mm) were mainly located in the northern and central parts of West Azerbaijan province, north and northeast of Kerman province, and the northern and southern parts of Khuzestan province.

کلمات کلیدی:

Climatic zones, Flood, Permeability, Runoff threshold, Simulation

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