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The Study of Effective Discharge for Suspended Sediment Transport in Streams of the Zayandeh-rood Dam Basin

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Abstract

Effective discharge for suspended sediment was determined in Zayandeh-rood Dam Watershed stream using available discharge and suspended sediment records. During the record length of 6 to 21 years, the drainage area for these stream basins varied from 321 to 1,444 km². Effective discharge was determined using suspended sediment load and daily mean discharge obtained from each station for each water year of the period recorded. They were grouped in several classes in term of size and then plotted as histogram. The discharge increment with the largest cumulative load taken to be the effective discharge. The results showed that the magnitude of the effective discharges and their duration were different. It is apparent from these data that the effective discharge for suspended sediment transport might be in many cases low magnitude event. The duration of the effective discharge, which was calculated using flow period record, was different in various stations. The average values ranged from 28.5 to 58.05 percent.

Keywords: Effective discharge, Suspended sediment, Sediment transport, Basin, Zayandeh-rood Dam

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