
Archive of SID

(E-mail: massamiee@yahoo.com)

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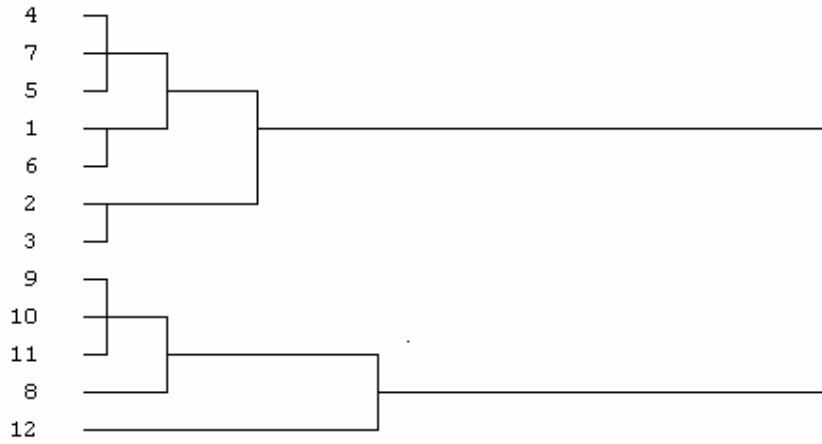
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Regional Analysis of low flow in Tehran watersheds

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Abstract

Analysis of low flow is one of the important considerations in any water resources project. Meanwhile, as a general idea it seems that flow control is more important than drought mitigation but it is necessary to pay more attention to drought problem in future project. In this paper, all available data for 12 selected watersheds were analyzed and low flows of 30 days duration and return period was calculate for each flow data. Also, hydro climatic and geomorphologic parameters were considerate to obtain the most effective factors on low flows which help to separate homogeneity area. The most effective factors were: Area, mean annual precipitation, average weighted infiltration and average slope of the watershed which illustrate 99/36 of variation of data. Then homogeneity areas were identified using cluster analysis.

Meanwhile, regression and low flow indication were obtained using the data. Results were compared with data of 4 control watersheds to evaluate accuracy of the model which showed more efficiency of multivariate regression method comparing to low flow index method in different return periods.

Keywords : Regional analyses, low flow, frequency analysis, cluster analysis.

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