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
of

Agriculture and Forestry

Regional Flood Frequency Analysis of the Basins of the East Mediterranean  
Region

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**Abstract:** Methods known as regional flood frequency analyses have often been used for providing records to be gathered and for determining different quantiles of flood in basins having an adequate runoff gauging station (RS) or no gauge. Regional flood frequency analyses including homogeneity test was applied to annual instantaneous peak flows of 50 RSs in 4 basins of the East Mediterranean region. Only 3 RSs were determined to be inhomogeneous. As a result, regional dimensionless flood frequency curves and variation of mean annual flood with drainage area were obtained. The determination coefficient of the mean annual flood prediction equation of the Seyhan basin was found to be very poor. Therefore, the basin was divided into 2 divisions. The determination coefficients of the 2 divisions were much greater. In addition, the flood flow estimation capability of the regional flood frequency analyses for ungauged areas in 4 basins of the East Mediterranean region is demonstrated to be generally sufficient using the statistical criterion of prediction error.

**Key Words:** Regional flood frequency analyses, Instantaneous flood peak, East Mediterranean region

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