عنوان مقاله:

(Drought prediction using linear time series (case study: Qasemlu and Sadde Noruzlu stations

محل انتشار:

سومین کنفرانس بین المللی پژوهش های کاربردی در علوم و مهندسی (سال: 1397)

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خلاصه مقاله:

Unfortunately, in thr recent years, most Middle Eastern countries have oftenexperienced drought and shortage of rainfall. Therefore, the appropriate predictions ofseverity of the drought are very important to reduce of damages. In studies of waterresources engineering, the better forecast of hydrological data has significantimportant. In this field, linear time series models are widely used in hydrology. Themain goal of this research is the prediction of drought severity and its frequency, usingprecipitation synthetic data generation. The generation of synthetic data wasperformed employing the linear time series, ARMA, at two selected stations(Qasemlu and Sedde Norualu) with 37 years (1981-2017) rainfalling data in the Westbasin of Orumiyeh Lake, West Azarbaijan, Iran. In this regard, normality andhomogeneity of the time series have been performed and ARMA model was utilizedto simulate normalized data sets. According to less Akaike information criterion ,themodel of ARMA (1,0) was chosen as the best model. To select the most suitablemodel for simulation of time series, annual precipitation data were predictedcorresponding to 37 years in 1000 samples. Finally, drought indices of SPI and PNPIwere calculated and their frequencies were .determined for periods of 1, 10,15, 25,35,50, 75 and 99

کلمات کلیدی:

ARMA model, drought index, drought severity, prediction, time seriesmodel

لینک ثابت مقاله در پایگاه سیویلیکا: