

Abstract

The phenomenon of natural disasters is one of the most drought affected many countries and causes many problems, including economic, social, political and cultural. The monitoring systems in developing management plans to deal with drought and it is of utmost importance. Alghorat basin with an area of about 5/11478 hectares, East and central part of the city of Birjand in the center of the village Alghorat and Kahshng allocated. The aim of this study was to evaluate the effect of drought on the scale when the air is Shnashy SPI and RDI. In this research, first, the action required to collect rainfall data collected in the study area were included, Next, the processing parameters for RDI and SPI indices were used in wet and dry periods were within the plan. The results showed that monthly time series Drought Severity more than their annual time series that can be attributed to transitional and temporary nature of the phenomenon of drought. The results showed that the average wet years and droughts index also decreased with longer time series which reflects the severity of droughts and decrease in precipitation stations is investigated. The results showed that in all three stations, the coefficient of determination between RDI and SPI indices in time series of 9 months was higher than the rest of the time series And correlation of time series 6-month, three-month and one-month reduction should be made. Also, the correlation between RDI and SPI index on an annual time scale is 0.9. According to a survey indicators SPI and RDI the annual and monthly time series and severity of the drought and the increase in the monthly time scale, this should be considered in planning and drought management planners and managers to be placed.

Keywords: time-scale variability, drought, SPI, RDI, Alghorat watershed



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