

عنوان مقاله:

Investigation of agricultural drought vulnerability in Isfahan Province, Iran

محل انتشار:

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خلاصه مقاله:

Drought is one of the most damaging climate-related hazards and usually occurs when an area does not receive significant precipitation for a sustained period of time. In recent years it is usually done with the use of drought indices which provide information to decision makers about drought characteristics. There are more than 50 drought indices available in practice and the SPI is commonly used and accepted. In this study, 30 years of monthly rainfall data from 21 stations in arid and semi-arid regions of Isfahan Province, Iran were prepared. The mean annual temperature is 13.6 °C and the total average annual precipitation is 160 mm. The mean annual rainfall of western region is 800 mm, while it is about 75 mm in eastern arid region. Impact of drought in the low and variable rainfall regions of the area can be widespread, affecting such diverse sector as agriculture. First, the 3-month SPI data from 21 rain gauge stations over the Isfahan Province were analyzed. Second, all stations interpolated areas are prepared using IDW method, i.e. drought frequency per year for each county. Because damage of drought is differs between counties of study area, as a result, we should investigate amount of damage between counties in agricultural areas. Finally, the agricultural drought vulnerability was evaluated by considering the agricultural areas. The results showed that agricultural vulnerability of drought in counties of Isfahan and Barkhar va Meimeh were maximum while these counties in total area have low vulnerability. It is obvious that an improved understanding of drought occurrence such as frequency and spatial extent could help to identify risks associated with the drought, and in this regard this study offers some new insight into drought phenomenon in Isfahan Province.

کلمات کلیدی:

Agricultural drought vulnerability, Drought frequently, SPI, IDW, Isfahan Province

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