

عنوان مقاله:

GIS analysis for vulnerability assessment of drought in Khuzestan province in Iran using standardized precipitation (index (SPI

محل انتشار:

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خلاصه مقاله:

The Standardized Precipitation Index (SPI) is a widely used drought index to provide good estimations of the intensity, magnitude and spatial extent of droughts. The objective of this study was to analyze the spatial pattern of drought by SPI index. In this paper, patterns of drought hazard in Khuzestan are evaluated according to the data of 17 weather stations during data recording. The influenced zone of each station was specified by the Thiessen method. Then, it was attempted to make a new model of drought hazard using GIS. Three criteria for drought were studied and considered to define areas of vulnerability. Drought hazard criteria used in the present model included: maximum severity of drought in the period, trend of drought, and the maximum number of sequential arid years. Each of the vulnerability indicators was mapped. These maps along with a final hazard map were classified into 5 hazard classes of drought included none, slight, moderate, severe and very severe classes. The final drought vulnerability map was prepared by overlaying three criteria maps in GIS, and the final hazard classes were defined on the basis of hazard scores, which were determined according to the means of the main indicators. The final vulnerability map showed that severe hazard areas (29% of the province) which were observed in the northern and central parts of study area are much more widespread than areas under the slight hazard class. Nevertheless, approximately more than half (64%) of the province area was determined to be moderate hazard class for drought.

کلمات کلیدی:

GIS, Hazard map, Khuzestan, Standardized Precipitation Index

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