

## عنوان مقاله:

Analyzing and predicting drought in arid and semi-arid regions by using atmospheric general circulation model and RCP scenarios

## محل انتشار:

فصلنامه علوم آب و محیط زیست، دوره 7، شماره 13 (سال: 1402)

تعداد صفحات اصل مقاله: 9

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## خلاصه مقاله:

Drought is a climatic phenomenon that almost happens in every climate situation, because Iran country is located in the arid belt of earth, the importance of drought and analyzing it in the past and future is important for us to programming and managing the water resources. In this research which was done in the study area of the watershed region of Kashfrud, the effect of climatic changes in the climatic precipitation parameter under two scenarios of RCP4.5 and RCP8.5 in the study period (1987-2016) was analyzed and surveyed. To analyze drought in the study region by using Standard Precipitation Index (SPI) and surface water supply index (SWSI), the occurrence and time of climatic and hydrological drought were analyzed. For predicting the future period precipitation by atmospheric general circulation model of MIROC5 and by using small scale (Delta) method under release scenarios RCP4.5 and RCP8.5, the future precipitation data were achieved, then standard precipitation index in the next 30 years' period (2019-2048) was calculated. Using the implemented calculations in standard precipitation index and analyzing the results in the next 30 years, the number of dry and very dry months; means index number less than - 1.5, in the study area was achieved. Based on the achieved results from the standard precipitation index (SPI) in the annual scale in Mashhad and Golmakan station, the first decades of the study period (1987-1996) and future periods (2019-2028) are the driest periods. Also, the results of hydrologic drought index in annual scale in Mashhad station indicates 19 dry years and in Golmakan station indicates 16 dry years.

## کلمات کلیدی:

drought, Climatic changes, RCP scenarios, Atmospheric general circulation model, Kashfrud

## لینک ثابت مقاله در پایگاه سیویلیکا:

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