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Long-term study of Urmia Lake climate and factors affecting sudden decrease in water level

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Urmia Lake is the second salty lake in the world and located towards the northwest of Iran. In the last years, the level of water has decreased intensively. In this research, climate of the lake has been investigated by using data of four meteorological stations (Tabriz, Urmia, Maraghe and Bonab) near to lake. The data includes parameters such as (mean, maximum and minimum) temperature, precipitation, number of rainy days, mean of humidity, mean of the wind speed, hours of sunshine and evaporation. The season and annual mean of parameters have been calculated. Significance of time series trend of parameters is evaluated by Man-Kendall method. Also for determination of drought or wet years, the Standardized Precipitation Index (SPI) was studied. The results show a significant decreasing trend in precipitation and significant increasing trend in temperature in the stations (except Urmia Station). By examining the standardized precipitation index, decrease in rainfall has been observed in recent years.

Climate of lake was studied by using Koppen, De Martonne and Emberger methods in the period before and after the reduction in level of water. In this section, data of Tabriz and Urmia stations has been used, due to the long period of data archive. De martonne and Emberger methods show climate changes from semi-dry to dry in Tabriz station.

Biography

F. Arkian has completed her Ph.D. of Meteorology from Islamic Azad University. She is a Faculty member of North Tehran branch of this university as Assistant Professor. She has published more than 20 papers in several journals and serving as an editorial board member of Marine Science and Technology Journal.

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