

عنوان مقاله:

Areal fluctuations monitoring of Urmia Lake during the 2000–2017 period, using time-series Landsat data

محل انتشار:

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خلاصه مقاله:

The gradual depletion of Urmia Lake has been a challenge in both national and international scales during recent years. In the past 30 years, this Lake confront a noticeable degradation and lost its area significantly. In this study, Landsat images between 2000 and 2017 were utilized to observe the changes in Lake' water and salt area. Support Vector Machine classifier was selected to generate the Land Use/Land Cover maps. The results indicated that the water surface area of 4863km² in 2000 was reduced to 765 km² by 2014 and restored to 2132km² by the year 2017. Nevertheless, salt body of 126km² in 2000 increased to 1422 km² by 2014 and then decreased to 980km² in 2017. Consequently, the study period can be divided into two parts: 2000-2014 and 2014-2017. At the first period, the water surface area of Urmia Lake experienced an invariable decline and reached its minimum area due to drought and overuse of resources and lost almost 84% of its area from 2000 to 2014. Between 2014 and 2017 the area of wetland shows a sign of restoration and retakes approximately 20% of its desiccated area. In spite of this revival, the total loss of Lake is nearly 64% from 1995 to 2017. Human activities including dam construction and overuse of renewable resources as well as, successive drought and the effect of evapotranspiration are the main causes which contribute to Urmia Lake degradation.

کلمات کلیدی:

Lake degradation, Remote sensing, GIS, Urmia

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