

## عنوان مقاله:

Sustainable Surface Water Management and Wastewater Treatment Plant Location: A Case Study of Urmia Lake

## محل انتشار:

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## خلاصه مقاله:

The conservation of lakes is an essential issue in sustainable development. Disruption of ecological balance, destruction of biodiversity and vegetation, desertification, and storm surges are the results of lakes drying. The purpose of this paper is to introduce an integrated bi-objective sustainable water resource management model. The first objective function deals with economically optimal allocation of water to the residential, industrial, and agricultural sectors. For compliance with the requirements of sustainable development, the second objective is to maximize the amount of water allocated to the environment. For proper utilization and reuse of water resources, the location of urban wastewater treatment plants is also considered in the problem. The model is solved with data from the most important watershed in Iran, Urmia Lake. Natural and unnatural factors have dramatically reduced the amount of water intake and balance over the past two decades. The epsilon constraint is used for solving the case study model. The results show that the model can satisfy the demand of sectors, with 70 percent of the available resources. The use of this model can meet the demands of the consumer sectors, and also, it can help revitalize Urmia Lake and the ecosystem of the river in its basin.

## کلمات کلیدی:

Water Resources Management, sustainable development, Wastewater Treatment Plant, Epsilon-constraint Method, Urmia Lake

## لینک ثابت مقاله در پایگاه سیویلیکا:

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