

Abstract

The aim of the present study is to investigate the current status of Lake Urmia basin by using field study and library data and documents. The applied model is Urmia Water Allocation Package (UWAP) to Lake Urmia (LU), which is an engineering and valuable approach to study and systematic analysis of competitive and cooperative behavior and investigates various states of water inflow or entrance to the lake in the future. Also, in this study, to investigate the ultimate states of Lake Urmia area, uncertainty analysis is used, that is, first, by building outflow from water allocation model to the lake, the outflow for three surrounding provinces in the lake basin including East Azerbaijan, West Azerbaijan and Kurdistan Provinces is obtained. Then, by analyzing the mentioned data and considering the entrance, the most probable states for the current status of LU is presently chosen. The results of the model show that in gradual drying process of LU, the most important factors are ways of water allocation to agricultural sectors and climate change. By complying and adhering to "right of water" in three mentioned provinces, especially in West Azerbaijan and East Azerbaijan, the rate of drying process may be decreased. The results also suggest the key importance and methods of allocating water resources to the lake and farmers' compliance and adherence to "their right of water". By adopting these approaches, we may prevent the growing trend or process of declining lake size and its area reduction.

Keywords: lake Urmia, current status analysis, uncertainty analysis, water sources of the lake, lake's "right of water", drainage basin



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