

# Comparison of the Hydro-meteorological conditions in two adjacent Lakes: Lake Urmia and Lake Van

Somayeh Sima<sup>1</sup>, Masoud Tajrishy<sup>2</sup> and Ali Ahmadalipour<sup>3</sup>

<sup>1</sup> PhD Candidate, Department of Civil Engineering, Sharif University of Technology, Tehran, Iran, Azadi Ave; PH (+98 (21) 66164185); Email: Sima@mehr.sharif.ir

<sup>2</sup> Associate Professor, Department of Civil Engineering, Sharif University of Technology, P.O. Box 11365-9313; Iran, Tehran, Azadi Ave; PH (+98 (21) 66036016); Email:tajrishy@sharif.edu

<sup>3</sup> Graduate Student, Department of Civil Engineering, Sharif University of Technology, Tehran, Iran, Azadi Ave; Email: ahmadalipour.ali@gmail.com

## Abstract

Lake Urmia and Lake Van are two closed lakes located in the same latitude between 37 and 38.5°N, having a 150 km distance from each other. Lake Urmia, in the northwest of Iran, is the second world's hyper-saline lake, whereas Lake Van, Turkey, is the largest soda lake worldwide. Variations of regional climatological conditions over the two lakes were investigated from 2000 to 2010 through the comparison of the key meteorological parameters including precipitation, air temperature and relative humidity. Then, water level fluctuations in the two lakes were studied using the satellite radar altimetry data. Results show that water level of Lake Van has raised up in comparison with its long-term mean, while in Lake Urmia a significant decrease has occurred. According to the results, since the lakes behave differently under similar climate variations, the negative water balance in Lake Urmia cannot be interpreted just by climate change. Nevertheless, upstream water resources management plays the more important role.

**Keywords:** *Lake Urmia, Lake Van, Altimetry data, Hydro-meteorological parameters, Water resources management*

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