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**A Hybrid Wavelet-Support Vector Machine model for Prediction of Lake water level
Fluctuations Using Hydro-Meteorological Data**

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Abstract

Prediction of Lake water level fluctuation is immensely important to maintain the ecological conditions of the lake as well as for the development and management of water resources. Loktak Lake, a Ramsar convention recognised wetland have a unique ecosystem and is known for its floating vegetated islands. Fluctuation of water level in Loktak Lake primarily due to hydropower and agriculture have impacted the lake ecosystem significantly. The study employed a hybrid wavelet-support vector machine (WA-SVM) model to predict the daily lake water fluctuation. Daily lake water level along with other hydro-meteorological data have been used as input to predict the lake water level up to 20 days ahead. Various combinations of input data have been experimented to obtain the best model structure which is later extended to predict the lake water level. The predicted lake water are found to be close to observed values.

Key words: WAVE-SVM, Lake water level, Prediction

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