

## عنوان مقاله:

Forecast future dry bulb temperature using Different methods for the climate of Tabriz city

## محل انتشار:

دومین کنفرانس بین المللی معماری، عمران، شهرسازی، محیط زیست و افق های هنر اسلامی در بیانیه گام دوم انقلاب (سال: 1401)

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## خلاصه مقاله:

Predicting hourly dry bulb temperature is important and it can use for different studies like forecasting building energy consumption, architectural, agriculture and etc. So, it is necessary to develop and compare forecasting methods. In this study two Forecasting methods, statistical (regression and exponential smoothing- 5 cases) and neural network (12 cases) have been used to predict hourly dry bulb temperature. Hourly dry bulb temperature (8760 hour) is available for period of 1998-2019 of Tabriz Iran. The goal of paper is predicting data of year 2019 using past available data (1998-2018) and compare mentioned methods. In statistical methods, linear regression method with low error rate has been selected as the best method with error of 4.07 for Mean Squared Error (MSE), 2.02 for Root Mean Squared Error (RMSE), and 0.8 for Mean Absolute Error (MAE). In the neural network method, best prediction case has Errors 0.8, 0.9 and 0.7 for MSE, RMSE and MAE. Result shows that using regression method to predict data have high error. Also using neural network method only in some special case has good agreement with data (Bayesian Regularization). (training method: 2 layers with higher than 20 neurons

## کلمات کلیدی:

Forecasting, hourly weather data, artificial neural network, statistics method

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1613277>

