

## ABSTRACT

Global warming that happened around the world today has a lot of emerging diseases, especially diseases caused by mosquitoes. One of the deadly diseases caused by mosquitoes is malaria. Malaria is highly influenced by the weather, so if we can predict climate change, malaria also can be predicted, so that malaria can be overcome. This study using Exponential Smoothing method to predict the weather. The result of prediction will be used as one of the input parameters of Artificial Neural Network method. This method will combine all input parameters to predict malaria next month. Hopefully, by adding weather factor to the system, the accuracy of malaria predictions can be further improved, because weather are closely related to the malaria.

**Keywords:** *exponential smoothing, artificial neural network, back propagation, malaria, forecasting, time series.*