

## **ABSTRACT**

*In this study, forming and testing of a forecasting model for the number of lightning strikes in the city of Bandung by using Adaptive Neuro-Fuzzy Inference System (ANFIS) based on time series data the number of lightning strikes from 1 January 2007 to 31 December 2010. The research purpose to make forecasting models and knowing the results of the forecasting. Model making is done using MATLAB software with ANFIS method which is one of the methods of artificial intelligence. In the modeling, two things are done namely training and testing data. Data training purpose to know forecasting models while data testing is done to test forecasting models.. Based on the training data, the model obtained is the equation form  $\sum_i \bar{w}_i (p_i x_1 + q_i)$ , where in the test data the number of daily errors, MBE, and RMSE is small, which are respectively respectively  $3.63 \times 10^{-6}$ ,  $-3.94 \times 10^{-9}$ ,  $2.84 \times 10^{-8}$ . In addition, the correlation coefficient obtained is +1, meaning predictive data and actual data have a strong and positive direction, namely increasing or decreasing the forecast data following an increase or decrease in actual data.*

**Keywords: Forecasting, Lightning Strikes, ANFIS**