

## ***ABSTRACT***

*Time-based rainfall forecasting is one of the statistical methods used to forecast an event in the future from past data. This research uses time series Autoregressive Moving Average ARMA (1,2) and Autoregressive Conditional Heteroskedasticity ARCH (1) algorithm for rainfall data forecasting at Indonesian Meteorology Climatology and Geophysics Agency (BMKG) Bandung Regency from January 2005 until December 2016, with Using the Mean RMSE (Root Mean Square Error) as validation error levels in the Model. At this time the model is ARMA (1,2) and ARCH (1).*

*The value of Training RMSE ARMA (1,2) is 254.7099 and ARCH (1) is 222.6073. The value of RMSE ARMA Testing (1,2) is 266.5254 and ARCH (1) is 276,707. The MAPE ARMA Training Value (1,2) is 1082131.018 and ARCH (1) is 1067641.555. The test value of MAPE ARMA (1,2) is 1940.4547 and ARCH (1) is 1850.4366. By that show model ARCH (1) better in rainfall forecasting compare with ARMA model (1,2).*

**Keyword:** *time series, forecast, ARMA, ARCH, rainfall.*