

Abstract

Continuous rain, which has high rainfall and may be forecast in a number of ways, can cause disasters such as floods and landslides. Total precipitation is one of the climate factors that can indicate rainwater accumulation over the safe boundary. One of the best methods to predict precipitation is the time series model since it can be used to identify seasonal patterns in rainfall. In this work, the fuzzy time-series model was used to forecast the total precipitation in the Bandung regency. Based on fuzzy logic, fuzzy time series models are used to handle the ambiguities and uncertainties included in weather data. To deal with the ambiguity and imperfection of time series data, fuzzy time series models employ fuzzy logic techniques. As training data for creating and testing models, the ERA 5 rainfall data set for the years 1978 to 2020 will be used. The forecast findings were then compared to those of the SARIMA model. While the fuzzy time series model provides lesser error scores than the prediction outcomes using the SARIMA model, the comparison demonstrated that it was a promising way to predict precipitation.

Keywords : fuzzy time series, weather forecasting, time series model, precipitation, seasonal model.