

## **Abstract**

**The amount of rainfall that occurs can affect natural disasters and even food production to economic activities. the factor of the area where the rain occurs is one of the main parameters for how the change occurs. So, it is necessary to have a rainfall prediction approach that aims to find out when and what type of rain will occur. Spatial classification and interpolation are two methods used to make predictions. Random Forest is a classification method that can be used to predict rainfall. and Inverse Distance Weighted is one of the stochastic interpolation techniques to calculate the estimated rainfall from the data points of rainfall that occur so that the distribution can be visualized. In the implementation of Random Forest, the model that is built on a daily basis gets the best level of accuracy in the 5D model sub model C with an accuracy of 0.8238 while the monthly model gets the best level of accuracy in the sub-model B 4M 0.9362. and the results of predictions and mapping using IDW show that daily predictions from June 1-4 2022 show that Most of Java Island will experience light rain, June 5-7 2022 most of Java Island will experience sunny cloudy days. And for monthly predictions, August and June 2022 show the distribution of monthly rainfall with predictions that most of Java is cloudy, while May, July, October, September have light rainfall in most of Java.**

**Keywords: rainfall; inverse distance weighted; random forest; classification;**