

## **Abstract**

Indonesia is a country with two thirds of its territory is water, this makes Indonesia has the second longest coastline in the world, which is 54,176 km<sup>2</sup> and Jakarta is the capital of Indonesia which has beaches and sea, with the current condition of global warming, sea levels will rise. Sea level rise is a phenomenon of sea level rise caused by many factors, one of which is global warming. Coastal areas are the areas most vulnerable to the effects of rising sea levels. Therefore, sea level rise information is used as a consideration for making policies, especially regarding development plans in coastal areas such as in waters. Sea water levels are the average sea level that can be measured on the coast. This sea level elevation prediction is really needed to be taken into consideration especially in making policy regarding development plans in the waters of Jakarta, therefore this study predicts sea level in Jakarta Ancol Beach using hybrid Artificial Neural Network (ANN) and Algoritma Genetics (GA ). Based on several test scenarios in this study using artificial neural network methods and genetic algorithms succeeded in predicting sea level for the next 15 minutes using 200 epochs and producing the lowest rmse (root mean square error) value of 0.00003 with genetic algorithm parameters with population size 8, mutation probability 0.25, crossover probability 0.5 and maximum generation 200

**Keywords:**Sea level, Artificial Neural Network, Genetic Algorithm