ABSTRACT

Tsunami waves can hit the shoreline with immense energy. The energy contained in a tsunami has an established effect on its altitude and velocity functions—this final work using the Artificial Neural Network (ANN) method. The process of data normalization is using sigmoid functions in the backpropagation process to perform on inputs in the range of 0 to 1. The output normalized into the range of input values. Outputs in the form of SMS notifications will transmit using the sim 7000E v2 module. ANN process applies hidden layers of neurons using: 3 nodes, 4 nodes, and 5 neuron nodes with each accuracy on 83%, 91%, and 97%. Maximum results in the prediction happen when using node 5 hidden layer neurons. Prediction results tested with fulfillment about the SMS-based Tsunami early warning system, including some delay from 10-15 seconds.

Keywords: Artificial Neural Network, Backpropagation, *Early Warning System*