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Information technology is growing rapidly everytime. Bythese development of technology continues to cause people be more creative to create new technology to allow people for accessing the information what do you want quickly. One thing that could be raised is about the field of remote sensing measurements of ocean depth orin other words is bathymetry. At first measurements of ocean depth is soundings performed by the system or ultrasonic waves firing from the ship to the ocean floor and catch it again, based on the launch and acceptance interval will be obtained depths of the ocean waves at a certain point. But doing this way it takes much process, a lot costs, and substantial time to get the depth of information that desired. From these existing problems, developing in research to measure the depth of the sea using the data processing of multispectral satellite imagery. This satellite imagery will be obtained of any information that could be used as a variable that will be used in determining the depth of the sea. The variables obtained from the image processing can be used for model building to be used as a predictor of the depth of the sea.

In this research, the existing data will be processed in two stages, namely preprocessing input image and depth prediction. In the preprocessing stage of processing will be done so that the image can be processed at a later stage. For image preprocessing stages RGB data input will be taken and then be adjusted to the depth based on the location of pixels and the depth of the point. After obtained the RGB color composition, then predicted using algorithms backpropagation Artificial Neural Network (ANN) with binary sigmoid activation function. For the establishment of a system, data taken from two different places, for image data itself is taken from Google Map and depth to the data taken from the Hawaii University.

Artificial Neural Network Backpropagation has pretty good predictive ability in the case of sea depth prediction, it is proved by the performance of the ANN built by system that can generate MAPE 7.87% and MSE 0.00255, there are number of hidden layer 3 (layer 1 = 20 neurons, 2 = 15 neurons layer, layer 3 = 25 neurons), epoch 2000 and learning rate of 0.001. So that the model that has been used for the prediction obtained viable ocean depths .

Keywords : *Prediction, bathymetry, Preprocessing, Artificial Neural Network, Backpropagation, Mean Square Error (MSE), Mean Absolute Error precentage (MAPE).*