# ABSTRACT

Many natural disasters happening lately a lot of harm both material losses and also many casualties. Many ways can be used to anticipate the existence of natural disasters. One of them by applying the detector. Where it can be used as an indicator of an early warning system. One of the most common disasters are floods which occur every rainy season in some areas flooded Indonesia. Water surface elevation is one of the parameters used in the monitor. During this measurement of water surface elevation information was done manually with the scale - a scale that is placed on the riverbank.

Final project describes how to create a water level monitoring system using microcontroller based ultrasonic waves. Actually has a lot of discussing this issue, but here will be designed to measure the dynamic water level (water is moving).

Ping sensor by utilizing the principle of sound reflection is used to measure the height of the water. Ping sensor to emit an ultrasonic wave buoy installed to comply with changes in the water. During the wait for reflection, the sensor will generate a ping pulse. This pulse will stop (low) when the reflected sound is detected by the sensor ping. Hence, the pulse width can represent the distance between the sensor ping with the object. Next microcontroller enough pulse width is measured and converted in the form of the distance. This is done by the assembly program stored in microcontroller memory. The results of these measurements were sent to the computer via radio waves. Then the computer displays the results of calculations and graphs, so that the water level can be monitored at any time.

**Key Word :** ***Microcontroller ATMEGA8535, Ping Censor, Water Volume***