ABSTRACT

Floods are natural disasters devastating impact of human life. These disasters each year often make the people who live in the watershed feel uneasy. During this measurement to obtain rainfall data and the current altitude is still done manually, ie by measuring and recording directly on the existing sensors in the field. And to monitor hydrologic conditions in flood-prone areas needed real-time data so that responses to open-close the water gate can be done as quickly as possible to minimize flooding. Therefore, in this final task is designed flood monitoring system that can monitor and process data in real time.

The technique used is to process parameters that could affect the river flow increased the water level and rainfall in the upstream river. The data obtained are stored into the data logger system, then sent back wirelessly using radio waves to a computer data collector so obtained the results of monitoring of current conditions in the catchment area (area monitoring) specific. After from computer data collectors, data is sent to a computer server that the data was processed with data from other monitored areas. If the monitoring results indicate the conditions in which the flood, then there is an alert system of sirens and the control response in the form of opening and closing the door the water. With such a system is expected to move early to anticipate the flood can be done with as quickly as possible.

In the test transmitter for an hour, storage is every one minute and the transmission is conducted every 2 minutes transmission error results obtained for 6.67%. While the rainfall sensor error obtained at 5.4%. occurs at altitude sensor error of 1.87%. This sensor obtained better results, although there was a mistake.

Keywords: Flood, monitoring systems, control of water gate