ABSTRACT

Forest is an area where the trees and other plants grow up. Forest have a function to produce oxygen, beside that forest also keep the ground from erosion and flood. That is why the forest area is very important to be maintained, especially the area around the river upstream which has turn into another field. With the switching of the forest function when it rains, more water will run off the surface (run off) than absorbs into the soil (base flow), causing an increase in the volume of river water and may cause flooding in downstream.

Monitoring the area of forest around the watershed is very important to know the extent of the remaining forest area to keep the forest from being converted into a field or settlement. Such monitoring can be done through aerial photographs or satellite imagery obtained from Google Earth applications capable of displaying earth surface conditions, as well as buildings and plants of varying magnification.

This final project is an application measurement of the size of an area of forest using Google Earth image processed using MATLAB. The process of identification will be using Gray Level Co-occurrence Matrix (GLCM) method and classification use Support Vector Machine (SVM). Data that used in this final task are 80 training data and 80 test data. Accuracy values were obtained at 100% with forest and water test data, 100% with forest and paddy field test data, 68.75% with forest and bush test data, 67.5% with forest and building houses test data, and 78.75% with forest test data and non-forest.

Keyword : *image processing, google earth, GLCM, SVM*