

## **Abstract**

### **USING LANDSAT 5 TM TO DETERMINE LANDUSE CLASSIFICATION FOR REPRESENTING SEASONAL EVAPOTRANSPIRATION FROM 2 UNIQUE DRAINAGE BASINS IN A HYDROLOGIC BUDGET**

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The accurate determination of landuse/landcover is an important component in the study of the environment. Use of satellite imagery allows for high resolution spatio-temporal data for watershed studies. The objective of this research was to utilize satellite image interpretation to determine landuse classes to be incorporated into a simple hydrologic water budget model. These studies took place in the Joshua Creek basin, located in DeSoto County, FL and the Payne Creek basin located in Polk, Hardee and Hillsborough Counties, FL. Joshua Creek encompasses ~120 square miles and has agricultural and rural land usage, while Payne Creek includes ~122 square miles and has phosphate mining as well as rural and agricultural sections. Landsat 5 TM images were obtained for summer and winter of 1995-2000 (path 16, row 41) and classification performed. The result was input into the model to determine evapotranspiration losses from the differing land cover types.