

## Land Use Analysis using Time Series of Vegetation Index Derived from Satellite Remote Sensing in Brantas River Watershed of East Java, Indonesia

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**Abstract.** In this study, the time series datasets of MODIS EVI (Enhanced Vegetation Index) data from 2002 and 2011 in Brantas River watershed which is located in the eastern Java, Indonesia was analyzed and classified to make ten land use maps for every year, in order to support of the watershed land use planning which takes into accounts of local land use and trends of land use change. These land use maps which have eight types of main land use categories were examined. In these 10 years, forested area has been expanding, while upland, paddy rice field, mixed garden and plantation have decreased in area. One of the reasons for this land use change is presumed to be ascribed to the tree planting under the joint forest management system by local people and the state forest corporation.

**Keywords.** Brantas River watershed, Satellite remote sensing, Time series dataset of MODIS vegetation index, Land use classification, Land use change