INTERPRETATION OF GEOLOGICAL STRUCTURE BY ANALYSIS BY REMOTE SENSING AND GEOGRAPHIC INFORMATION SYSTEM METHOD
(Case Study Area in Plandaan Subdistrict, Jombang District)

Name : M. Iwan karmawan
NRP : 3107204001
Supervisor : Dr. Ir. Muhammad Taufik
Dr.Ing.Ir.Teguh Harianto, MSc.

Abstract

Geological mapping is needed as a reference structure to determine the condition and potential geology of a region. In conventional geologic mapping to fill the above purposes will require a huge time and cost. As a proven shortcut analysis of remote sensing and GIS can provide a significant contribution to consider its use. Regional physiographic areas of research are included in the East Java Zone where the Zone Kendeng. Zone Kendeng is hilly topography with a controlled expression of Geological Structure of the intensive form folding and fault systems. The results of interpretation and analysis of image data is delineation geological structure of the study area which are stages of images processing and GIS analysis which includes: geometric and radiometric corrections, color composite, image enhancement and spatial filtering. Interpretation of geological structures is done by identification of morphology patterns that associated with geological structures such as: liniament of Topographic pattern, liniament of drainage pattern, folds valley folds, triangular facet, and escarpment. Geological structures that can be interpreted by analysis visual of this study includes: folds, faults and fracture, where the results of the tectonic analysis is North – South direction relatively. Fase of geological structure had occurred in the in Pliocene - Plistosen.

Keywords: Structural Geologi Mapping, Remote Sensing, Geographic Information Systems