

FLOOD HAZARD MAPPING THROUGH LANDSCAPE ANALYSIS

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Flood hazard mapping have been carried out by three ministries and agencies that are Geospatial Information Agency, Meteorology-Climatology and Geophysics Agency and the Ministry of Public Works since 2006. Review of the method applied in the flood hazard mapping is necessary due to the recent technology development which in line to the better understanding of the landscape systems. Landscape analysis through the usage of existing land systems map and Digital Elevation Model (DEM) was applied to determine the flood susceptibility areas as well as flood type classification into flash flood, riverine flood, coastal flood and urban flood. The results of the method testing was run in Agam, Solok and Pesisir Selatan Districts. It was found that: flash floods occur at alluvial fan; riverine floods at alluvial plains, back swamp and river terraces; coastal flood at fluvio-marine plains; and urban flood is located at the alluvial plain/alluvial fan/fluvio-marine plain. To determine the level of hazard into three classes, i.e.: I, II and III (low, medium and high) were based on weighting and scoring method on each types of flood.

Keywords: flood map, geomorphological, land systems, flood risk, scoring