

FEASIBILITY EVALUATION OF ROAD WITH REMOTE SENSING DATA BASED ON GEOMETRIC AND DEFORMATION VERTICAL PARAMETER

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Abstract - Road infrastructure is the backbone of economic growth and pulse adjacent territories, as generally characteristic of the different regions in terms of natural resources will complement the deficiency with integrated activities. The existence and development of the performance capabilities should be continuously evaluated, with parameters adjusted tonnage and speed of the vehicle as well as changes in the environment, especially the movement of soil and hydrology scheme. Relational existence this way can apply remote sensing data, namely SPOT, XSAR, and SRTM. Object-oriented segmentation method can be used to obtain the recognition of geometric patterns, topography, land form, land use classes around the road, and building a complementary way. Segmentation results of optical data (SPOT) is combined with SAR remote sensing data and contour lines and the high point of a product that can be interpreted vertical deformation. This gives an indication of the vertical deformation as one of the eligibility requirements. In this paper carried out the integration of data fusion combined with SRTM C DEM1 XSAR and processing the high point for the manufacture of vertical deformation maps, SRTM C Combination with DEM1 XSAR acquired in 2000 and the high point of the map acquired Indonesian RBI (RBI) in 1996. Then do the conversion to high-value and compared the results. The result is the values to be used to make vertical deformation. Of matter can be identified maximum range of + 2.5 m drop. Analysis of the object is the Way Maros-Watampone, it can be seen that the point of having a landslide. The vertical deformation has been qualified accuracy is $<3\sigma$. Results of this study can be used for surveying applications in the determination and maintenance of the potential and strength of the road.

Keywords: Remote Sensing, SAR, Vertical Deformation, Feasibility