GIS APPLICATION FOR COMPILING PRIMARY DATA FOR SUPPORTING AND EVALUATING INUNDATION-PRONE AREA IN SURABAYA

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Abstract

Surabaya is one of the biggest capital of province’s in Indonesia. Claimed as large urban area after the capital city of Indonesia, Jakarta. One thing to be worried from Surabaya is the vulnerability of this city to water inundation. Water inundation is different with flood, if water inundation is mainly caused by landuse environment, primary and secondary drainage. In the other hand, flood is mainly caused by areal morphology. Water inundation for a long period could damage the city infrastructure gradually.

Primary data which is including spatial and non-spatial data are used as a reference for evaluating water inundation in Surabaya wether it is
increase, decrease, or not even change at all, so there are some areas that are used to had an inundate. After evaluating, Geographic Information System about vulnerability to water inundation area are made, for providing more interactive map.

According to water inundation map at year 2006 and 2009, there is no change about location or even the vulnerability grade of the inundate area in Surabaya. Even in 2009, Surabaya’s rainfall has decreased from 1,801 mm to 1,620.27 mm. With the decreasing of rainfall rate in Surabaya, the inunduate impact in Surabaya should be decreased too. This thing is mainly caused by another aspect such as landuse change, and sea water level that could change every year.

Key Word : Surabaya, Geographic Information System, Primary Data, area prone to water inunduation