

# Pengaruh Perubahan Tutupan Lahan terhadap Terjadinya Banjir di DAS Bringin Kota Semarang dengan Memanfaatkan Citra Satelit

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## ABSTRACT

*Population growth and increasing of their activities in urban area led to promote landuse conversion from nonbuilt-up area into built-up area. Increasing of built-up area usually will be followed by decreasing of recharge area, this phenomenon finally will cause flood in lower watershed. This research is aimed to examine the influence of landcover changes on flooding in Bringin watershed at Semarang. A quantitatively descriptive method is used to analyze changes in landcover using Landsat TM images recorded in 1994, 2001, and 2005. Influence of landcover changes on flooding is analyzed using a frequency distribution method with landcover changes, debit changes, and flood changes variables. The results show that landcover changes in Bringin watershed have a significant influence on debit and flood area. Phenomenon of changes in 2001-2005 is greater that occurred in 1994-2001. In 1994-2001 built-up area increase up to 31.060 ha, this condition will affect on increasing of flood debit up to 2.89 m<sup>3</sup>/second and flood area up to 31.970 ha. In 2001-2005 built-up area increase up to 68.277 ha, this condition will increase flood debit and flood area up to 4.79 m<sup>3</sup>/second and 58.502 ha respectively. Flood is widespread in some areas of Mangkang Wetan, Wonosari, Gondoriyo, Wates and Mangunharjo District.*

**Keywords :** *landcover changes, flood, watershed, satellite images*