A study on Average CN Estimation in River Basin using Satellite Data

Bong-kyum Kwon[1], Myung-Hee Jo[2] · Seung-Sep Ahn[2] · Yamada Kiyoshi[1]

[1]Dept. of Civil & Environmental System Engineering. Ritsumeikan University, Japan
youlli@excite.co.jp
[2]Dept. of Urban Information & Cadastral Engineering, Kyungil University, Korea
mhjo@bear.kyungil.ac.kr · ssahn@bear.kyungil.ac.kr

Abstract

The goal of this study is to apply and evaluate the precipitation outflow in river basin using satellite data and GIS for proposing the efficient watershed management method. Not only precipitation outflow data but also various spatial data such as digital map, soil map, geologic map and multi-temporal TM images were used. Using landcover classification result and soil map were applied to estimate the average CN. The CN value of 63.37 by SCS method was produced in AMC-2 condition otherwise the result of direct estimation with observation method was 63 CN value.

The relative error of two results was 0.59%. It can be possible to apply the satellite data for precipitation outflow analysis. For more accurate and credible analysis of this, the more multi-temporal satellite and real observation data will be needed.