

Determination of inundation area based on flood hazard for a global water risk assessment

JONGGEOL PARK¹ & YOUNGJOO KWAK²

¹ *Tokyo University of Information, 4-1 Onaridai, Wakaba, Chiba 265-8501, Japan*
amon@rsch.tuis.ac.jp

² *International Centre for Water Hazard and Risk Management (ICHARM) under the auspices of UNESCO, Public Works Research Institute (PWRI), 1-6 Minamihara, Tsukuba, Ibaraki 305-8516, Japan*

Abstract The authors determined flood areas accurately in emergency response efforts as soon as possible. Estimation of a flood periphery is important to determine a fundamental hazard for risk management. The purpose of this study was to accurately extract the spatial distribution of nationwide flood risk using MODIS time series images and to estimate a simple algorithm for computing the flood inundation depth using DEM, flow direction and river network. The authors improved the accuracy of the water extent boundary using flood inundation depth (FID) data from a one-year time series of MODIS data.

Key words flood risk; flood inundation depth (FID); MODIS; time series