
Change Detection from SPOT- Panchromatic Imagery at the Urban-rural Fringe of Ho Chi Minh City, Vietnam

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Abstract

This paper proposes a simple, automated method to detect rural to urban land use changes at the pixel level of SPOT-Panchromatic images in the developing world. The proposed method entails two tasks: (1) classification of images as either urban (built-up) or rural (non built-up) at a relatively high level of spatial detail (pixel level) in order to include the classification of houses made of natural materials. The binary classification was performed through a combined thresholding of spectral information and spatial information derived by a normalized high-pass filter. An automatic procedure was used to determine the optimal threshold (2) classified image comparison of two different dates by overlaying them to detect changes from rural to urban land use during the corresponding period. An accuracy of 82.31% was achieved for the final change map.
