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DETERMINATION OF MAGNITUDE AND DIRECTION OF LAND USE/ LAND COVER CHANGES IN TERKOS WATER BASIN, ISTANBUL

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Abstract. Remotely sensed data have huge importance to determine land use/cover changes for sustainable region planning and management. Variety of techniques in order to detect land cover dynamics using remote sensing imagery have been developed, tested and assessed with the results varying according to the change scenario, the information required and the imagery applied. In this study, the modified Change Vector Analysis (mCVA) technique was implemented on SPOT 4 and SPOT 5 multispectral (MS) data to monitor the dynamics of land use/land cover (LULC) change in Terkos Water Basin, İstanbul. mCVA was applied to multi-temporal data to compare the differences in the time-trajectory of the Tasseled Cap (TC) brightness, greenness and wetness for two successive time periods – 2003 and 2007. Gram Schmidt Orthogonalization Technique was used to derive the related TC coefficients for SPOT data. The efficiency of the technique was assessed based on error matrix. The overall accuracy and Kappa statistic was 84.32 % and 0.81, respectively. The results indicated that it is possible to produce accurate change detection maps with the help of mCVA and SPOT 4 & SPOT 5 satellite data.

[Conference Paper](#) (PDF, 843 KB)

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