Knowledge based land use/land cover map generation of Zohreh water basin area

Meysam Argany (1) and Tahereh Tookhanbegli (2)

(1) Mahab Ghodss Consulting Engineering Co. , (2) Mahab Ghodss Consulting Engineering Co.

Abstract

Land use/land cover maps are necessary to study water and soil resources of Zohreh water basin. These information lead to optimize quantitative and qualitative utilization of resources and they include all of the effective factors such as water and soil resources, drinking requirements, industry, agriculture, developing plans in study and execution phases and investment costs in water and soil developing plans.

In this project, LISS-III and PAN sensors from IRS satellite images were selected due to their spatial and spectral accuracy and they were geometrically corrected by using proper mathematical model and available 1:25 000 maps in sub-pixel accuracy. Then LISS-III and PAN fusion process made better spatial resolution image.

Field survey completed in two steps. First, measuring the ground control points and next gathering ground information from feature classes.

Finally, spectral analysis and classification based on specified classes were carried out by ENVI as follow, ground truth training areas were entered to software, decision tree flowchart was formed and then maximum likelihood supervised classification were executed and eleven classes extracted. The results were interpreted and controlled by ground truth data. Final output was 1:50 000 thematic map in shp form.