

Land cover changes in District Nachod using remote sensing data

Abstract

The purpose of this project was to create a classification of the land cover of Náchod district for years 1979, 1991 and 2001 based on multi-spectral images gained from publicly available archive images database provided by Landsat satellites. Data used in this paper are described in details. The created classification system is based on CORINE Land Cover and adjusted to a measured area and data available. The method used for images classification was method of supervised classification in PCI Geomatics program and classification algorithm of Maximum Likelihood Classification. The result was smoothed by majority filter and converted to the vector form. Accuracy of the classification was evaluated in details, based on the check points. Overall accuracy was quite low (2001 – 82 %, 1991 – 74 %, 1979 – 67 %), depending on the quality (mainly spectral and spatial resolution) of the images and also availability of other reference data. Land cover changes for the whole time period were therefore evaluated using just the balance method (i.e. overall classes distributions in district were compared between separate years). For years 1991 and 2001 it was also tried to overlap their final vector land cover layouts, however target Change areas in some cases more likely depicts inadequacy in classifications than real changes of the land cover between given years.

Key words: land cover, district Nachod, Landsat archiv