ABSTRACT

The aim of the thesis is to assess thematic accuracy of categorical land survey records by means of remote sensing and geographical information systems. Theoretical section deals with previous results of research focused on land survey records accuracy evaluation on cadastral scale in Czech Republic. Furthermore the concepts of retrieving land use / land cover information by means of remote sensing and accuracy assessment aspects are mentioned as well.

Data from several sources were made use: ground truth data, digital cadastral map, analogue maps and high spatial resolution satellite images from IKONOS and SPOT 5. Real land use in model cadastres was attained using visual image interpretation and auxiliary data evaluation. Compared to real land use the land survey records had 88% accuracy which varied between land use classes. In order to test feasibility of updating land use database a supervised maximum likelihood classification was carried out. Classification was followed by a knowledge-based reclassification incorporating data from various sources. An overall accuracy of classification methods was moderately better in comparison with land survey records. Proven method at used resolutions in conjunction with interpretation is sufficient enough to update some land use classes (arable land, grassland, woodland and water areas) in the database and might serve as a better way of updating than it has been used so far.

Keywords:

thematic accuracy, land survey records, rural land use, knowledge-based reclassification