

Abstract

This diploma thesis deals with application of object-oriented image analysis (OBIA) for urban development monitoring. The aim of the thesis is to find semiautomatic way of determining of transferable classification rule-base. Recent world urbanisation processes and the responsibilities of Czech urban planning are described in the theoretical part. Also basic principles of image analysis are characterized and discussed in the first part of the thesis.

Pansharpenned IKONOS images were analyzed in Definiens Professional during the practical part. The main analysis of object features was performed in statistic software SPSS. Proposed method based on analysis of variance (ANOVA) allowed to choose optimal object features for transferable classification rules determination and following object oriented classification. In comparison to common manual way of classification parameters determination the presented method can be described as more transparent and automatical. The results of the classification have shown problems with detection of extremely discontinous residential areas. Though the applied hierarchical object-oriented approach is suitable for urban development monitoring.

Keywords: *land cover, OBIA, object features, urban sprawl, urban, planning, spatial plannig*