

Abstract

This diploma thesis deals with the application of VHR satellite data object-oriented classification for landscape scattered vegetation monitoring. The thesis includes an introduction to scattered vegetation preservation and monitoring in the Czech Republic. The theoretical part describes object-oriented methods of image data analysis, presents appropriate bibliography and discuss the benefits of this method. Special attention is paid to multiresolution segmentation algorithm.

In practical part these methods were applied on IKONOS data, using Definiens Professional software. Optimal combinations of segmentation parameters and specific features for determination of scattered vegetation units have been found. Two different classification methods were applied – nearest neighbor classifier and tresholding. Producer and user accuracy achieved using both methods were about 80%.

The results of this research have shown the suitability of VHR satellite data object-oriented classification on purpose of the scattered vegetation monitoring.