

Abstract

Region called “Sokolovsko” is an area in the Czech Republic in which a coal mining has caused a great interference with the appearance of the landscape. With a subsequent reclamation, the affected areas are recreated into new landscapes, however on the research base, the non-interference approach is applied in order to follow the principles of a natural succession. This diploma thesis examines the influence of the origin, respectively the relief of the dump area on the intensity of the spontaneous vegetation growth, within the example of the Velká podkrušnohorská spoil heap, based on the data collected by remote sensing techniques. The vegetation indices NDVI and SAVI were used to reveal the intensity of the vegetation cover on the area of the interest. It is clear from the results that the vegetation growth is considerably faster in the areas with the original, wavy relief. It was also found that the vegetation growth of the non reclaimed area of Velká podkrušnohorská spoil heap in the parts of which the relief was settled at the time of the origin differs from the non reclaimed area of which the relief was left in the original wavy surface and later over layered with a new material. Finally it was made a comparison between the non reclaimed part of the Velká podkrušnohorská spoil heap whose relief was left in the original waves and later settled and the non reclaimed area whose relief was left in the original waves and later over layered with a new material. In case of the vegetation growth, the statistically significant difference between these two approaches was not proven. The used vegetation index SAVI, whose soil correction factor should improve the estimation of the intensity of vegetation in the areas with a low vegetation coverage, strongly correlated with the NDVI vegetation index in all monitored parameters. Therefore, the widely used vegetation index NDVI is sufficient to monitor the development of vegetation in the spoil heaps.