



Landscape changes near open pit mines

*Chief assistant Hristo Nikolov¹, Chief assistant PhD
Denitsa Borisova¹*

¹Space research and technology institute, Bulgarian Academy of Sciences

Abstract

Open pit mining areas in Europe are responsible for 8333 km² according to Corine2006 data. In this paper we focus our research on the change of landscape in the one of the most exploited mining regions of Bulgaria – Panagyurishte ore region. We investigate the impact of the mining industry in this specific region since it is exploited starting in the early 60-ties of the last century. In our previous research we traced the changes of the environment at small scale investigating specific open pit mine and one of the conclusions was that an extensive study encompassing the whole region is needed. In this case we are focused on the developments taking place in larger area and the impact this specific type of activities has on the land cover/land use. We expect that the results from this study can be used for better planning at regional level. Main source of data used throughout this research are multichannel data from TM/ETM+/OLI instruments and this choice was based on the two essential for this study requirements – repeatability of the data and derived products and the open access to them. For verification of the results additional data from other sources were also used – in-situ measurements made by the team at specific points of interest, digital orthophotos, DEMs, etc.

Keywords: open pit mines, landscape impact, mulchichannel data, Natura2000 sites