

LAND-USE/LAND-COVER CHANGE OF BISTRISHKO BRANISHTE UNESCO MAB RESERVE USING VERY HIGH-RESOLUTION PLEIADES AND WORLDVIEW-2 DATA

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ABSTRACT

Land-use/land-cover change (LULCC) has gained momentum in the past few years in Europe with the advance of the pre-operational phase of Copernicus land services. The Copernicus programme in turn reflects the global challenges which our planet faces due to the ever growing human impact and pressure on the environment. Present study aims at revealing LU/LC change of *Bistrishko branishte* Man and Biosphere (MAB) UNESCO reserve in *Vitosha* mountain using very high resolution optical satellite data from the eight-band WorldView-2 (Digital Globe) and Pleiades (Airbus Defence & Space). The LU/LC classification of the study area is done for the period 2010-2013, for which difference images, between LU/LC maps for the two years, have been created. The LU/LC classification scheme follows CORINE 2000 Level 3 with few additional classes introduced to map specific classes for the UNESCO MAB biosphere reserve. The methods used in the study are geoinformation (remote sensing, digital image processing, GIS methods), cartography (mapping of LULCC), and statistical (descriptive statistics, accuracy assessment). The results show that about 0.6 km² of the study area have been devastated by a wildfire which took place in June-July 2012. A decrease in '312 Coniferous forest' LU/LC class, due to fuelling the wildfire, is marked out. The high overall Kappa from the change detection between both dates provides that the results are reliable and could serve as a background investigation in future LU/LC studies as well as for studying the temporal changes which are taking place after the wildfire.

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