URBAN LANDSCAPE CHANGE ANALYSIS OF BURGAS COASTAL ZONE IN 1990 - 2006 USING SATELLITE IMAGERY

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The urbanization is critical for environmental protection and resource management of the coastal zone. The urban landscape pattern of Burgas region has undergone a significant change over the past 15 years, as a result of the rapid built in of the Black Sea coastal zone mainly related to tourism development. This study aims to quantify and analyze spatial and temporal dynamics of urban landscape of Burgas coastal zone for the period 1990-2006. An integrated approach of GIS, remote sensing and spatial analysis tools were applied to detect and analyze the urban landscape changes in the study area. The focus is placed on two aspects: detection of urban land cover changes at municipality level and capturing the spatio-temporal trend in the landscape pattern associated with urbanization for this region. Land cover data were interpreted from satellite imagery in GIS environment. The remotely sensed data used includes multispectral images from Landsat TM, Landsat ETM+, IRS P6, SPOT 4 and SPOT 5 acquired in 1990, 2000 and 2006. For better understanding the spatio-temporal trend in the dynamics of urban landscape, land cover characteristics were analyzed and spatial metrics were calculated based on thematic maps representing built and non-built spatial patches. Results indicate that a substantial urban area has been extended during 1990-2006, along with the shrinking of arable land and woodland. The observed types of change identified in the study were urban expansion or densification. Besides, the results provide an estimate of the extent, pattern and direction of urban landscape dynamics in the study area.

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