



“Gheorghe Asachi” Technical University of Iasi, Romania



AUTOMATED GEODATA PROCESSING FOR BLACK SEA INFLUENCE ASSESSMENT ON THE LAND SURFACE TEMPERATURE

Sorin Constantin^{1,3*}, Sorin Cheval^{2,3}

¹*Advanced Studies and Research Center, 4 Verii Street, 020723 - Bucharest, Romania*

²*National Meteorological Administration, 97 Bucharest – Ploiesti Street, 013686 - Bucharest, Romania*

³*National Institute for Research and Development in Environmental Protection,
294 Splaiul Independentei, 060031- Bucharest, Romania*

Abstract

The influence of the Black Sea on the continental climate is generally limited, comparatively with other maritime basins. Nevertheless, the influence is important for local scale environment, with several applications in the economy, i.e. building industry, agriculture, forestry. The extension of the Black Sea influence inside the Dobroudja Plateau has been tackled constantly by the Romanian climatologists, the main methodological problem being the low number of meteorological stations in Dobroudja. This research promotes the use of satellite imagery in investigating the Land Surface Temperatures (LST), as a response to the mentioned drawback. The study is based on satellite images acquired by the instruments aboard the NASA (National Aeronautics and Space Administration) platform Terra – MODIS (Moderate Resolution Imaging Spectroradiometer) and it refers to the months of July 2000-2011. The LST values have been analyzed in correlation with the land cover information retrieved from CORINE Land Cover products. The Sea Surface Temperature (SST) values have been also investigated. The study demonstrates the utility of remote sensing approaches in climatology, and it promotes a working flux that can be easily transferred to other users and applications. The scientific output is delivered as an opening to more detailed studies.

Key words: automated processing, Black Sea, GIS, land surface temperature, MODIS

Received: May, 2012; Revised final: January, 2013; Accepted: February, 2013
