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LONG-TERM ENVIRONMENTAL CHANGES ANALYSIS USING CORINE DATA

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Abstract

Long periods should be considered to characterize the dynamics of regional ecosystems complexes. For the European continent, research is advantaged by the existence of CORINE land cover and use data. This study aims to develop a methodology for using CORINE data (periods 1990-2000 and 2000-2006) to assess long-term environmental changes at a regional scale, consisting of identifying common causes and using ordinary kriging to look at the spatial distribution of changes due to each underlying factor, applied to the Romanian North East Region of Development to answer three questions: what are the characteristic changes and their underlying causes, whether there are different trends in the two periods, and if particular changes form spatial clusters. The results indicate that three types of changes characterize the region: urbanization, abandonment and development of agriculture, and deforestation and afforestation/reforestation. Urbanization tends to increase during the two periods, correlated to the substantial economic growth of the region, and points to the growth pole represented by Iași. Even though agricultural abandonment tends to decrease, the very strong decline in the development of agriculture leads to an overall decline of the sector. Finally, while the regeneration of forests tends to slow down, deforestations increase dramatically, suggesting an alarming situation. It appears that the development of agriculture took place at the cost of losing the forests. The results also indicate differences between the two periods after adjusting for the time difference when all individual changes area accounted for, and cross-matrices suggest that the most important changes occurred in agriculture.

Key words: CORINE, deforestation, kriging, long-term environmental changes, urbanization

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