

Development Types and Subtypes of the Central Lika Landscape for the Period 1980-2012 – Application of Spatial and Process-oriented GIS Model

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Abstract

This paper conducts the establishment and spatial analysis of development types and subtypes of the Central Lika landscape for the period 1980–2012, as well as observes the processes in the landscape that have occurred. For this purpose, a GIS model is applied and graphically displayed. When determining the landscape types and subtypes of Central Lika, a method based on land cover/land use was applied and data from the CORINE database for the years 1980 and 2012 were used. Based on the interrelationships of the determined landscape types for the two observed years, six development types and three development subtypes of the Central Lika landscape for the period 1980–2012 were established. In order to observe the spatial distribution of the three phases of the vegetation succession process, a spatial analysis of the Central Lika developmental subtypes of the Central Lika landscape was conducted. For this purpose, a spatial analysis method Standard Deviational Ellipse (Directional Distribution) was applied. The obtained results showed that in the examined period (1980–2012) stagnation was the dominant (89.46%) development type/process. The next significant development type/process was Vegetation Succession (5.55%), whereas other, less significant, were Agrarianisation (2.58%), Vegetation Degradation (1.31%) and Construction (0.63%). Within the development type Vegetation Succession, the most common development subtype was Vegetation Succession of the second phase, which occupies a total of 3.11% of the area of Central Lika.

Keywords: land cover/land use, development types, development subtypes, spatial analysis, process analysis, GIS model, Central Lika