

## Representative landscape types of Slovakia

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One of the most recent publications of ILE SAS – the scientific monograph „*Representative landscape types of Slovakia*“ deals with the landscape as a territorial integrity of environmental, cultural and economic activities. The publication is the main output of the project where methodology for the identification of representative landscape types of Slovakia was developed. Delineation of the homogeneous units – landscape types was based on a synthesis of two factors: morphological-morphometric parameters (type of relief, quaternary deposits, climatic regions, and soil types) and prevailing land cover (CORINE Land Cover 2006 – CLC). The GIS (Geographical Information Systems) tool was used to create a patched map of homogeneous areas, which were further interpreted, generalized, and regionalized into a final map of the representative landscape types of Slovakia (RLTS).

The georelief, as a main abiotic factor for landscape-ecological processes, was considered as the most important abiotic factor for RLTS division. Three basic categories were defined: landscape of lowlands, basins and mountains. The mountain landscape is dominant in Slovakia, covering around 53% of the total area. The lowland landscape occupies 29% and the basin landscape 18% of the total area. Within each category, sub-categories were specified: 5 (lowland), 3 (basins), 10 (mountains), which closely describe a form of relief. The land-cover categories were grouped into the main 18 basic units expressing different types of land use. The defined categories of land cover were relevant in the scale of elaboration (1: 500 000). The dominant element of land cover in Slovakia is agricultural landscape with a prevalence of arable land use. Forests evaluated on the basis of prevailing species composition are also represented significantly. The third most large-scale category is the combined category of the agricultural-forest landscape. The landscape types of Slovakia were defined by the synthesis of the mentioned maps (a map of the georelief and a CLC map). In total, 126 basic landscape types were identified. Each landscape type represents a unique combination of land-use in different abiotic conditions and gives a unique environment for natural development.

In the second stage, rare and unique landscape types of Slovakia were identified. Unique types include: landscape of cliff zones, volcanic landscapes, the landscapes of depressions and wetlands, the landscape system of river branches, landscapes of World Cultural and Natural Heritage sites. Rare types include: karst landscape of plateaus, the landscape of high mountains, the landscape of stratovolcanoes and the landscape with historical landscape structures.

The subsequent investigation was focused on the assessment of these units from the point of view of nature protection, their recent degradation and threats, taking into account global changes in Slovakia, especially development after the Second World War. The final step included the preparation of a management proposal with the aim of maintaining all representative landscape types and to secure their sustainable development and protection.

The project operated at two spatial scales: the national level and the local level (10 case studies or different landscape types were investigated in detail). As well as the use of various disciplines like ecology, socio-economy, history, GIS, a transdisciplinary approach was implemented (the effective engagement of stakeholders) as well.

The concluding impacts of the global changes on the Slovakian landscape during the last several decades have been significant determinants of human activities. Processes like urbanisation and socialistic industrialisation mainly impacted the landscape of the lowlands and basins with agricultural use or the mosaic of forests and agricultural areas with urban centres. Predominantly the basins in between the mountains are the localities of high absorption of human interventions when considering the natural limits and thresholds. Moreover, nature protection of the landscape in the lowlands and basins is underestimated in Slovakia and thus the influence of some recent pressures persists. On the other hand, land abandonment is mainly connected to the mountainous regions (uplands, highlands) of rural

