

Table 1. Indicators of landscape components resilience assessment

Landscape component	Properties of landscape components	The source of information and calculation method	Indicators interpretation	Degree of resilience (the bigger points – the higher resilience)
Relief	Steepness of the slopes	DEM, SAGA Terrain Analysis – Morphometry – Slope	Exogenous processes risks and their intensity	0-3° (5 points), 3-8° (4 points), 8-15° (3 points), 15-25° (2 points), >25° (1 point)
	Ruggedness of the territory	DEM, SAGA Terrain Analysis – Morphometry - Terrain Ruggedness Index	Landscape’s potential energy and dangerous processes risks	Small values – high stability, high values – low stability
	Slopes form	DEM, SAGA Terrain Analysis – Morphometry – Convergence Index	The activity of slope processes	Convex slopes – unstable, concave – stable, straight – relatively stable
	Slopes aspect	DEM, SAGA Terrain Analysis – Morphometry – Aspect	The intensity of physical weathering and the possibility of dangerous processes under the influence of air masses	It depends on the position to the air masses and on the radiation regime: the most stable are the territories with a normal radiation balance, protected from air mass flows
Soil	Steepness of the slopes	DEM, SAGA Terrain Analysis – Morphometry – Slope	The possibility of erosion processes (washing away the soils)	0-3° (5 points), 3-5° (4 points), 5-10° (3 points), 10-12° (2 points), >12° (1 point)
	Vegetation cover ratio	Satellite images, SAGA Imagery – Vegetation Indices – Tasseled Cap Transformation	Protection from destruction, maintaining the normal functioning	Small values – low stability, high values – resistance increases
	Wetness	DEM, SAGA Terrain Analysis – Hydrology - Topography – SAGA Wetness Index	Providing a normal functioning in a dry climate	Small values – low stability, high values – resistance increases
	Humus content	Field data, statistical modeling based on DEM and digital mapping	Reserve of stability (buffering)	Small content – low stability, high content – resistance increases
	Geochemical position	DEM, classification based on slopes steepness and normalized heights	The potential self-cleaning ability	Accumulative (1 point), transitional (3 points), autonomous (5 points)
	Alkaline-acidic conditions (pH)	Field data, statistical modeling based on DEM and digital mapping	The potential self-cleaning ability, the ability to assimilate some important elements by plants	Strongly acidic and strongly alkaline conditions reduce the stability of soils
Vegetation	Types of landscape cover	Satellite images, supervised classification of multi-channels images	Primary resilience potential	Indigenous landscapes – more stable, artificially created or disturbed landscapes – less stable
	Biomass	Satellite images, SAGA Imagery – Vegetation Indices – TSAVI	Reserve of stability (buffering)	Small values – low stability, high values – resistance increases
	Production of green plants	Field data, difference in TSAVI index values in the end and the beginning of the growing season	The stability of functioning	Small values – low stability, high values – resistance increases
	Wetness	Satellite images, index LMI (SAGA)	As a limiting factor in conditions of arid climate, the stability of functioning	Small values – low stability, high values – resistance increases