

# Erosion map reliability using a GIS and the EPM, Belgrade peri-urban area, Serbia

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## Supplementary File

Table S1. Conditions affecting the value of coefficient Y [45].

No.	Type of Land Formations and Related Types	Average Value of Y
1.	Sands, gravel, and unconsolidated sediments	2.00
2.	Loess, salina soils, steppe lands, etc.	1.60
3.	Decaying limestone and marls	1.20
4.	Serpentines, red sandstones, and flysch deposits	1.10
5.	Podzols, parapodzols, decayed shales, mica schists, gray schists, argiloshists, etc.	1.00
6.	Dolomites and shale limestone, red soil (terra rossa), and ranker (humus silicate soils)	0.90
7.	Cambisol and mountainous lands	0.80
8.	Vertisol, marsh arable land, and wetlands	0.60
9.	Chernozem and alluvial deposits of good structure	0.50
10.	Bare, compact eruptive materials	0.25

Table S2. Conditions affecting the value of coefficient X [45].

No.	Atmospheric Protection of Land	Average Value of X
<b>Basin or Area Before Anti-Erosion Measures</b>		
1.	Completely bare, uncultivated land (barren land)	1.00
2.	Arable land with up-and-down slope cultivation	0.90
3.	Orchards and vineyards without ground vegetation	0.70
4.	Mountain pastures	0.60
5.	Meadows, clover fields, and similar perennial crops	0.40
6.	Degraded forests and thickets with eroded land	0.60
7.	Forests and thickets of good composition and growth	0.05

Table S3. Conditions affecting the value of coefficient  $\varphi$  [45].

No.	Visible Signs of Erosion	Average Value of $\varphi$
1.	Basin or area completely covered by gully erosion and landslide pro-	1.00

	cesses (deep erosion)	
2.	About 80% of a basin or an area under furrowed or gully erosion	0.90
3.	About 50% of a basin under furrowed or gully erosion	0.80
4.	The whole basin under surface erosion: decays and debris, a few furrows and gullies (deep erosion), as well as strong karst erosion	0.70
5.	The entire basin under surface erosion, but without visible deep erosion processes (furrows, gullies, landslides, etc.)	0.60
6.	Land with 50% of the area covered by surface erosion while the rest of the basin is preserved	0.50
7.	Land with 20% of the surface covered by surface erosion while 80% of the basin is preserved	0.30
8.	Land in the basin without visible signs of erosion, but there are minor landslides in the riverbeds	0.20
9.	Basin without visible traces of erosion, but mostly under arable land	0.15
10.	Area or basin without visible signs of erosion, both in the basin and in the riverbed, but mostly under forests or perennial vegetation (meadows, pastures, etc.)	0.10

Table S4. Erosion intensity, erosion category, and range of erosion coefficient (Table 1. map No. 1).

Erosion Intensity	Erosion Category	Range of Erosion Coefficient	Erosion Coefficient Average Value
Excessive	I <sub>1</sub>	1,41 to 1,50 >1,50	1,25
	I <sub>2</sub>	1,21 to 1,40	
	I <sub>3</sub>	1,01 to 1,20	
Strong	II <sub>1</sub>	0,86 to 1,00	0,85
	II <sub>2</sub>	0,71 to 0,85	
Medium	III <sub>1</sub>	0,56 to 0,70	0,55
	III <sub>2</sub>	0,41 to 0,55	
Weak	IV <sub>1</sub>	0,31 to 0,40	0,30
	IV <sub>2</sub>	0,21 to 0,30	
Very weak	V <sub>1</sub>	0,11 to 0,20	0,15
	V <sub>2</sub>	0,01 to 0,10	
Accumulation			

Tables S1–S4 are designed on the basis of field and laboratory research of the experts on torrential waters and erosion in Serbia.