

Supplementary Material

Tab. S1 - Parameters of Quality indices: CQI, SQI, VQI, MQI and SoQI– classes, corresponding weights, and data sources.

Indices	Parameter	Classes	Description	Score	Data Source	
Climate quality index CQI	Aridity Index AI (mm/mm) (UNEP FAO 1992) (Viera et al. 2015)	1	Humid (> 0.65)	1.0	Republic Hydrometeorological Service of Serbia (RH MOS)	
		2	Dry sub—humid (0.51—0.65)	1.5		
		3	Semi—arid (< 0.50)	2.0		
	Rainfall (VII) (mm) (Kosmas et al. 2014)	1	> 1000	1.0		
		2	650–1000	1.3		
		3	280–650	1.6		
		4	< 280	2.0		
	Rainfall erosivity (De Pina Tavares et al. 2015)	1	< 60	1.0		
		2	60–90	1.5		
		3	91–120	1.7		
		4	121–160	1.8		
		5	> 160	2.0		
	Aspect (Kosmas et al. 2014)	1	N, NE, NW, E, W, flat	1.0		Digital Elevation Model (DEM)
		2	S, SE, SW	2.0		
	Soil Quality Index SQI	Parent material (De Pina Tavares et al. 2015; Vieira et al. 2015)	1	diorite, syenite		1.05
2			trachyte, quartzlatite	1.10		
3			gneiss, mica shist, leptinolite	1.35		
4			Schists, phyllite, slate rock, amphibolite shales, meta-sandstones	1.50		
5			Marble, agglomerate, tuff, pyroclastic breccia, sandstone, conglomerates, claystone	1.75		
6			Unconsolidated sediments (colluvial and alluvial deposits, sandy deposits etc.)	2.00		

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Indices	Parameter	Classes	Description	Score	Data Source	
	Soil depth (cm) (Penížek and Borůvka 2006; Sepehr et al. 2007)	1	> 75	1.0	Database of the Soil Science Institute and Database of the University of Belgrade Faculty of Forestry	
		2	75–30	1.2		
		3	15–30	1.6		
		4	< 15	2.0		
	Organic matter (0–10 cm) (%) (Kosmas et al. 1999; Kosmas et al. 2014)	1	> 6	1.0		
		2	2.1–6.0	1.3		
		3	2.0–1.1	1.6		
		4	< 1.0	2.0		
	Slope gradient (%) (Contador et al. 2009; Bakr et al. 2012; Salvati et al. 2013)	1	< 6	1.0		Digital Elevation Model (DEM)
		2	6–18	1.2		
		3	18–35	1.5		
		4	> 35	2.0		
	Plant cover (Mohamed 2013)	1	> 0.95	1.0		NDVI (USGS 2012)
		2	0.95–0.65	1.2		
		3	0.65–0.35	1.5		
		4	< 0.35	2.0		
Vegetation Quality Index VQI	Erosion protection adjusted according to the NFI data (Contador et al. 2009; Salvati and Bajocco 2011)	1	NFI: Mixed forests—conserved	1.0	NFI (NFI 2009); CORINE Land Cover (CGLS CLC 2012)	
		2	NFI: Mixed forests—thinned	1.1		
		3	NFI: Coniferous forests—conserved, Mixed forests—devastated	1.2		
		4	NFI: Coniferous forests—thinned. CORINE: 321, 231, 324	1.3		
		5	NFI: Coniferous forests—devastated	1.4		
		6	NFI: Deciduous forests—conserved	1.5		
		7	NFI: Deciduous forests—thinned	1.6		
		8	NFI: Deciduous forests—devastated, shrubby formations, CORINE: 222	1.7		
		9	CORINE: 243, 333	1.8		
		10	NFI: bare land, CORINE: 211, 221, 242	2.0		

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Indices	Parameter	Classes	Description	Score	Data Source	
	Drought resistance (Contador et al. 2009; Salvati and Bajocco 2011; Prāvālie et al. 2017; Momirović et al. 2019)	1	324, 333	1.0	CORINE Land Cover (CGLS CLC 2012)	
		2	311, 312, 313, 321	1.2		
		3	221, 222	1.4		
		4	231, 243	1.7		
		5	211, 242	2.0		
	Fire risk adjusted according to the NFI and (Vasić 1992; Contador et al. 2009; Salvati and Bajocco 2011)	1	VI category: bare land, 333, 221, 222	1.0		NFI (NFI 2009); CORINE Land Cover (CGLS CLC 2012)
		2	V category: beech and other broadleaf forests, 211, 242, 243, 321, 231	1.3		
		3	IV category: oak and hornbeam forests, shrubby formations (NFI), 324	1.4		
		4	III category (NFI)	1.7		
		5	II category: Spruce, fir and other conifer forests	1.9		
Management Quality Index MQI	Policy enforcement adjusted according to the NFI	1	No management interventions/protective function/maintenance of maximum crown cover	1.0	NFI (NFI 2009); CORINE Land Cover (CGLS CLC 2012)	
		2	Regular management interventions—productive function	1.5		
		3	222, 221, 231, 321, shrubby formations, 243	1.7		
		4	bare land	2.0		
	Agricultural intensity (Prāvālie et al. 2017)	1	222, 243, 311, 321, 324, 331	1.0		CORINE Land Cover (CGLS CLC 2012)
		2	211, 231, 241, 242	1.5		
		3	212, 221	2.0		
Social quality index So QI	Old age index (De Pina Tavares et al. 2015)	1	< 5	1.0	Statistical Yearbooks (SORS)	
		2	5–10	1.4		
		3	10–20	1.5		
		4	> 20	2.0		
	Population density (De Pina Tavares et al. 2015)	1	< 50 people per km ²	1.0		
		2	50–100	1.4		
		3	100–300	1.5		
		4	> 300	2.0		

Tab. S2 - Weighting indices for the ability of the stand to provide erosion control.

Forest type/Stand conservation	mixed	coniferous	deciduous
conserved	1.0	1.2	1.5
thinned	1.1	1.3	1.6
devastated	1.2	1.4	1.7