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Supplement of

Effects of different land use and land cover data on the landslide susceptibility zonation of road networks

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Table S1. Tabulate area between slope and CLC 2006 (area ha).

Slope (degree)	Urban fabric	Industrial, commercial and transport units	Mine, dump and construction sites	Artificial, non-agricultural vegetated areas	Arable land	Permanent crops	Pastures	Heterogeneous agricultural areas	Forests	Scrub and/or herbaceous vegetation associations	Open spaces with little or no vegetation	Inland waters	Total
	(UF)	(ICT)	(MDC)	(ANA)	(AL)	(PC)	(P)	(HAA)	(F)	(SHV)	(OSV)	(IW)	
>40	1.3	0.3	2.7	0.0	1.2	1.0	0.0	22.8	243.5	428.2	321.6	7.1	1029.5
36 - 40	4.8	2.0	13.9	0.0	4.1	5.9	0.1	91.7	1106.0	1953.5	474.1	15.7	3671.9
31 - 35	16.1	4.0	25.4	0.0	14.8	25.7	1.0	370.8	4009.2	7138.7	880.7	35.5	12521.8
26 - 30	44.1	8.2	18.2	0.0	48.0	85.2	4.4	1116.8	10103.0	17846.1	1231.3	48.0	30553.5
21 - 25	108.7	18.4	19.2	0.1	103.4	254.8	10.7	2697.9	18531.3	32096.1	1499.4	56.2	55396.1
16 - 20	231.8	43.9	25.3	1.9	192.1	721.4	12.6	5565.6	25873.6	42954.9	1775.8	63.3	77462.3
11 - 15	558.7	102.6	51.3	10.1	417.0	2033.3	35.2	11979.7	28887.2	44681.1	1982.6	69.7	90808.4
6 - 10	1511.5	292.3	150.2	17.5	2017.1	4734.0	78.4	24733.2	22169.8	34541.3	1955.0	83.1	92283.5
0 - 5	3563.6	884.3	168.8	36.1	14479.9	10464.5	250.9	45561.6	25241.2	35734.5	1573.2	4714.4	142672.9

Table S2. Tabulate area between slope and COS 2007 (area ha).

Slope (degree)	Urban fabric	Industrial, commercial and transport units	Mine, dump and construction sites	Artificial, non-agricultural vegetated areas	Arable land	Permanent crops	Pastures	Heterogeneous agricultural areas	Forests	Scrub and/or herbaceous vegetation associations	Open spaces with little or no vegetation	Inland waters	Total
	(UF)	(ICT)	(MDC)	(ANA)	(AL)	(PC)	(P)	(HAA)	(F)	(SHV)	(OSV)	(IW)	
>40	0.4	1.7	3.2	0.1	0.8	3.1	0.6	5.6	263.7	475.7	271.8	2.8	1029.5
36 - 40	2.9	3.0	12.8	0.3	1.6	14.1	0.2	37.3	1186.2	2072.1	339.3	2.1	3671.9
31 - 35	16.8	10.8	23.5	0.5	7.3	66.4	1.2	161.5	4416.1	7220.2	592.3	5.5	12521.8
26 - 30	72.3	29.5	18.7	1.3	26.7	215.8	6.6	499.0	11587.2	17279.8	803.8	12.8	30553.5
21 - 25	228.0	64.2	28.7	3.4	81.6	590.6	24.2	1289.4	22081.1	29960.1	1018.3	26.6	55396.1
16 - 20	640.3	126.3	67.3	11.8	247.9	1388.4	74.5	2765.9	31771.4	39040.6	1278.1	49.9	77462.3
11 - 15	1746.5	284.4	176.9	27.3	832.5	3513.6	333.2	5727.7	36498.2	40024.9	1554.0	89.2	90808.4
6 - 10	4035.5	719.3	382.9	68.8	3819.1	8009.9	1399.2	10665.3	29664.0	31895.7	1486.6	137.1	92283.5
0 - 5	7506.4	1845.0	500.6	195.3	19700.3	15814.5	4316.4	17961.7	34878.8	32410.4	1162.5	6381.1	142672.9

Table S3. Conditional and *priori* probabilities (CP and PP, respectively) of landslides occurrence in Zêzere watershed.

PFM	Classes	Watershed area (%)	Landslides test area (%)	CP	PP	IV*
Slope angle	0 - 5	28.17	1.69	0.000098	0.001652844	-2.824
	06-Oct	18.22	2.07	0.000205887	0.001652844	-2.083
	Nov-15	17.93	5.73	0.000616683	0.001652844	-0.986
	16 - 20	15.30	12.97	0.001432955	0.001652844	-0.143
	21 - 25	10.94	17.48	0.002798032	0.001652844	0.526
	26 - 30	6.03	17.95	0.005498557	0.001652844	1.202
	31 - 35	2.47	17.76	0.011180483	0.001652844	1.912
	36 - 40	0.73	10.71	0.020153219	0.001652844	2.501
	41 - 45	0.16	10.90	0.090941242	0.001652844	4.008
	46 - 50	0.03	2.54	0.159235669	0.001652844	4.568
	51 -55	0.01	0.19	0.042390844	0.001652844	3.244
> 55	0.01	0	0	0.001652844	-2.824	
Slope Curvat.	Convex	32.60	61.05	0.003095092	0.001652844	0.627
	Straight	28.25	4.90	0.000286567	0.001652844	-1.752
	Concave	39.14	34.05	0.001437748	0.001652844	-0.139
Aspect	Plane	13.58	0	0	0.001652844	-0.570
	N	8.45	4.78	0.000934889	0.001652844	-0.570
	NE	9.61	9.80	0.001684777	0.001652844	0.019
	E	10.85	7.41	0.001128231	0.001652844	-0.382
	SE	12.29	12.78	0.001719648	0.001652844	0.040
	S	11.49	8.36	0.001203415	0.001652844	-0.317
	SW	12.26	13.74	0.001852416	0.001652844	0.114
	W	11.22	24.97	0.003676985	0.001652844	0.800
Slope over area ratio	NW	10.25	18.16	0.002927674	0.001652844	0.572
	5 - 7.5	3.04	13.02	0.007077835	0.001652844	1.454
	7.6 - 10	57.75	55.79	0.001596902	0.001652844	-0.034
	10.1 - 12.5	26.77	22.10	0.001364913	0.001652844	-0.191
	12.6 - 15	8.10	7.65	0.001559969	0.001652844	-0.058
	15.1 - 17.5	2.81	0.96	0.000562687	0.001652844	-1.078
	17.6 - 20	0.88	0	0	0.001652844	-0.191
	20.1 - 22.5	0.36	0	0	0.001652844	-0.191
	22.6 - 25	0.16	0.48	0.004890095	0.001652844	1.085
>25	0.14	0	0	0.001652844	-0.191	
Lithology	Granite and other stones	15.92	28.55	0.002964327	0.001652844	0.584
	Schists and grauvaques (sandstone-schist complex)	49.02	33.21	0.001119983	0.001652844	-0.389
	Alluvium	2.47	0	0	0.001652844	-2.706
	Glacial deposits	0.24	0.96	0.006717045	0.001652844	1.402
	Limestones, dolomitic limestone, marly limestone and marl	7.15	0.48	0.00011041	0.001652844	-2.706
	Quartzite	4.87	21.62	0.007345645	0.001652844	1.492
	Red sandstone, conglomerates, marl and dolomitic limestones	1.89	0.60	0.000521045	0.001652844	-1.154
	Arenites, conglomerates, limestones, dolomitic limestone and marl	0.85	0	0	0.001652844	-2.706
	Conglomerates, arenites, limestone, dolomitic limestone, marly limestone and marl	2.69	0	0	0.001652844	-2.706
	Arenites, conglomerates, limestones, dolomitic limestone	4.40	0	0	0.001652844	-2.706
	Schists, amphibolite, mica schists, quartzite grauvaques, carboned stones and gneisses	4.71	2.15	0.00075485	0.001652844	-0.784
	Schists and grauvaques	1.68	5.97	0.00588567	0.001652844	1.270
	Sands, rocky, arenites and clay	0.66	0.12	0.000298639	0.001652844	-1.711
	Clayey schist, grauvaques and arenites	0.08	3.23	0.069057241	0.001652844	3.732
	Gabbro	0.04	0.00	0	0.001652844	-2.706
	Arenites, limestone, sand, stony banks and clay	2.94	2.87	0.00161127	0.001652844	-0.025
	Granite porphyritic	0.08	0.24	0.005235054	0.001652844	1.153
	Sands and gravel	0.30	0	0	0.001652844	-2.706
	Conglomerates, arenites, white limestone and red marl	0.02	0	0	0.001652844	-2.706
	Soil	Humic Cambisols	21.98	18.88	0.001419686	0.001652844
Rankers		2.60	29.63	0.018817902	0.001652844	2.432
Dystric Cambisols		9.65	0	0	0.001652844	-1.973

PFM	Classes	Watershed area (%)	Landslides test area (%)	CP	PP	IV*
	Dystric Fluvisols	0.60	0	0	0.001652844	-1.973
	Eutric Lithosol	37.02	17.68	0.000789427	0.001652844	-0.739
	Calcic Cambisols	1.77	0.48	0.000447149	0.001652844	-1.307
	Calcic Luvisols	7.19	0	0	0.001652844	-1.973
	Hortic Luvisols	8.10	32.74	0.00668236	0.001652844	1.397
	Chromic Cambisols	2.58	0.36	0.00022981	0.001652844	-1.973
	Eutric Cambisols	6.06	0	0	0.001652844	-1.973
	Calcic-chromic Cambisols	1.20	0	0	0.001652844	-1.973
	Hortic Podzols	1.26	0.24	0.000312905	0.001652844	-1.664
Eutric Fluvisols	0.00	0	0	0.001652844	-1.973	
COS	Urban fabric	2.81	0.72	0.000421079	0.001652844	-1.367
	Industrial, commercial and transport units	0.61	0	0	0.001652844	-2.090
	Mine, dump and construction sites	0.24	0	0	0.001652844	-2.090
	Artificial, non-agricultural vegetated areas	0.06	0	0	0.001652844	-2.090
	Arable land	4.88	0	0	0.001652844	-2.090
	Permanent crops	5.85	0.84	0.000236356	0.001652844	-1.945
	Pastures	1.22	0	0	0.001652844	-2.090
	Heterogeneous agricultural areas	7.72	0.96	0.000204535	0.001652844	-2.090
	Forests	34.03	14.34	0.000696271	0.001652844	-0.865
	Scrub and/or herbaceous vegetation associations	39.57	81.96	0.003423504	0.001652844	0.728
	Open spaces with little or no vegetation	1.68	1.19	0.001175555	0.001652844	-0.341
Inland waters	1.32	0	0	0.001652844	-2.090	
CLC	Urban fabric	1.19	0	0	0.001652844	-2.253
	Industrial, commercial and transport units	0.27	0	0	0.001652844	-2.253
	Mine, dump and construction sites	0.09	0	0	0.001652844	-2.253
	Artificial, non-agricultural vegetated areas	0.01	0	0	0.001652844	-2.253
	Arable land	3.41	0	0	0.001652844	-2.253
	Permanent crops	3.62	0	0	0.001652844	-2.253
	Pastures	0.08	0	0	0.001652844	-2.253
	Heterogeneous agricultural areas	18.20	1.91	0.000173649	0.001652844	-2.253
	Forests	26.89	22.10	0.001358648	0.001652844	-0.196
	Scrub and/or herbaceous vegetation associations	42.93	71.57	0.002755613	0.001652844	0.511
	Open spaces with little or no vegetation	2.31	4.42	0.00316411	0.001652844	0.649
Inland waters	1.01	0	0	0.001652844	-2.253	

*Bold values represent the values not determinable by IV method. Are equal to the lowest value find for each predisposing factor.