

Overview on predictor variables: Topography: UA= upslope contributing area, SLOPE= slope, PLAN\_CURV= plan curvature, PROF\_CURV= profile curvature, ASP= aspect; Soil properties: K= hydraulic conductivity after HVORSLEV, SLUG\_HIGH= slope of the fast part of the recession after slug injection, SLUG\_LOW= slope of the slow part of the recession after slug injection, WDEPTH= well depth; Vegetation: N\_TREES= number of trees in vicinity, THROUGHF= mean throughfall, CANOPY\_COV= canopy coverage, STEMF= stemflow index. Two additional categorical predictor variables are not listed: LULC= land use type (1= forest, 2= grassland), and TRANS= transect (1= lower, 2= middle, 3= upper transect).

	Well no.	UA (m <sup>2</sup> )	SLOPE (°)	PLAN_CURV (-PROF_CURV (-) ) <sup>a</sup>	ASP (°)	K (mm/h)	SLUG_HIGH (mm/s) <sup>b</sup>	SLUG_LOW (mm/s) <sup>c</sup>	WDEPTH (m)	N_TREES (- )	THROUGHF (%)	CANOPY_COV (%)	STEMF (-)		
Grassland hillslope (G)	Lower transect	1	3942	25.9	0.011	-0.002	330.3	3.00	14.03	0.30	1.975	0	90.1	0.0	0.0
		2	3734	25.8	0.005	-0.010	332.9	2.93	37.23	0.64	1.980	0	90.1	0.0	0.0
		3	3328	26.0	0.005	-0.008	333.7	3.00	32.60	0.47	1.585	0	90.1	0.0	0.0
		4	3293	26.8	-0.006	-0.001	334.5	10.61	40.74	0.21	1.285	0	90.1	0.0	0.0
		5	3365	27.3	-0.004	0.005	332.5	47.02	21.32	1.15	1.210	0	90.1	0.0	0.0
		6	3483	27.3	0.006	0.004	335.0	14.77	11.80	0.27	1.985	0	90.1	0.0	0.0
		7	3447	26.1	-0.003	-0.021	335.4	16.14	46.82	1.36	1.990	0	90.1	0.0	0.0
		8	3465	24.8	-0.001	-0.028	334.8	2.83	44.53	0.50	1.970	0	90.1	0.0	0.0
		9	3407	24.2	0.007	-0.031	336.4	5.78	38.04	0.16	1.730	0	90.1	0.0	0.0
		10	3445	24.7	-0.005	-0.032	337.4	43.29	35.33	1.42	2.000	0	90.1	0.0	0.0
	Middle transect	11	3413	26.8	-0.006	0.001	322.3	5.81	33.39	0.33	1.510	0	89.8	0.0	0.0
		12	3078	28.2	0.011	0.018	324.1	15.62	20.82	0.63	2.050	0	89.8	0.0	0.0
		13	3072	29.8	0.003	0.005	323.8	109.32	18.88	0.28	1.470	0	89.8	0.0	0.0
		14	3003	30.4	0.024	0.008	327.9	3.21	16.86	0.46	1.465	0	89.8	0.0	0.0
		15	3022	31.0	0.003	0.002	331.7	1.98	9.04	0.20	1.490	0	89.8	0.0	0.0
		16	3024	32.0	0.013	0.001	333.6	64.30	10.71	0.37	1.420	0	89.8	0.0	0.0
		17	3119	32.4	0.002	-0.005	335.4	20.82	17.61	0.42	1.490	0	89.8	0.0	0.0
		18	2753	32.0	-0.001	-0.014	336.0	121.46	16.92	10.00	1.885	0	89.8	0.0	0.0
		19	2709	31.2	0.001	-0.013	335.8	4.94	23.19	0.71	1.995	0	89.8	0.0	0.0
		20	2945	30.8	0.004	-0.006	336.9	53.33	28.75	1.02	2.020	0	89.8	0.0	0.0
Upper transect	21	3288	21.1	-0.001	0.001	314.8	40.87	27.87	0.89	1.530	0	86.2	0.0	0.0	
	22	3199	20.8	0.001	-0.003	314.8	8.35	64.63	0.34	0.930	0	86.2	0.0	0.0	
	23	3206	20.6	-0.004	-0.001	314.8	1749.06	150.00	10.00	1.955	0	86.2	0.0	0.0	
	24	2722	21.1	0.011	0.002	313.6	15.45	38.21	0.94	1.485	0	86.2	0.0	0.0	
	25	2591	21.2	0.011	0.005	320.2	168.18	21.94	0.24	1.415	0	86.2	0.0	0.0	
	26	2941	21.0	-0.001	0.005	319.7	874.53	150.00	10.00	1.975	0	86.2	0.0	0.0	
	27	2802	21.2	0.005	0.000	320.7	971.70	150.00	10.00	1.920	0	86.2	0.0	0.0	
	28	2597	21.8	0.005	0.003	322.6	795.03	150.00	10.00	1.500	0	86.2	0.0	0.0	
	29	2480	22.1	0.005	0.006	325.0	48.59	150.00	0.23	1.930	0	86.2	0.0	0.0	
	30	2215	22.6	0.005	0.005	326.9	14.87	40.02	1.62	1.975	0	86.2	0.0	0.0	
Coniferous forest hillslope (CF)	Lower transect	31	3022	32.9	0.012	-0.017	334.9	124.93	28.59	0.08	1.970	0	76.9	27.4	0.0
		32	3331	33.0	0.027	-0.008	341.2	2.58	75.77	0.26	1.070	1	78.3	50.4	0.0
		33	4688	31.9	0.013	-0.012	347.2	1.15	33.91	0.15	1.940	2	71.8	14.2	0.8
		34	5854	30.2	-0.001	-0.022	347.6	29.15	39.63	0.49	1.545	0	80.2	56.5	0.0
		35	6675	27.6	-0.005	-0.026	345.7	1.51	63.31	0.18	1.460	1	86.5	65.3	0.0
		36	6450	25.8	-0.002	-0.027	344.7	168.18	40.36	0.23	1.475	1	84.3	55.8	0.0
		37	6366	23.3	-0.020	-0.031	340.3	32.15	45.63	0.30	1.490	0	87.6	65.0	0.0
		38	6640	21.0	-0.029	-0.029	328.8	1093.16	66.71	0.59	1.500	0	86.2	64.1	0.0
		39	5733	20.2	-0.014	-0.018	319.3	156.17	36.24	0.18	1.510	2	71.1	73.1	0.0
		40	4708	21.2	-0.009	-0.014	315.0	161.95	30.22	0.10	1.660	1	72.2	20.5	0.0
	Middle transect	41	3800	32.4	0.003	0.007	340.3	28.58	38.90	0.32	0.950	1	44.1	91.6	0.0
		42	4804	32.5	0.000	0.008	340.6	56.06	47.25	0.99	1.470	1	56.5	78.1	0.0
		43	5459	31.6	0.004	0.005	341.5	97.17	19.58	0.18	0.980	2	43.9	86.9	3.3
		44	5907	31.4	-0.003	-0.003	341.6	28.77	18.65	0.34	0.875	0	55.2	75.5	0.0
		45	5298	31.8	-0.004	-0.011	341.2	3.00	14.82	0.15	0.945	2	49.5	75.2	0.0
		46	4061	32.6	-0.007	-0.010	339.5	33.64	48.52	0.51	1.380	2	38.9	85.6	0.0
		47	2894	32.4	-0.007	-0.006	337.4	34.70	43.67	0.72	1.405	1	78.2	50.6	0.0
		48	3200	32.0	-0.003	0.001	335.9	36.14	54.14	0.93	1.460	1	78.7	12.7	0.0
		49	4060	31.5	-0.004	0.002	335.0	171.48	22.59	10.00	1.915	0	83.2	1.5	0.0
		50	4085	31.3	-0.008	0.001	333.1	0.82	33.79	0.23	1.455	1	81.5	18.6	0.0
Upper transect	51	3041	22.1	0.009	0.012	325.9	218.63	45.03	0.15	1.430	2	76.5	78.9	1.4	
	52	3851	22.7	0.007	0.013	328.7	28.58	43.62	0.28	0.980	3	44.0	49.0	1.8	
	53	4416	23.9	0.004	0.016	331.3	624.66	137.44	0.30	1.465	4	60.9	66.9	2.2	
	54	4353	24.5	0.003	0.017	332.3	66.25	17.85	0.25	1.405	3	45.5	78.4	1.2	
	55	3687	25.2	0.001	0.017	332.6	11.27	19.87	0.24	0.990	2	58.6	62.4	2.1	
	56	3104	26.4	-0.005	0.014	331.9	19.26	29.55	0.59	1.475	0	75.3	19.9	0.0	
	57	3197	26.4	-0.011	0.009	329.9	1.43	60.22	0.36	1.915	0	87.2	1.5	0.0	
	58	3268	26.0	-0.013	0.000	326.3	78.08	20.36	0.11	1.930	0	88.2	3.1	0.0	
	59	3235	25.2	0.008	-0.020	325.2	85.74	21.46	0.62	0.990	0	91.6	52.7	0.0	
	60	3193	26.2	0.010	-0.011	329.1	0.32	62.81	0.19	1.480	1	35.4	99.8	1.3	

	Well no.	UA (m <sup>2</sup> )	SLOPE (°)	PLAN_CURV (-PROF_CURV (-) ) <sup>a</sup>	ASP (°)	K (mm/h)	SLUG_HIGH (mm/s) <sup>b</sup>	SLUG_LOW (mm/s) <sup>c</sup>	WDEPTH (m)	N_TREES (- THROUGHF ) (%)	CANOPY_COV (%)	STEMF (-)			
Mixed forest hillslope (MF)	Lower transect	61	3529	29.8	0.000	0.000	323.8	795.03	66.72	10.00	1.265	0	63.3	87.8	0.0
		62	3764	29.1	0.003	-0.001	324.2	323.90	150.00	10.00	1.230	2	60.0	81.0	2.6
		63	3815	28.9	0.003	-0.001	324.6	17.22	75.76	0.52	1.330	2	54.1	89.8	0.0
		64	3905	28.6	0.005	-0.001	325.7	31.46	73.19	0.25	1.305	0	60.2	68.5	0.0
		65	4053	28.6	0.005	-0.001	327.2	59.90	137.49	0.28	1.385	4	85.7	14.0	0.0
		66	4441	28.9	0.001	-0.002	328.4	101.69	23.99	0.28	0.490	3	80.2	40.4	0.0
		67	4815	29.1	0.001	-0.002	328.9	26.03	17.30	0.28	0.715	3	79.6	73.8	4.6
		68	5489	29.5	0.002	-0.003	329.0	150.78	33.96	0.30	0.615	3	16.8	99.6	5.0
		69	6079	29.7	0.007	-0.006	330.2	1.40	33.83	0.20	1.335	3	13.2	96.7	4.5
		70	7396	30.4	0.014	-0.013	334.8	168.18	36.22	0.52	1.830	0	70.6	53.4	0.0
	Middle transect	71	3186	28.0	-0.003	0.008	334.1	312.33	51.56	0.42	1.225	2	67.9	92.3	0.0
		72	3183	27.2	-0.002	0.007	332.7	47.53	19.63	0.53	1.405	2	66.4	73.6	2.7
		73	3074	26.5	-0.002	0.007	332.3	190.12	16.30	0.22	1.420	0	60.1	67.0	0.0
		74	3218	26.2	-0.003	0.005	330.8	485.85	63.44	0.31	0.970	1	44.3	82.5	0.0
		75	3396	26.0	-0.002	0.006	330.2	37.70	12.02	0.55	1.845	2	49.4	73.5	0.0
		76	3562	25.9	-0.003	0.005	329.1	145.76	41.94	0.04	1.925	2	66.0	67.3	0.0
		77	3816	25.9	-0.001	0.003	328.1	0.83	13.99	0.04	1.865	2	52.4	52.1	0.0
		78	4008	25.9	-0.001	0.003	327.7	12.94	30.63	0.40	1.140	2	60.8	58.9	1.9
		79	4682	25.8	-0.003	0.002	326.8	5.51	86.76	0.34	1.240	0	60.4	68.3	0.0
		80	3186	25.7	-0.006	0.001	325.2	1093.16	150.00	10.00	1.330	1	71.2	72.4	1.4
	Upper transect	81	2628	23.7	0.001	0.001	333.0	53.98	62.10	0.68	1.415	2	39.3	91.4	1.5
		82	2706	23.8	0.002	0.001	334.5	583.02	52.08	0.47	1.265	2	39.4	98.2	1.9
		83	2775	23.6	0.001	-0.001	335.0	546.58	73.63	0.18	0.945	0	55.2	94.2	0.0
		84	2817	23.1	-0.002	-0.002	334.9	52.68	27.78	0.54	0.950	0	64.6	83.8	0.0
		85	2832	22.2	-0.007	-0.003	333.2	4.91	87.93	0.23	1.420	0	58.8	65.0	0.0
		86	2887	21.2	-0.011	0.004	328.7	5.22	11.97	0.50	1.140	0	71.7	46.3	0.0
		87	3195	20.8	-0.009	0.012	324.0	2.63	33.98	0.47	1.450	1	61.3	55.6	0.0
		88	3629	20.9	0.005	0.025	322.0	1.37	48.71	0.26	1.495	1	51.0	85.2	0.0
		89	4344	22.3	0.009	0.029	325.8	9.65	35.80	0.17	0.990	0	58.1	97.8	0.0
		90	5463	22.8	-0.001	0.017	327.4	168.18	17.98	10.00	1.445	0	48.9	98.0	0.0
All wells	mean	3793	26.6	0.001	-0.002	330.7	156.31	47.87	1.49	1.467	0.8	71.8	42.3	0.4	
	stddev.	1110	3.8	0.008	0.012	7.4	302.35	38.00	3.04	0.367	1.1	18.7	37.4	1.1	
	min	2215	20.2	-0.029	-0.032	313.6	0.32	9.04	0.04	0.490	0.0	13.2	0.0	0.0	
	1. quartile	3073	23.4	-0.003	-0.008	325.8	6.44	21.36	0.23	1.265	0.0	59.1	0.0	0.0	
	median	3402	26.2	0.001	0.000	331.0	35.42	36.23	0.35	1.463	0.0	78.2	51.3	0.0	
	3. quartile	4079	29.8	0.005	0.005	335.0	149.52	58.70	0.64	1.841	2.0	87.5	74.9	0.0	
	max	7396	33.0	0.027	0.029	347.6	1749.06	150.00	10.00	2.050	4.0	91.6	99.8	5.0	
G	mean	3103	25.9	0.004	-0.003	328.1	174.56	48.71	2.17	1.704	0.0	88.7	0.0	0.0	
	stddev.	385	4.0	0.007	0.012	7.8	396.46	47.68	3.58	0.304	0.0	1.8	0.0	0.0	
CF	mean	4413	27.8	-0.001	-0.005	334.8	113.18	42.02	0.67	1.417	1.1	68.9	52.7	0.5	
	stddev.	1232	4.3	0.011	0.015	8.0	220.62	24.29	1.78	0.325	1.1	17.3	29.3	0.9	
MF	mean	3862	26.0	0.000	0.003	329.1	181.18	52.89	1.63	1.279	1.3	57.7	74.3	0.9	
	stddev.	1103	3.0	0.005	0.009	3.8	267.92	38.81	3.34	0.343	1.2	16.0	20.3	1.5	

<sup>a</sup> negative values: concave, positive values: convex

<sup>b</sup> For wells where SLUG\_HIGH could not be determined due to extremely rapid drainage SLUG\_HIGH was arbitrarily set to 150 mm/s (see section 2.4 for details)

<sup>c</sup> For wells that only showed a fast part of recession SLUG\_LOW was arbitrarily set to 10 mm/s (see section 2.4 for details)