Appendix A.
Results of the first PCA run. Loadings (r and tau) as correlations of geomorphic indices with the indices' labels see Table 1 in the text

|	PC1		PC2	
	r	tau	r	tau
Alt	-0.741	-0.508	0.255	0.125
Wind_exp	-0.861	-0.682	-0.006	-0.023
Vert_D	-0.749	-0.519	0.257	0.111
Valley_D	0.389	0.296	0.41	0.34
TWI	0.33	0.224	-0.645	-0.478
TPI	-0.705	-0.513	-0.407	-0.269
TRI	-0.16	-0.124	0.863	0.685
Stand_H	-0.903	-0.741	0.222	0.126
Slope	-0.373	-0.237	0.752	0.621
Slope_H	-0.668	-0.528	0.422	0.275
R_Slope_	-0.802	-0.7	0.163	0.045
Protect	0.517	0.349	0.745	0.565
Norm_H	-0.816	-0.624	0.109	0.067
M_Catch_	0.566	0.413	-0.029	0.022
M_Slope	-0.043	0.032	-0.247	-0.169
Mass_Bal	-0.708	-0.516	-0.278	-0.208
Chan_Net	-0.53	-0.412	0.207	0.156
Grad_Dif	0.241	0.137	0.675	0.535
Gradient	-0.41	-0.282	0.154	0.017
Diur_Ani	-0.277	-0.145	-0.49	-0.33
Convexit	-0.573	-0.42	0.184	0.095
Converg	-0.565	-0.401	-0.303	-0.228
Catch_Sl	-0.055	-0.024	0.848	0.718
Catch_Ar	0.549	0.403	0.507	0.452
Aspect	-0.151	-0.09	-0.06	-0.022
Solarrad	-0.352	-0.206	-0.727	-0.468
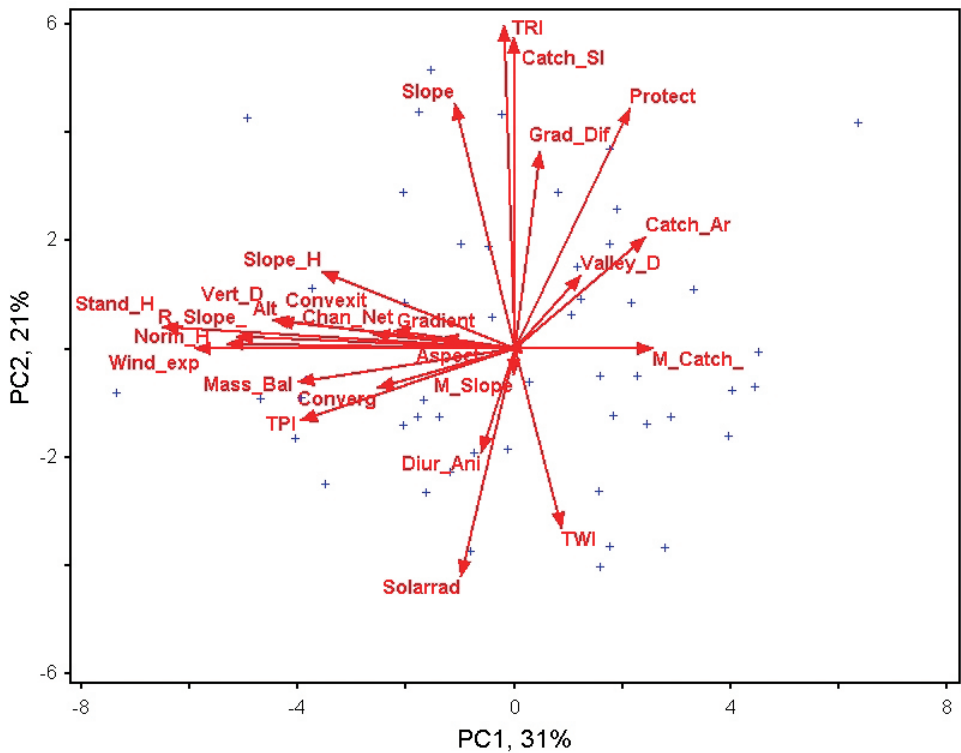
Fig. 1. Biplot of the first PCA run. For the vector labels see Table 1 in the text

The most important geomorphometric indices:

Alt – Altitude – Height above mean sea level from DEM

Catchment Slope - Average slope over the local catchment

Norm_H – Normalized Height - normalized height of local environment

Protection – Morphometric protection index - analyses the immediate surroundings of each cell up to a given distance and evaluates how the relief protects it.

R_Slope - Relative slope position - representing slope position of cell and its relative position between valley floor and ridgetop.

Slope - The slope for the cell is calculated from the 3x3 neighborhood using an average maximum technique.

Stand_H – Standardized Height - standardized height of local environment

Terrain Roughness - The topographic ruggedness index - express the amount of elevation difference between adjacent cells of a digital elevation grid.

Vertical Distance to Channel Network - measurement of the relative height to the theoretical base of a channel network interpolated from the DEM.

Appendix B.
Results of the second PCA run. Loadings (r and tau) as correlations of environmental factors with the PCA axes. For the factors' labels see Table 1 in the text

|	PC1		PC2	
	r	tau	r	tau
Alt	-0.938	-0.748	-0.021	-0.013
Wind_exp	-0.835	-0.682	0.177	0.118
Vert_D	-0.941	-0.769	0.002	-0.017
Stand_H	-0.916	-0.764	0.151	0.077
R_Slope	-0.835	-0.656	0.322	0.231
Norm_H	-0.638	-0.48	0.252	0.166
Mass_Bal	-0.381	-0.278	0.127	0.086
T_year	0.036	0.014	-0.426	-0.361
P_year	-0.753	-0.545	-0.273	-0.18
av	-0.07	-0.068	0.072	-0.007
slope	-0.245	-0.196	0.475	0.292
basal_a	-0.45	-0.304	-0.349	-0.214
skelet	-0.691	-0.526	0.257	0.109
Ohor	-0.737	-0.525	-0.28	-0.169
Ahor	0.526	0.378	-0.511	-0.366
depth	0.593	0.445	-0.454	-0.34
som_A	-0.548	-0.376	-0.641	-0.454
C_A	-0.548	-0.378	-0.64	-0.453
totN_A	0.023	0.031	-0.651	-0.384
C/N_A	0.114	-0.251	-0.026	-0.211
pH_A	0.467	0.297	0.556	0.442
eCa_A	0.245	0.078	0.249	0.129
eMg_A	-0.384	-0.251	0.123	-0.013
aP_A	-0.276	-0.14	-0.087	-0.091
aK_A	-0.157	-0.189	0.421	0.266
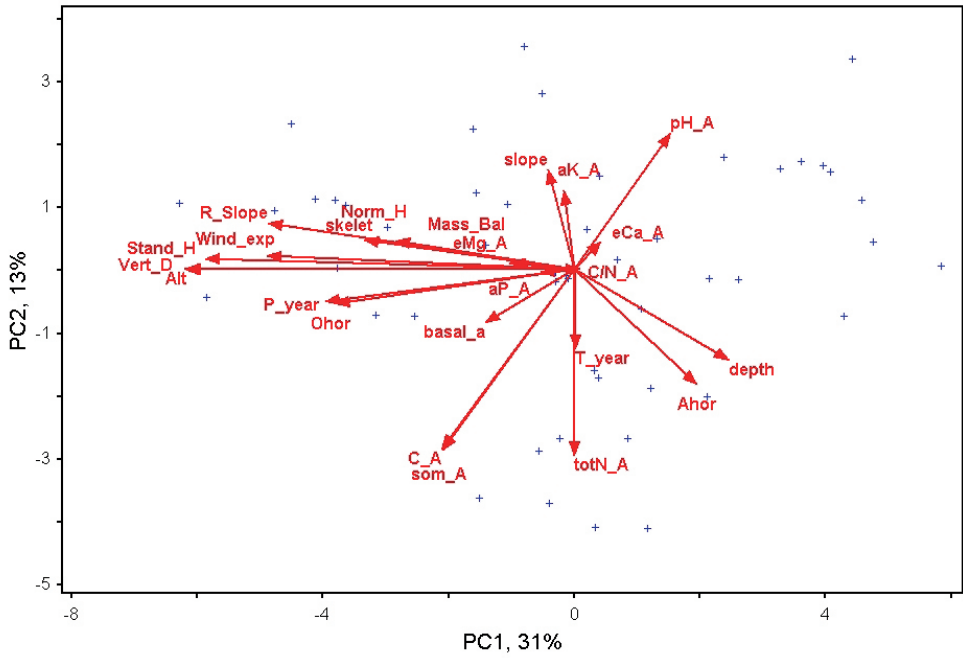
Fig. 1. Biplot of the second PCA run. For the vector labels see Table 1 in the text