

Appendix A. Catpca analysis (loading matrix) Description of the variables used and variable's loading on each component.

Acronym	Description	Variable type	PC-1 loading	PC-2 loading
Soiltext	Toposoil textural class	Categorical	-1,000	,065
Macrob	Macrobioclimate	Categorical	,785	-,386
Bcl	Bioclimate	Categorical	-,952	,250
Thtype	Thermotype	Categorical	-,653	-,759
Ombrtype	Ombrotype	Categorical	-,296	,955
SeasPmax	Seasonal maximal precipitation	Categorical	-,646	,082
T1	January average temperature	Numerical	-,859	-,192
T2	February average temperature	Numerical	-,859	-,192
T3	March average temperature	Numerical	-,859	-,192
T4	April average temperature	Numerical	-,744	-,299
T5	May average temperature	Numerical	-,744	-,299
T6	June average temperature	Numerical	-,744	-,299
T7	July average temperature	Numerical	-,744	-,299
T8	August average temperature	Numerical	-,816	-,325
T9	September average temperature	Numerical	-,859	-,192
T10	October average temperature	Numerical	-,859	-,192
T11	November average temperature	Numerical	-,686	,283
T12	December average temperature	Numerical	-,859	-,192
P1	January precipitation	Numerical	,263	-,242
P2	February precipitation	Numerical	,191	-,268
P3	March precipitation	Numerical	,571	-,277
P4	April precipitation	Numerical	,879	-,262
P5	May precipitation	Numerical	,672	-,494
P6	June precipitation	Numerical	,715	-,259
P7	July precipitation	Numerical	,672	-,494
P8	August precipitation	Numerical	,793	-,499
P9	September precipitation	Numerical	,840	-,339
P10	October precipitation	Numerical	,309	-,128
P11	November precipitation	Numerical	,459	-,390
P12	December precipitation	Numerical	,263	-,242
T	Annual mean temperature	Numerical	-,511	,589
P	Annual precipitation	Numerical	,583	-,563
Ps	Spring precipitation	Numerical	,793	-,499
Psmm	Summer precipitation	Numerical	,767	-,411
Pa	Autumn precipitation	Numerical	,583	-,563
Pw	Winter precipitation	Numerical	,263	-,242
Io	Ombrothermic Index	Numerical	,793	-,499
Ic	Continental Index	Numerical	,767	-,411
%5	Germination percentage at 5 °C	Numerical	-,286	,294
MGT5	Germination velocity at 5 °C	Numerical	,574	,248

%10	Germination percentage at 10 °C	Numerical	-,096	,723
MGT10	Germination velocity at 10 °C	Numerical	,401	-,401
%15	Germination percentage at 15 °C	Numerical	-,379	,732
MGT15	Germination velocity at 15 °C	Numerical	,804	-,142
%20	Germination percentage at 20 °C	Numerical	-,096	,723
MGT20	Germination velocity at 20 °C	Numerical	,890	,095
%25	Germination percentage at 25 °C	Numerical	-,622	,504
MGT25	Germination velocity at 25 °C	Numerical	,844	,063
%30	Germination percentage at 30 °C	Numerical	-,660	-,310
MGT30	Germination velocity at 30 °C	Numerical	,905	,307
%35	Germination percentage at 35 °C	Numerical	-,579	-,359
MGT35	Germination velocity at 35 °C	Numerical	,905	,307
%50	Germination percentage at 50mM	Numerical	-,096	,723
MGT50	Germination velocity at 50mM	Numerical	,195	-,786
%100	Germination percentage at 100mM	Numerical	-,393	,616
MGT100	Germination velocity at 100mM	Numerical	,310	-,894
%150	Germination percentage at 150mM	Numerical	-,096	,723
MGT150	Germination velocity at 150mM	Numerical	,310	-,894
%200c	Germination percentage at 200mM	Numerical	-,318	,785
MGT200	Germination velocity at 200mM	Numerical	,511	-,764
%250c	Germination percentage at 250mM	Numerical	-,123	,812
MGT250	Germination velocity at 250mM	Numerical	,917	,269
%300	Germination percentage at 300mM	Numerical	-,879	,262
MGT300	Germination velocity at 300mM	Numerical	,810	-,040
%350c	Germination percentage at 350mM	Numerical	-,598	,527
MGT350	Germination velocity at 350mM	Numerical	,954	,275
S400perc	Germination percentage at 400mM	Numerical	-,551	,343
MGT400	Germination velocity at 400mM	Numerical	,954	,275
%400c	Germination percentage at 450mM	Numerical	-,879	,262
MGT450	Germination velocity at 450mM	Numerical	,790	,414
%500c	Germination percentage at 500mM	Numerical	-,894	,051
MGT500	Germination velocity at 500mM	Numerical	,746	,043
Tb	Base temperature	Numerical	-,332	,573
S	Thermal time	Numerical	,940	,064
R50	Recovery at 50mM	Numerical	,716	-,083
R100	Recovery at 100mM	Numerical	,715	,324
R150	Recovery at 150mM	Numerical	,758	,225
R200	Recovery at 200mM	Numerical	,775	,467
R250	Recovery at 250mM	Numerical	,830	,448

R300	Recovery at 300mM	Numerical	,807	,391
R350	Recovery at 350mM	Numerical	,830	,448
R400	Recovery at 400mM	Numerical	,462	,801
R450	Recovery at 450mM	Numerical	,807	,391
R500	Recovery at 500mM	Numerical	,540	,513
TG50	Total germination at 50mM	Numerical	,818	-,387
TG100	Total germination at 100mM	Numerical	,826	,114
TG 150	Total germination at 150mM	Numerical	,844	,063
TG 200	Total germination at 200mM	Numerical	,860	,305
TG 250	Total germination at 250mM	Numerical	,905	,307
TG 300	Total germination at 300mM	Numerical	,954	,275
TG 350	Total germination at 350mM	Numerical	,954	,275
TG 400	Total germination at 400mM	Numerical	,954	,275
TG 450	Total germination at 450mM	Numerical	,954	,275
TG 500	Total germination at 500mM	Numerical	,731	,152