

Type of the variable	Name	Description
!Yearly climatic layers	ddeg	annual degree days above 0°C from daily climatic maps [°C x days]
	prcpavg	annual mean of the sum of monthly precipitations estimates [cm]
	srady	annual mean of daily global radiation (horizon - land - corrected)[kJ/m2/day]
	tmaxavg	number of days with maximum temperature below freezing
	tmaxavgty	mean annual maximum temperature [°C]
	tminavg	number of days with minimum temperature below freezing
	tminavgty	mean annual minimum temperature [°C]
Seasonal climatic layers	prcp0305	spring seasonal precipitation (number of rain days from March to May)
	prcp0608	summer seasonal precipitation (number of rain days from June to August)
Topographic	dem200	altitude
	slp200	slope [%]
	asp	aspect
	topo	integrated topographic exposure map
	twi200s	potential soil humidity

Table S1. Description of the environmental variables used in the principal component analysis. Fourteen monthly and annual (between 1980 and 1989) environmental variables of temperature, precipitation, radiation, and topography (Zimmermann and Kienast, 1999) were used to characterise each sampling location (Table modified from Manel et al., 2012).