

Supplementary Materials

Table S1. Bioclimatic variables

Variable name	Unit
Annual Mean Temperature	°C * 10
Mean Diurnal Range (Mean of monthly (max temp - min temp))	°C * 10
Isothermality (BIO2/BIO7) (* 100)	-
Temperature Seasonality (standard deviation *100)	°C * 10
Max Temperature of Warmest Month	°C * 10
Min Temperature of Coldest Month	°C * 10
Temperature Annual Range (BIO5-BIO6)	°C * 10
Mean Temperature of Wettest Quarter	°C * 10
Mean Temperature of Driest Quarter	°C * 10
Mean Temperature of Warmest Quarter	°C * 10
Mean Temperature of Coldest Quarter	°C * 10
Annual Precipitation	mm
Precipitation of Wettest Month	mm
Precipitation of Driest Month	mm
Precipitation Seasonality (Coefficient of Variation)	mm
Precipitation of Wettest Quarter	mm
Precipitation of Driest Quarter	mm
Precipitation of Warmest Quarter	mm
Precipitation of Coldest Quarter	mm

Table S2. Envirem variables

Variable name	Brief description	Unit
annualPET	annual potential evapotranspiration: a measure of the ability of the atmosphere to remove water through evapotranspiration processes, given unlimited moisture	mm / year
aridityIndexThornthwaite	Thornthwaite aridity index: Index of the degree of water deficit below water need	-
climaticMoistureIndex	a metric of relative wetness and aridity	-
continentality	average temp. of warmest month - average temp. of coldest month	°C
embergerQ	Emberger's pluviothermic quotient: a metric that was designed to differentiate among Mediterranean type climates	-
growingDegDays0	sum of mean monthly temperature for months with mean temperature greater than 0°C multiplied by number of days	-
growingDegDays5	sum of mean monthly temperature for months with mean temperature greater than 5°C multiplied by number of days	-
maxTempColdestMonth	max. temp. of the coldest month	°C * 10
minTempWarmestMonth	min. temp. of the warmest month	°C * 10
monthCountByTemp10	count of the number of months with mean temp greater than 10°C	months
PETColdestQuarter	mean monthly PET of coldest quarter	mm / month
PETDriestQuarter	mean monthly PET of driest quarter	mm / month
PETseasonality	monthly variability in potential evapotranspiration	mm / month
PETWarmestQuarter	mean monthly PET of warmest quarter	mm / month
PETWettestQuarter	mean monthly PET of wettest quarter	mm / month
thermInd	compensated thermicity index: sum of mean annual temp., min. temp. of coldest month, max. temp. of the coldest month, x 10, with compensations for better comparability across the globe	°C

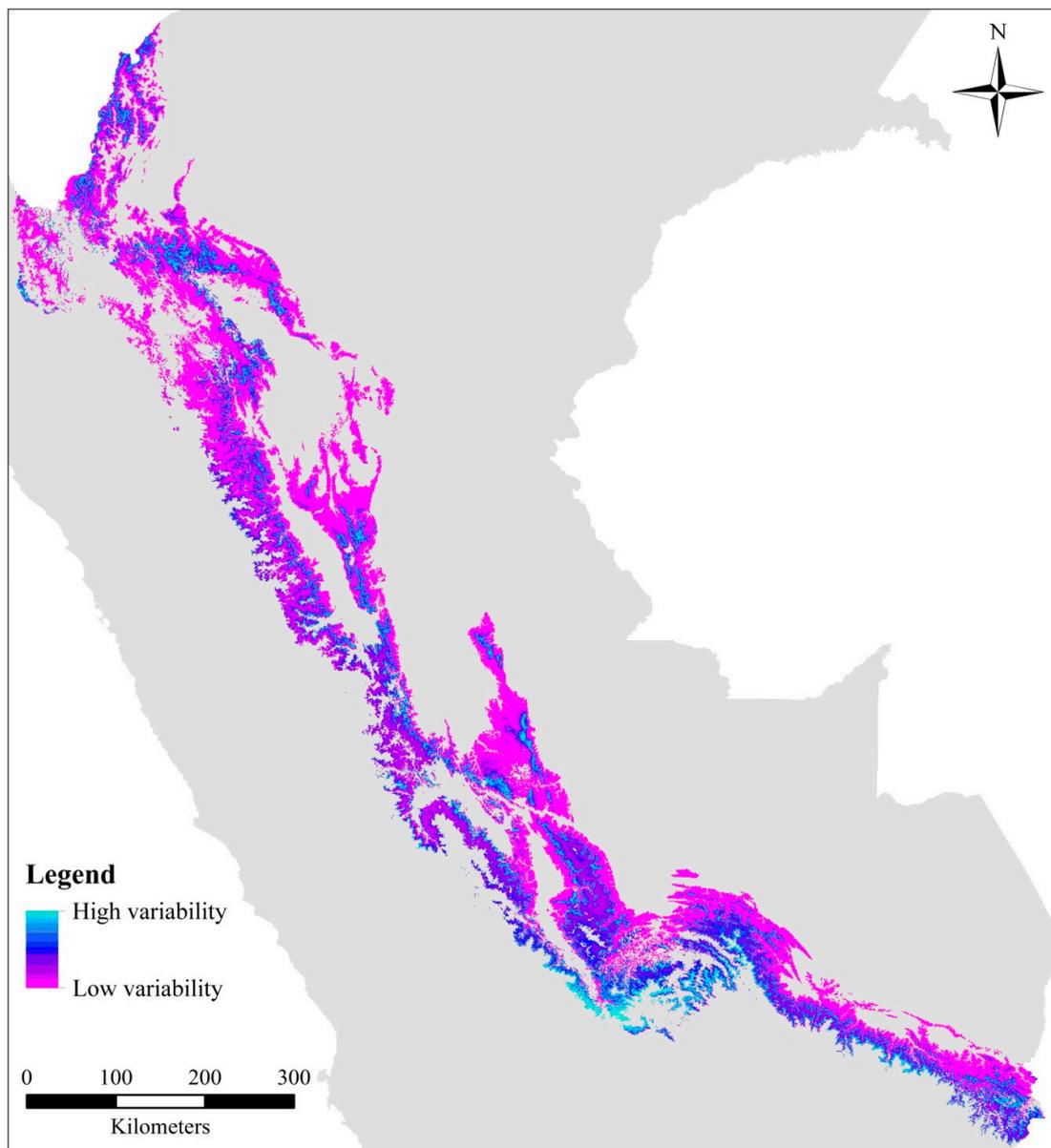
Table S3. Datasets used in this study

Name	Data format	Source (Year)
Land cover data	Vector	MINAM (2015)
WorldClim version 2.0 bioclimate dataset (current)	Raster	Fick and Hijmans (2017)
Global-Aridity and Global-PET	Raster	CGIAR-CSI (2018)
World Clim version 1.4 bioclimate dataset (2070)	Raster	Hijmans et al., (2005)
National, regional and private protected area systems	Vector	MINAM (2019)

Table S4. Classification model performance

	AUC*
Artificial Neural Networks	0.820
Generalized Linear Models	0.851
Boosted Regression Trees	0.787
Random Forests	0.914
Multivariate Adaptive Regression Splines	0.887

* Area under the curve of the receiver operating characteristic

**Figure S1.** Variability (as a measure of uncertainty) between the outcomes of different combinations of classification models and climate datasets used to generate montane forest projections.