Table S1: Candidate predictors used for modelling *Ae. albopictus* habitat suitability

Category	Source	Predictor	Abbreviation
Meteorological factors	MeteoSwiss spatial climate datasets	5th percentile of the minimum temperature in the cold season	cTmin_p5
		25th percentile of the minimum temperature in the cold season	cTmin_p25
		75th percentile of the minimum temperature in the cold season	cTmin_p75
		95th percentile of the minimum temperature in the cold season	cTmin_p95
		Average of the minimum temperature in the cold season	cTmin_avg
		5th percentile of the maximum temperature in the cold season	cTmax_p5
		25th percentile of the maximum temperature in the cold season	cTmax_p25
		75th percentile of the maximum temperature in the cold season	cTmax_p75
		95th percentile of the maximum temperature in the cold season	cTmax_p95
		Average of the maximum temperature in the cold season	cTmax_avg
		5th percentile of the mean temperature in the cold season	cTmean_p5
		25th percentile of the mean temperature in the cold season	cTmean_p25
		75th percentile of the mean temperature in the cold season	cTmean_p75
		95th percentile of the mean temperature in the cold season	cTmean_p95
		Average of the mean temperature in the cold season	cTmean_avg
		5th percentile of the minimum temperature in the warm season	wTmin_p5
		25th percentile of the minimum temperature in the warm season	wTmin_p25
		75th percentile of the minimum temperature in the warm season	wTmin_p75
		95th percentile of the minimum temperature in the warm season	wTmin_p95
		Average of the minimum temperature in the warm season	wTmin_avg
		5th percentile of the maximum temperature in the warm season	wTmax_p5
		25th percentile of the maximum temperature in the warm season	wTmax_p25
		75th percentile of the maximum temperature in the warm season	wTmax_p75
		95th percentile of the maximum temperature in the warm season	wTmax_p95
		Average of the maximum temperature in the warm season	wTmax_avg
		5th percentile of the mean temperature in the warm season	wTmean_p5
		25th percentile of the mean temperature in the warm season	wTmean_p25
		75th percentile of the mean temperature in the warm season	wTmean_p75
		95th percentile of the mean temperature in the warm season	wTmean_p95
		Average of the mean temperature in the warm season	wTmean_avg
		75th percentile of the precipitations in the cold season	cRAIN_p75
		95th percentile of the precipitations in the cold season	cRAIN_p95
		Average of precipitations in the cold season	cRAIN_avg

Category	Source	Predictor	Abbreviation
		75th percentile of the precipitations in the warm season	wRAIN_p75
		95th percentile of the precipitations in the warm season	wRAIN_p95
		Average of precipitations in the warm season	wRAIN_avg
		Maximum Tmin (daily minimum temperature) observed during the two-week period of the year with the lowest maximum Tmin	minMmaxTmin
		Average Tmin (daily minimum temperature) observed during the two-week period of the year with the lowest average Tmin	minMavgTmin
		Minimum Tmax (daily maximum temperature) observed during the two-week period of the year with the highest minimum Tmax	maxMminTmax
		Average Tmax (daily maximum temperature) observed during the two-week period of the year with the highest average Tmax	maxMavgTmax
		Average precipitation observed during the two-week period of the warm season with the highest average precipitations	maxMavgRAIN
		Average precipitation observed during the two-week period of the warm season with the lowest average precipitation	minMavgRAIN
Terrain morphology	DHM25 / 200m (Swiss Federal Office of Topography)	Elevation in m.a.s.l.	elevation
		Land orientation	aspect
		Slope	slope
Land cover types	CORINE Land Cover 2012 (CLC-CH 2012)	Continuous urban fabric	clc111
		Discontinuous urban fabric	clc112
		Industrial or commercial units	clc121
		Road and rail networks and associated land	clc122
		Port areas	clc123
		Airports	clc124
		Mineral extraction sites	clc131
		Dump sites	clc132
		Construction sites	clc133
		Green urban areas	clc141
		Sport and leisure facilities	clc142
		Non-irrigated arable land	clc211
		Vineyards	clc221
		Fruit trees and berry plantations	clc222
		Pastures	clc231
		Complex cultivation	clc242
		Land principally occupied by agriculture, with significant areas of natural vegetation	clc243

Category	Source	Predictor	Abbreviation
		Broad-leaved forest	clc311
		Coniferous forest	clc312
		Mixed forest	clc313
		Natural grassland	clc321
		Moors and heathland	clc322
		Transitional woodland shrub	clc324
		Beaches, dunes, and sand plains	clc331
		Bare rocks	clc332
		Sparsely vegetated areas	clc333
		Burnt areas	clc334
		Glaciers and perpetual snow	clc335
		Inland marshes	clc411
		Peatbogs	clc412
		Water courses	clc511
		Water bodies	clc512
Social factors	STATPOP2016 (GEOSTAT)	Total human population	total population
Social factors	OSRM, OSM	Road-based distance in minutes of travel by car from the nearest cell established in the previous year	carD