**Supplementary table 1:** Parameters for each subset identified during the tenfold cross validation

Chacma baboon central niche 25th and 75th percentiles

	Maximum temperature (°C)		Minimum temperature (°C)		Rainfall (mm/year)	
	Max	Min	Max	Min	Max	Min
Subset 1	31.5	25.6	5.9	0.1	787	407
Subset 2	31.5	25.6	5.8	0.0	787	410
Subset 3	31.6	25.5	6.0	0.0	787	411
Subset 4	31.4	25.6	5.9	0.0	784	410
Subset 5	31.5	25.6	6.0	0.0	791	411
Subset 6	31.4	25.6	5.9	0.0	784	415
Subset 7	31.3	25.5	5.9	0.0	786	404
Subset 8	31.6	25.8	6.0	0.2	779	406
Subset 9	31.4	25.5	5.8	0.0	786	414
Subset 10	31.4	25.5	5.8	0.0	791	409
Actual values	31.5	25.6	5.9	0.0	788	409

Supplementary table 2: Key African cities located in the predicted central niche habitat

| Country	City	Type
Botswana	Gaborone	National capital
	Francistown	Provincial capital
	Lobatse	Provincial capital
	Kanye	Provincial capital
	Mochudi	Provincial capital
	Molepolole	Provincial capital
	Serowe	Provincial capital
	Mahalpye	Other
Lesotho	Maseru	National capital
	Hlotse	Provincial capital
	Mafeteng	Provincial capital
	Mohale's Hoek	Provincial capital
	Moyeni	Provincial capital
	Qacha's Nek	Provincial capital
	Teyateyaneng	Provincial capital
Namibia	Windhoek	National capital
	Okahandja	Provincial capital
	Otjiwarongo	Provincial capital
South Africa	Pretoria	National capital
	Johannesburg	Provincial capital
	Mmabatho	Provincial capital
	Polokwane	Provincial capital
	Benoni	Other
	Port Elizabeth	Other
	Soweto	Other
Zimbabwe	Harare	National capital
	Bulawayo	Stand-alone province
	Gweru	Provincial capital
	Masvingo	Provincial capital
	Que Que	Other
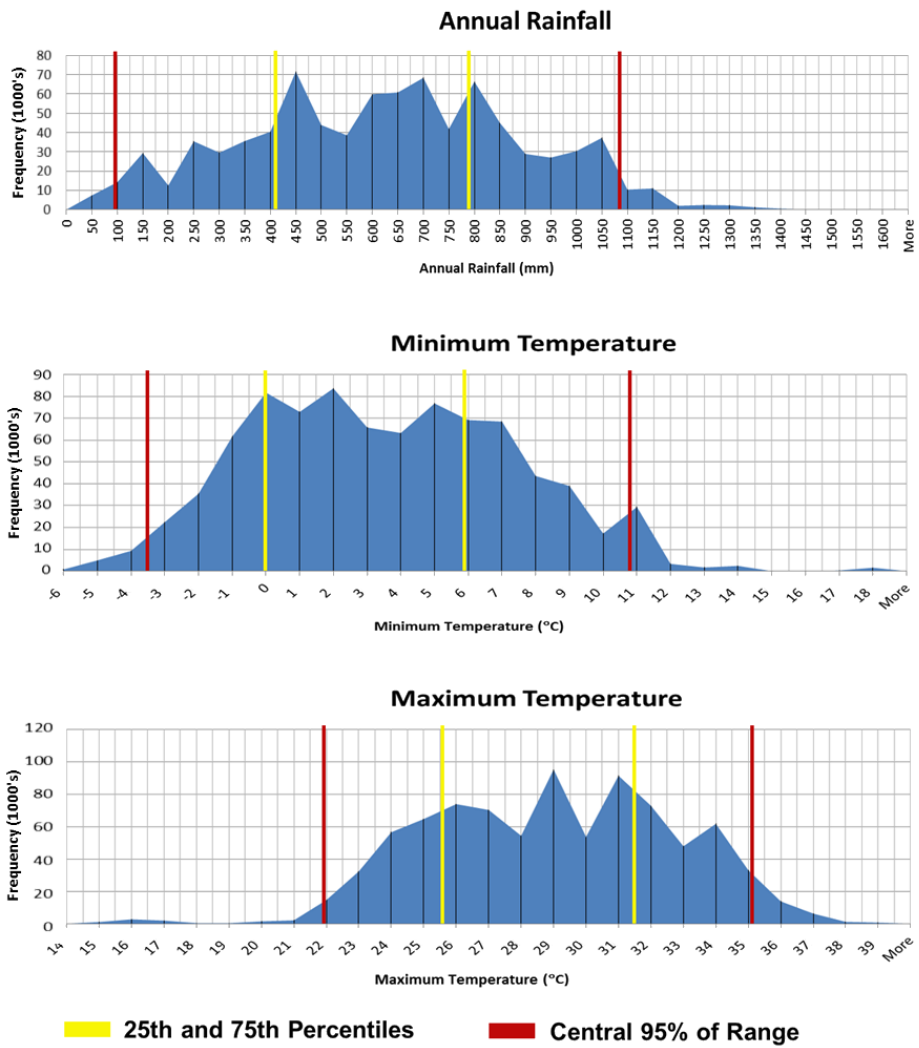
Supplementary figure 1: The ranges of the data samples and the percentiles depicting the central 50%.

**Confidence Surface
for Minimum Temperature**

**Confidence Surface
for Annual Rainfall**

**Confidence Surface
for Maximum Temperature**

N

—— **International Borders**

Confidence Surface

Value

Always within parameters : 10

Never within parameters : 0
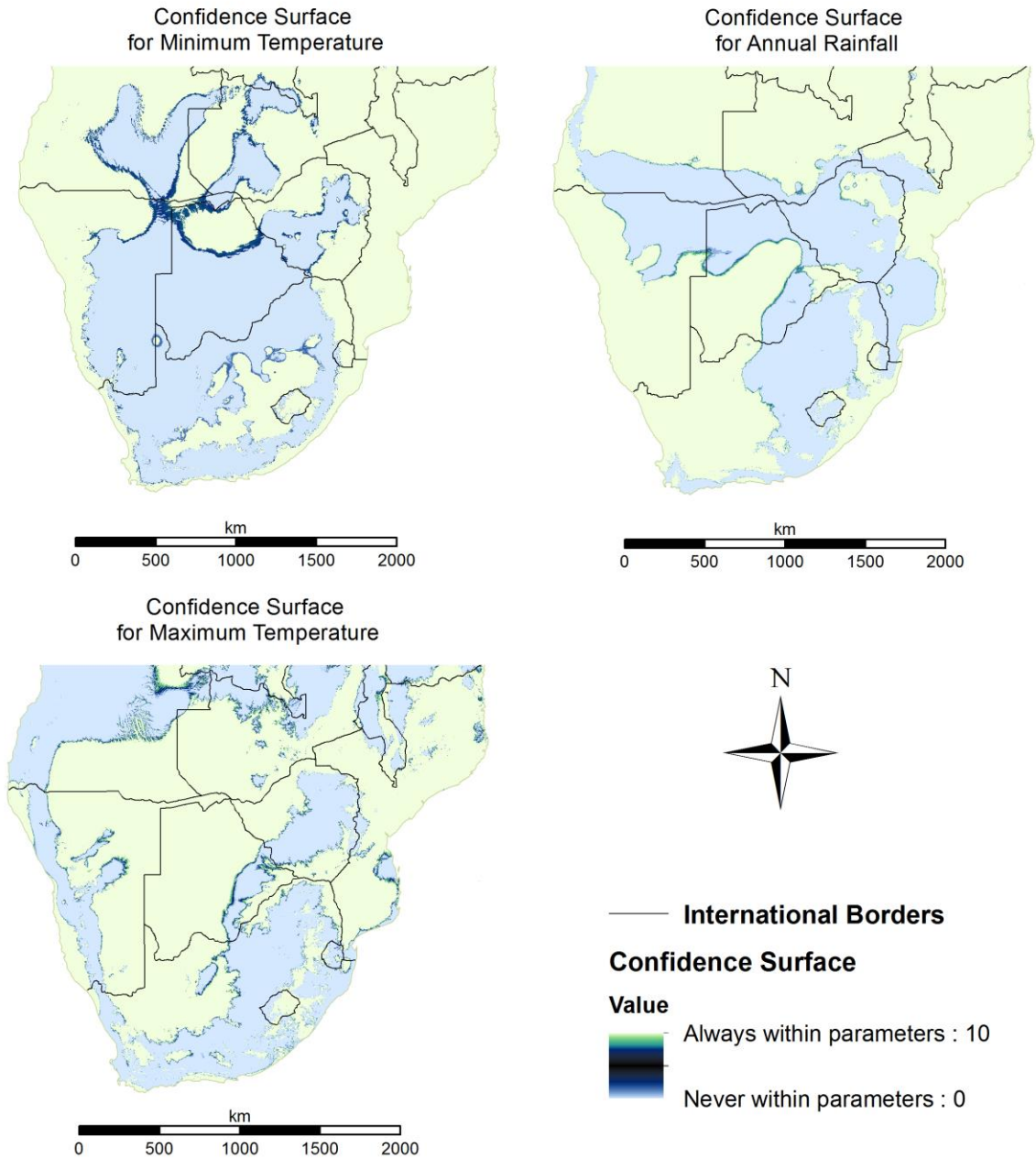
Supplementary figure 2: The confidence surfaces developed during the tenfold validation for minimum temperature, annual rainfall and maximum temperature.
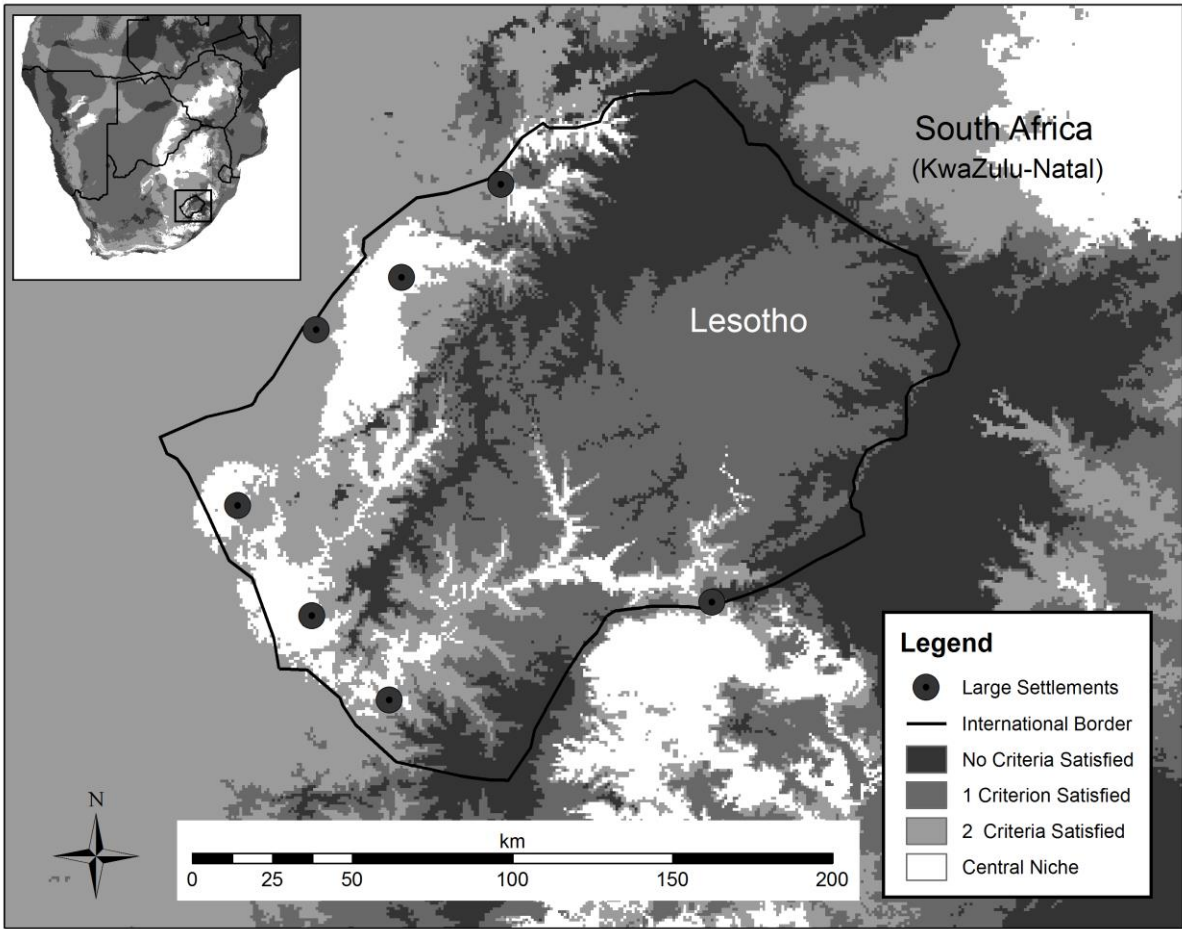
Supplementary figure 3: The central niche areas of chacma baboons and associated large settlements in Lesotho.
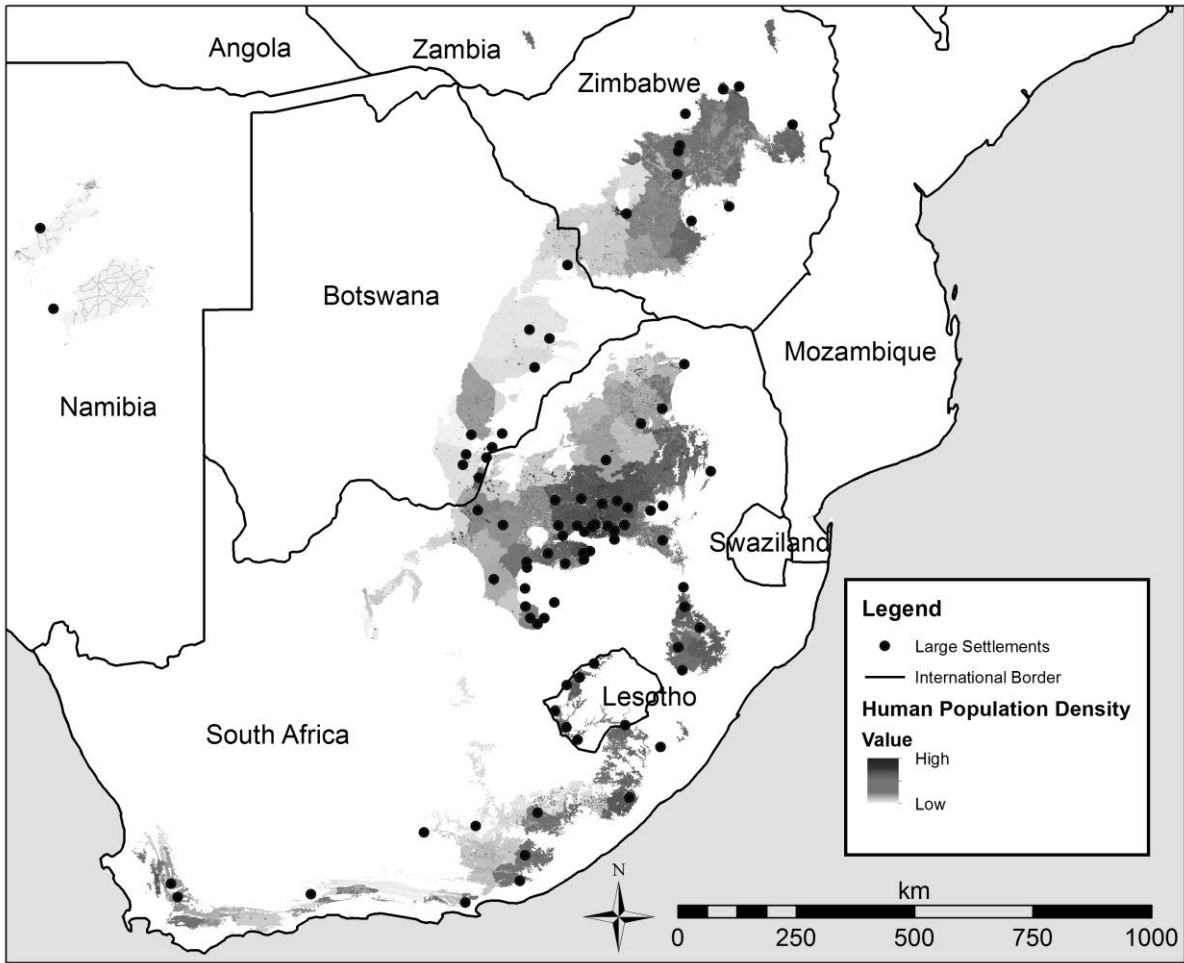
Supplementary figure 4: The human population density and large settlements located within the chacma baboon central niche.