

**Table S1.** Bioclimate variables (seasonality's are coefficients of variation) obtained over *Ara rubrogenys* area (Present: mean, minimum and maximum) and changes under the RCP2.6 and RCP8.5 forcings

	Mean annual Temperature (°C)	Seasonality of Temperature (%)	Maximal Temperature of the warmest month (°C)	Minimal Temperature of the coldest month (°C)	Annual Precipitation (mm)	Seasonality of Precipitation (%)	Maximal Precipitation of the wettest quarter (mm)	Minimal Precipitation of the driest quarter (mm)
<b>Present</b>								
mean	18.18	204.65	28.18	6.99	567.54	92.39	330.65	17.21
minimum	12.31	155.19	21.34	2.55	443.00	67.79	250.00	6.00
maximum	23.00	285.38	31.73	13.28	777.00	102.61	432.00	62.00
<b>Changes under RCP2.6 (% of the present values)</b>								
mean	4.77	-9.55	0.63	8.01	4.74	-1.58	6.45	13.46
minimum	-2.83	-28.39	-11.34	-86.99	-20.54	-15.35	-8.00	-533.33
maximum	7.67	1.62	7.92	17.54	32.05	14.43	37.96	41.94
<b>Changes under RCP8.5 (% of the present values)</b>								
mean	16.74	-12.16	8.77	47.26	13.11	-1.61	15.39	25.93
minimum	14.22	-31.55	-1.50	30.56	-9.48	-15.35	2.40	-500.00
maximum	18.08	-0.95	15.53	36.37	39.90	14.43	42.13	54.84

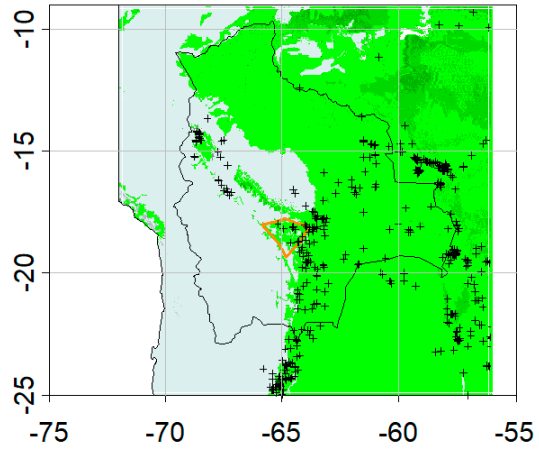
**Table S2.** Coefficients of the climate logistic models (SDM) for *Ara rubrogegens* and the 17 plant species (Z test p-values in bold, units of the climate variables in Table S1).

	Intercept	Mean annual Temperature	Mean annual Temperature <sup>2</sup>	Seasonality of the Temperature	Seasonality of the Temperature <sup>2</sup>	Seasonality of the Precipitation	Seasonality of the Precipitation <sup>2</sup>	Maximal Precipitation of the wettest quarter	Maximal Precipitation of the wettest quarter <sup>2</sup>	Minimal Precipitation of the driest quarter	Minimal Precipitation of the driest quarter <sup>2</sup>
<i>Ara rubrogegens</i>	-1.079e+02	8.583	-2.125e-01	-	-1.059e-04	1.716e-01	-	6.645e-02	8.436e-05	-	-
<i>Anadenanthera colubrina</i>	-4.073	8.759e-02	-	-6.691e-06	-	-	-	1.265e-02	1.477e-05	-1.629e-03	-7.828e-06
<i>Anisocapparis speciosa</i>	-1.720e+01	-	7.430e-03	6.297e-02	-8.896e-05	1.387e-01	-7.880e-04	-4.114e-03	-	-	-
<i>Aspidosperma quebracho-blanco</i>	-1.281e+01	1.915e-01	-	3.167e-02	-3.697e-05	9.444e-02	-5.525e-04	-	-4.482e-06	-	-
<i>Celtis ehrenbergiana</i>	-9.107	2.429e-01	-	1.878e-02	-1.798e-05	3.201e-02	-1.628e-04	-4.391e-03	-	-	-
<i>Cenchrus</i>	-6.132	1.252e-01	-	7.937e-03	-8.551e-06	2.297e-02	-	-6.480e-04	-	1.405e-03	-
<i>Cnidoscolus tubulosus</i>	-1.765e+01	1.545	-3.611e-02	-5.276e-03	-	3.592e-02	-	-	-1.037e-06	-	-
<i>Jatropha hieronymi</i>	-1.744e+01	-	9.295e-03	3.292e-02	-4.411e-05	2.030e-01	-	-3.727e-03	-1.082e-03	-	-
<i>Lithraea molleoides</i>	-2.021e+01	2.535	-7.609e-02	-	-4.276e-06	2.858e-02	-	-3.558e-03	-	5.557e-03	-
<i>Loxopterygium grisebachii</i>	-4.259e+01	1.463	-2.903e-02	-	-	6.173e-01	-2.860e-03	-1.516e-02	-	3.818e-02	-
<i>Neoraimondia herzogiana</i>	-9.593e+01	8.005	-2.088e-01	-	-2.446e-05	2.955e-01	-	-	-	-	-
<i>Parasenegalia visco</i>	-1.024e+01	1.635	-4.351e-02	-8.636e-03	-	-	-	-	-5.842e-06	-4.982e-02	2.516e-04
<i>Parkinsonia praecox</i>	-2.700	-	6.110e-03	-	-1.669e-06	-	1.843e-04	-1.715e-03	-5.298e-06	-4.662e-03	-
<i>Prosopis chilensis</i>	-9.666	-	-	1.465e-02	-2.069e-05	2.424e-01	-1.488e-03	-4.863e-03	-	1.144e-02	-
<i>Prosopis kuntzei</i>	-3.879e+01	2.664	-6.573e-02	-	-	4.521e-01	-3.167e-03	-9.028e-03	-	2.112e-02	-
<i>Sarcomphalus mistol</i>	-1.735e+01	2.463e-01	-	4.469e-02	-5.922e-05	1.762e-01	-1.107e-03	-4.305e-03	-	-	-

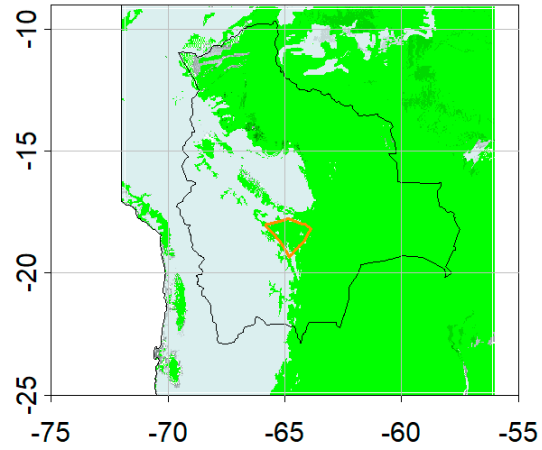
<i>Schinopsis marginata</i>	-53.894	2.2151	-0.05610	-	-	0.78855	-0.00417	-0.00706	-	0.04066	-
-- <i>Selaginella sellowii</i>	-7.187	9.484e-01	-2.568e-02	3.547e-03	-1.235e-05	-	-4.970e-05	-	-3.915e-06	-	-

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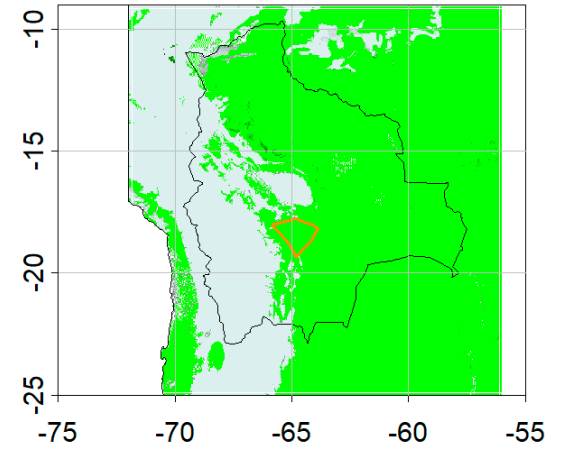
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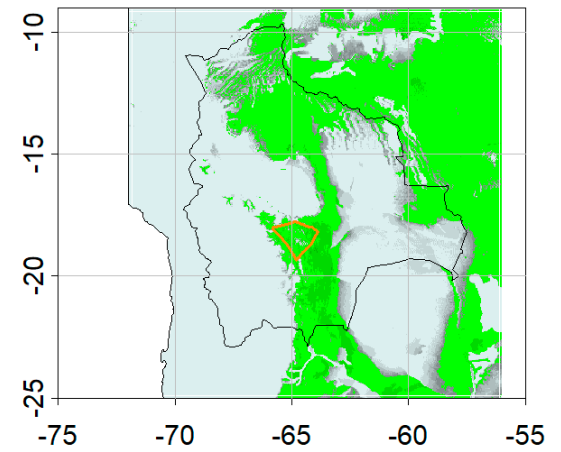
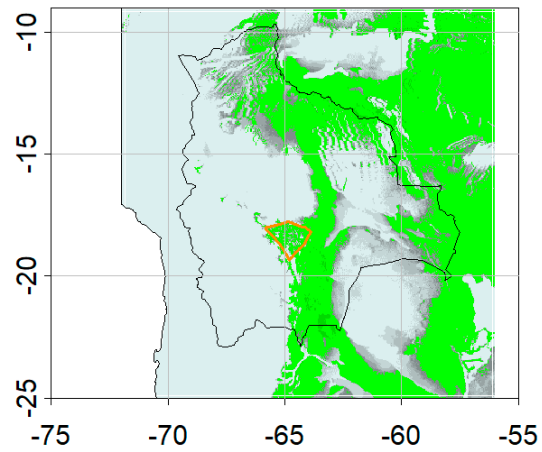
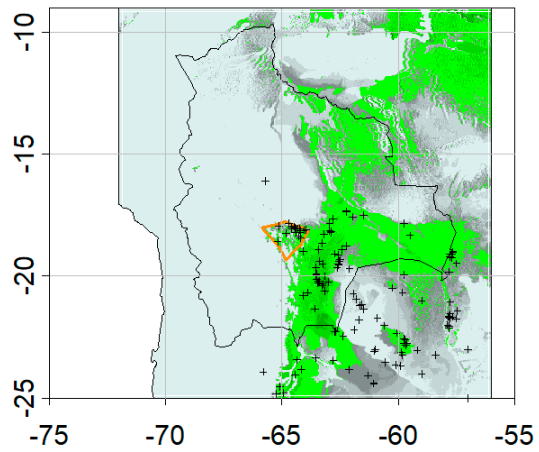
Future, RCP2.6  
*Anadenanthera colubrina*



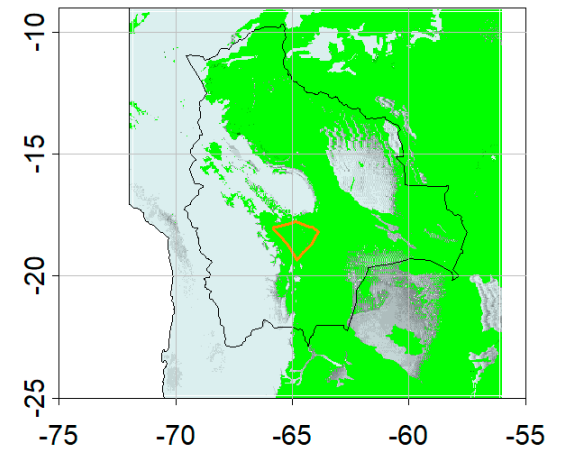
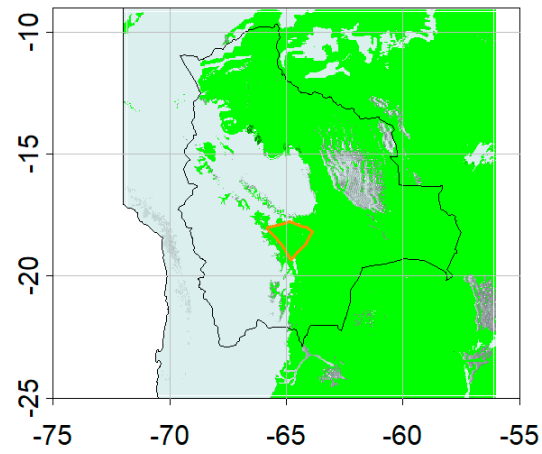
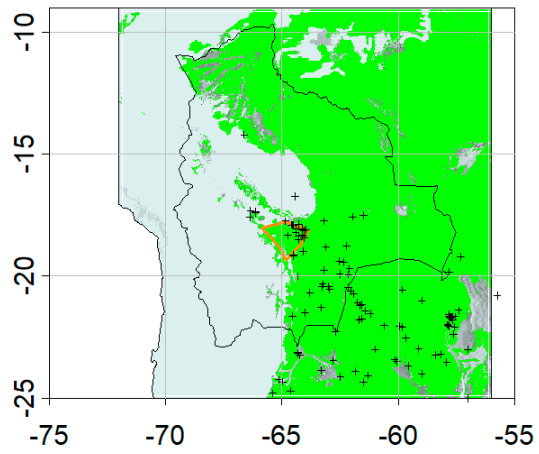
Future, RCP8.5



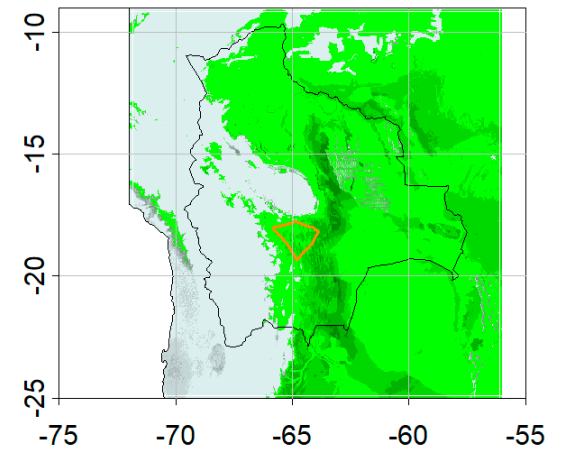
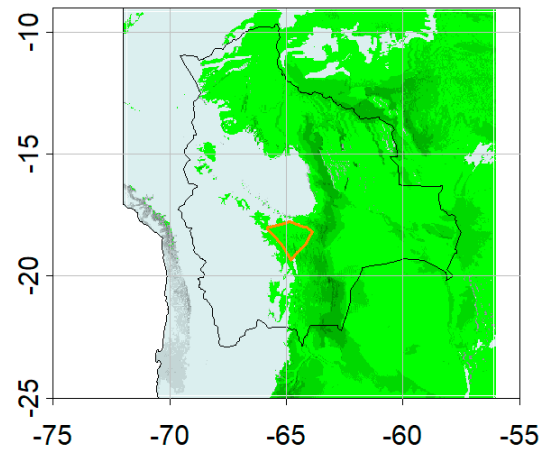
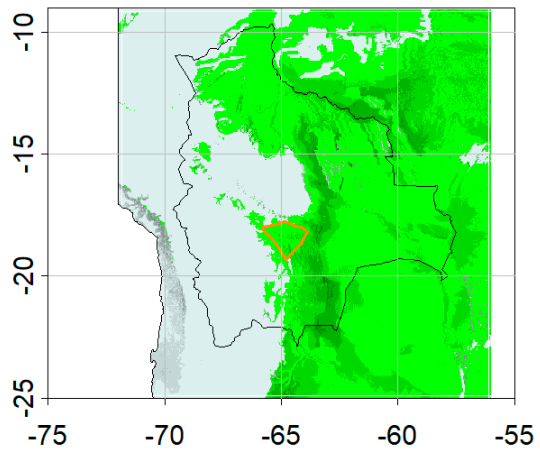
*Anisocapparis speciosa*



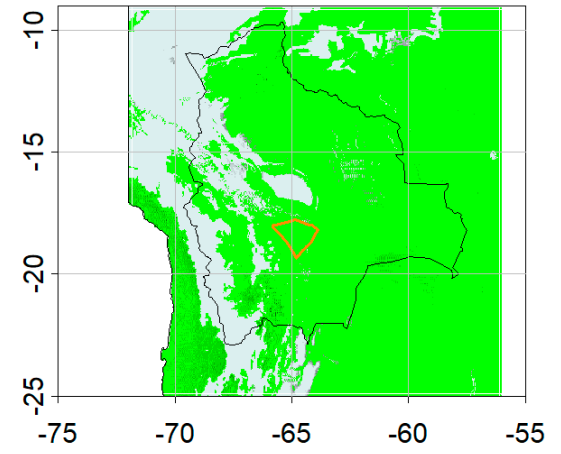
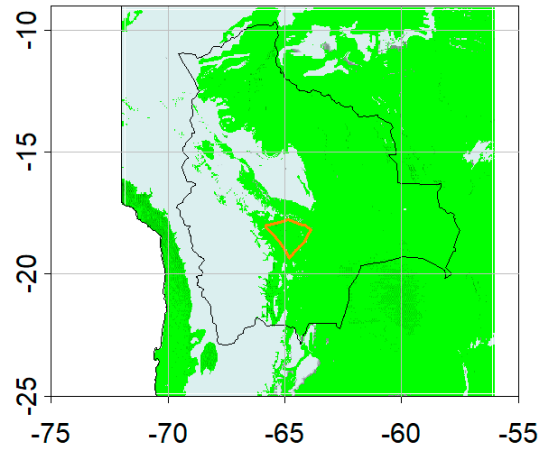
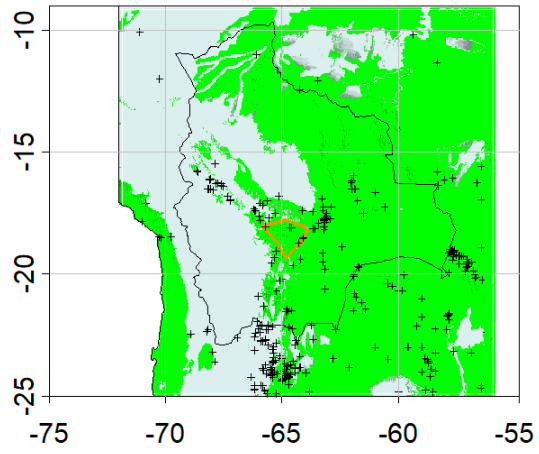
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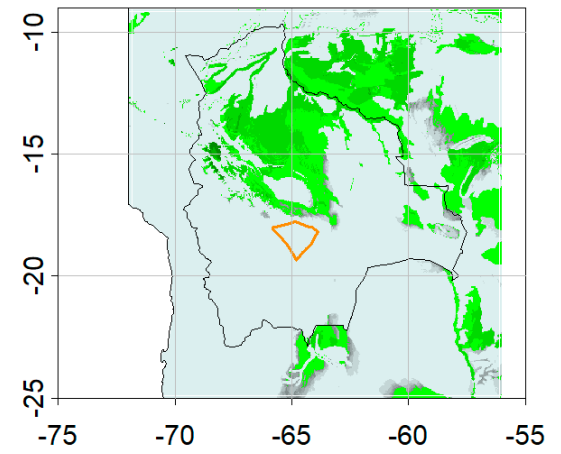
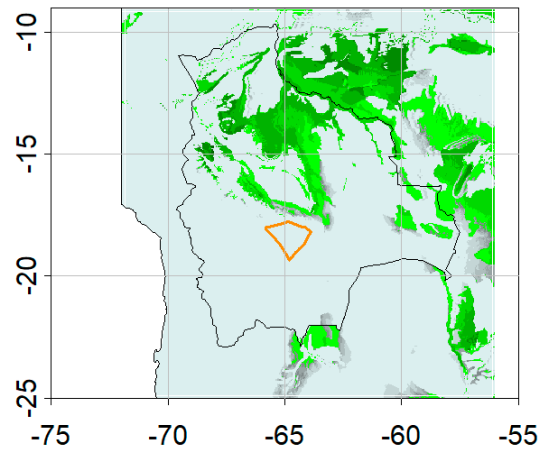
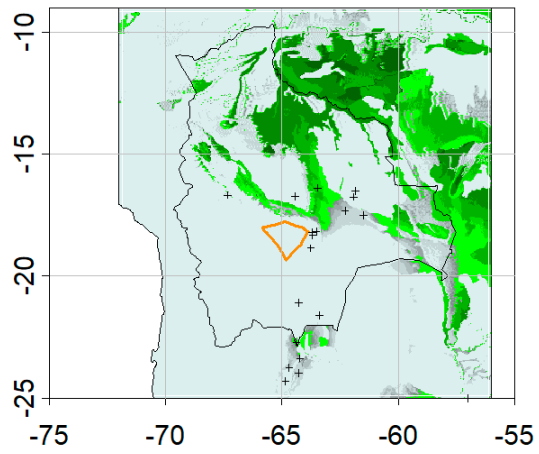
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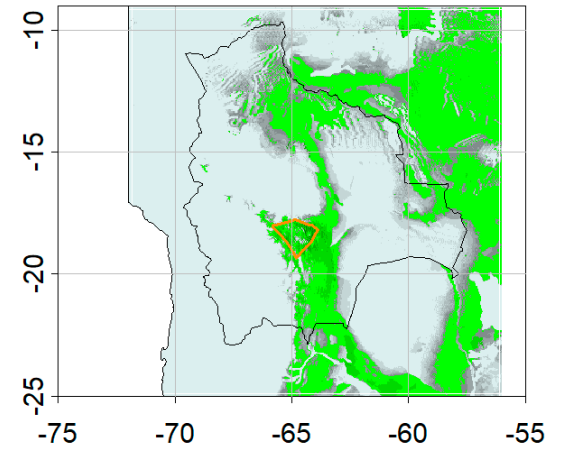
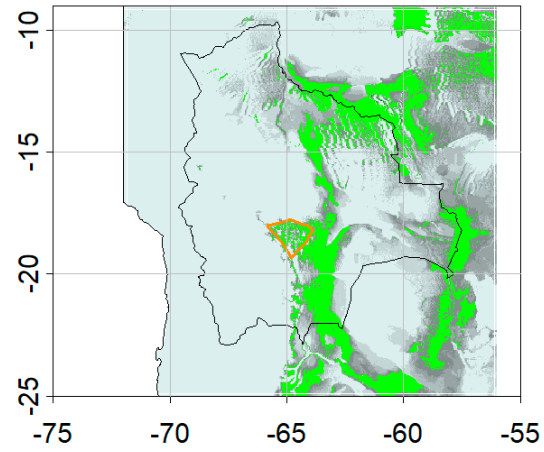
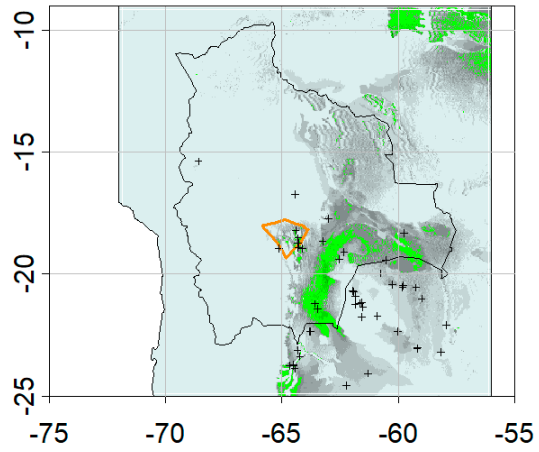
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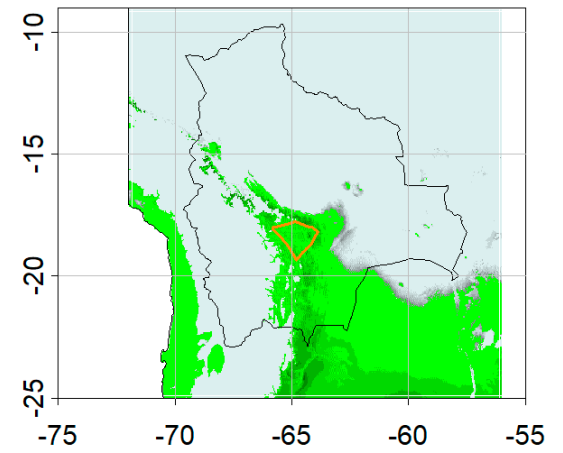
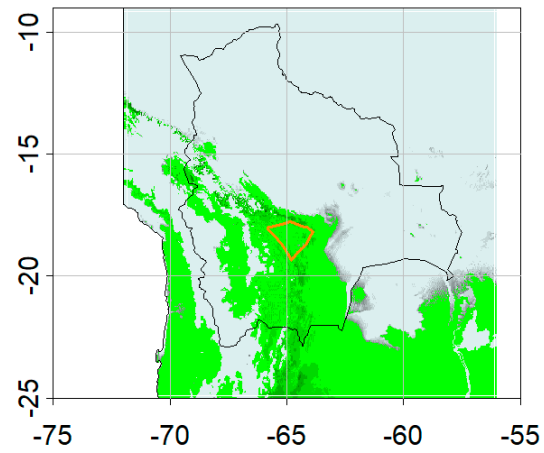
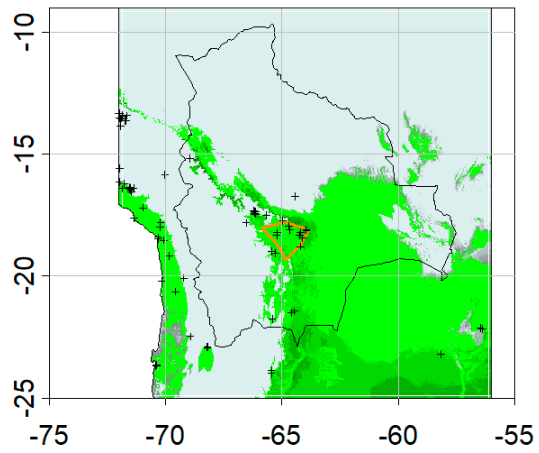
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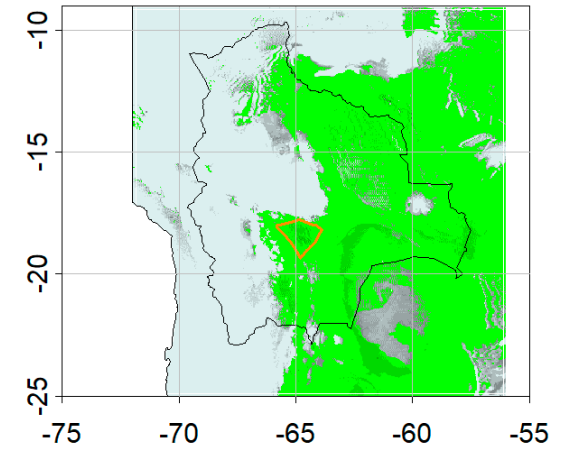
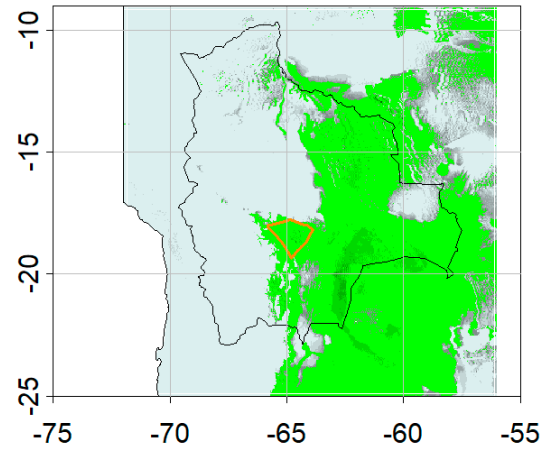
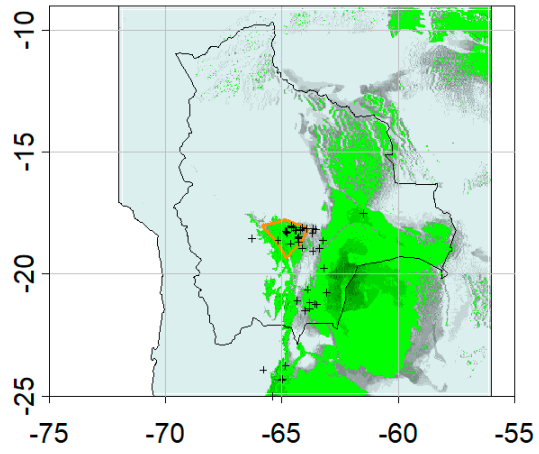
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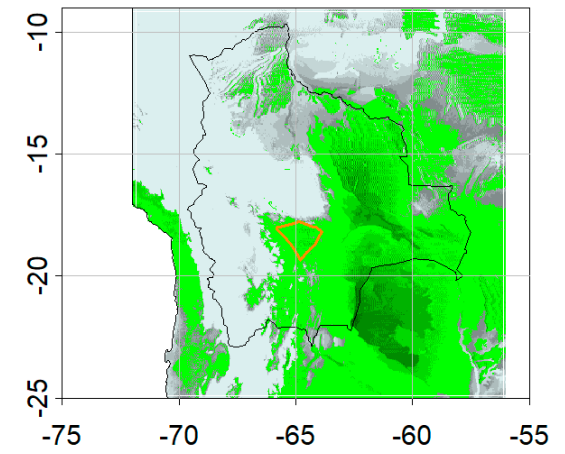
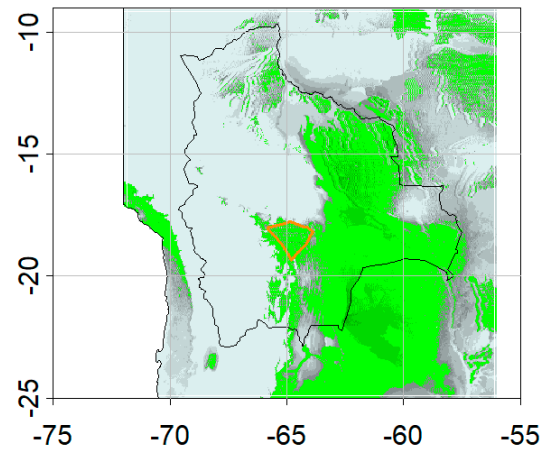
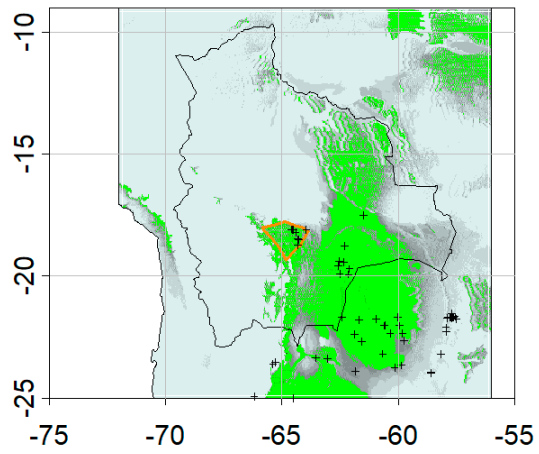
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*Loxopterygium grisebachii*

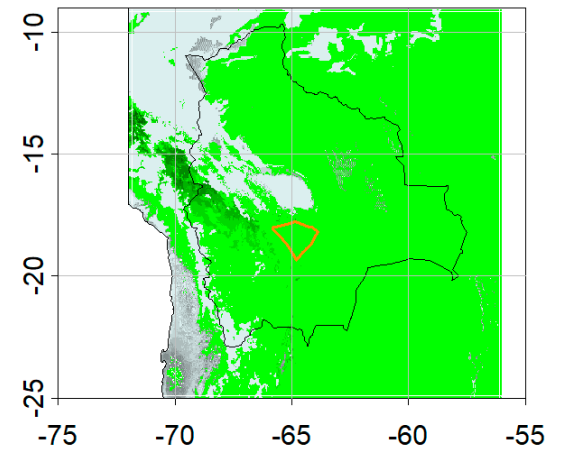
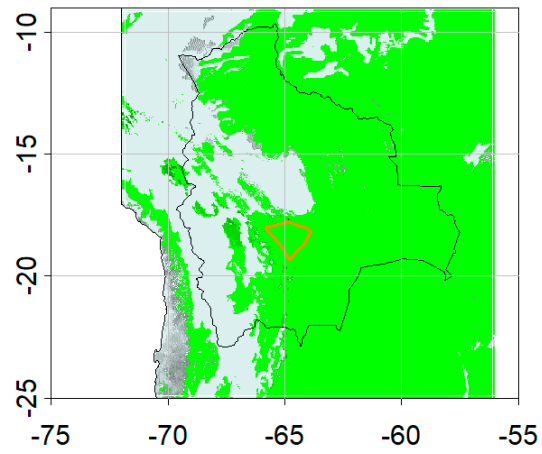
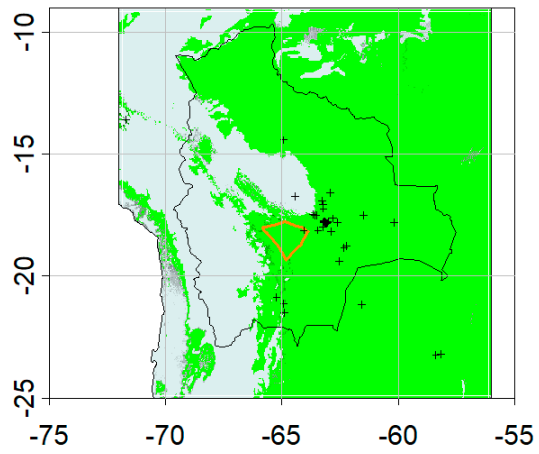


*Parkinsonia praecox*

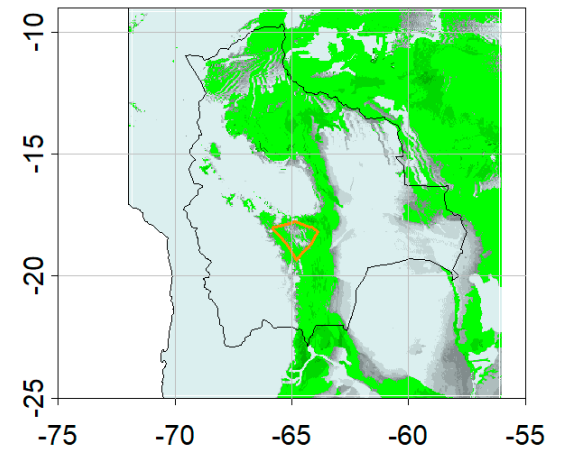
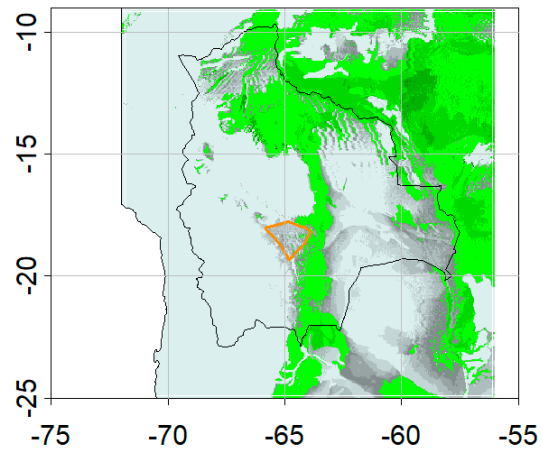
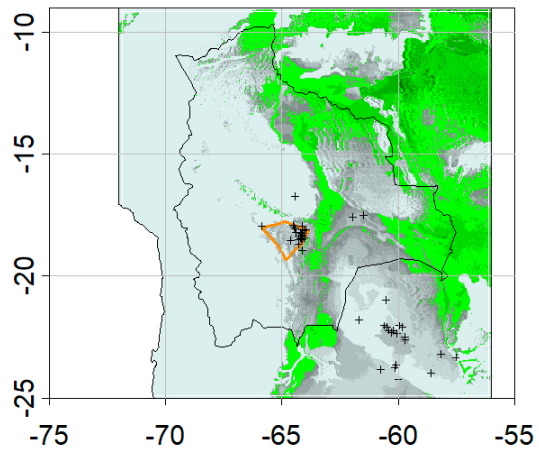




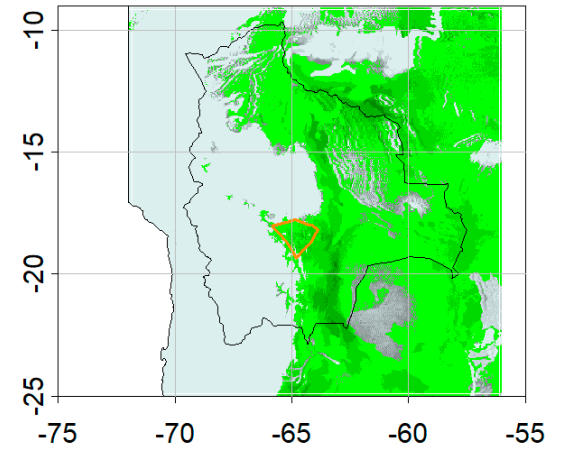
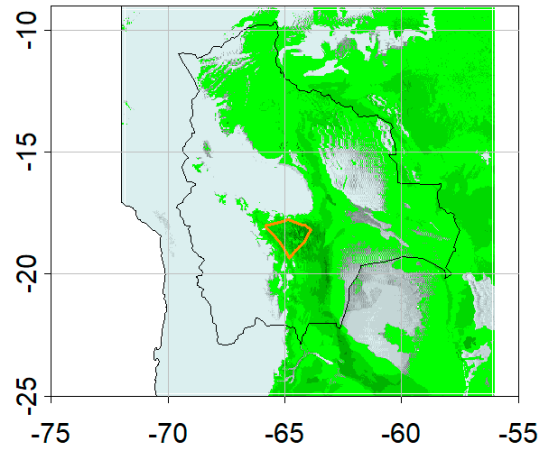
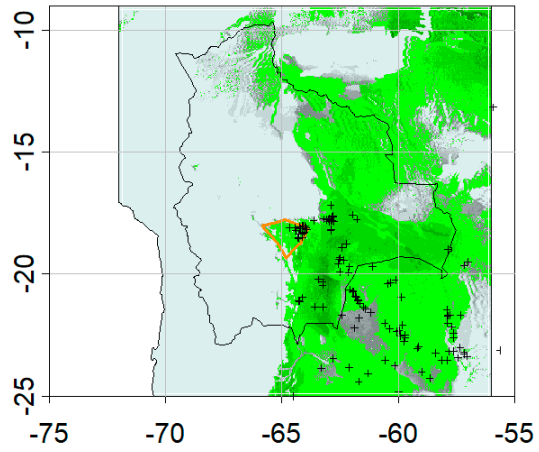
*Prosopis chilensis*



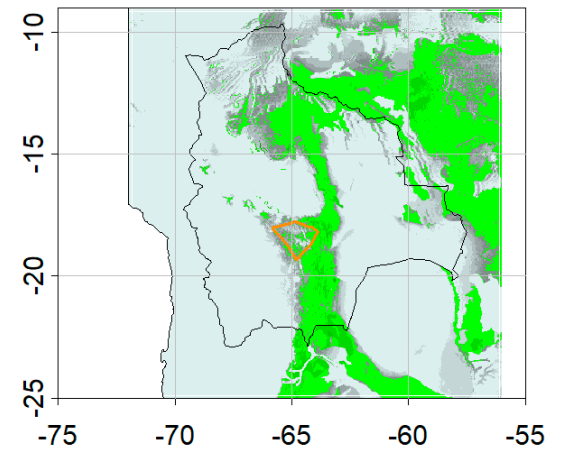
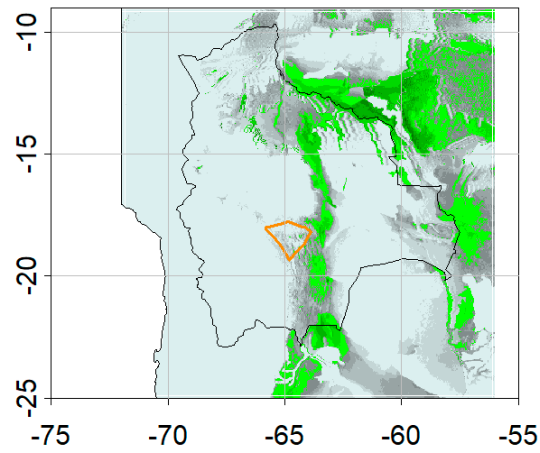
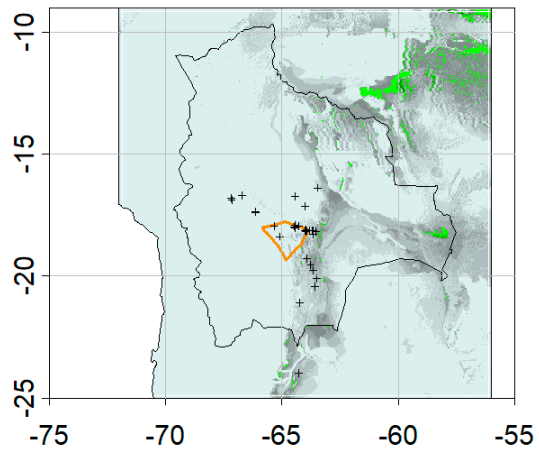
*Prosopis kuntzei*



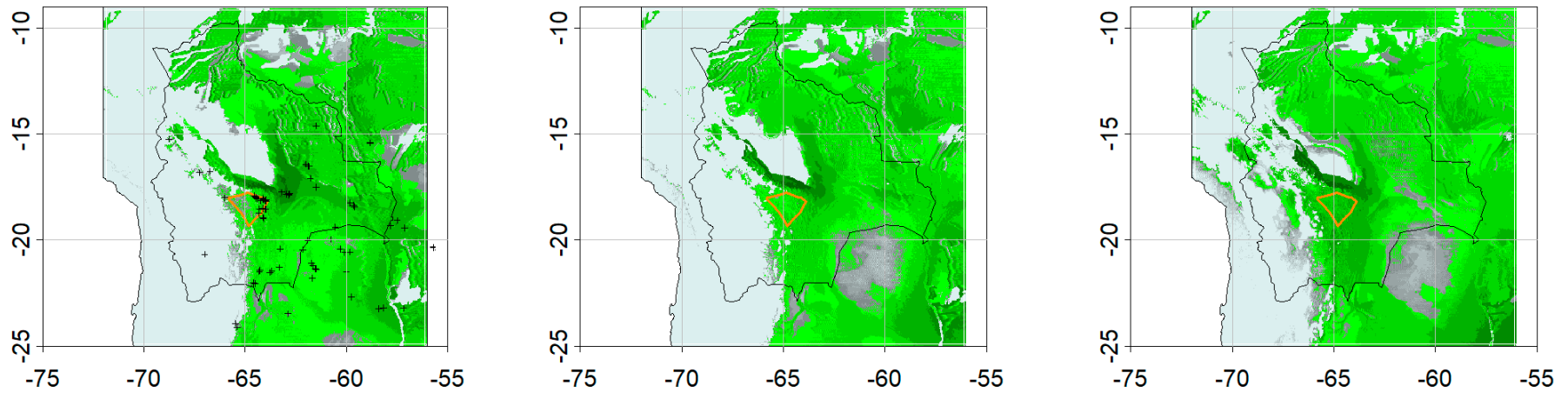
*Sarcomphalus mistol*



*Schinopsis marginata*

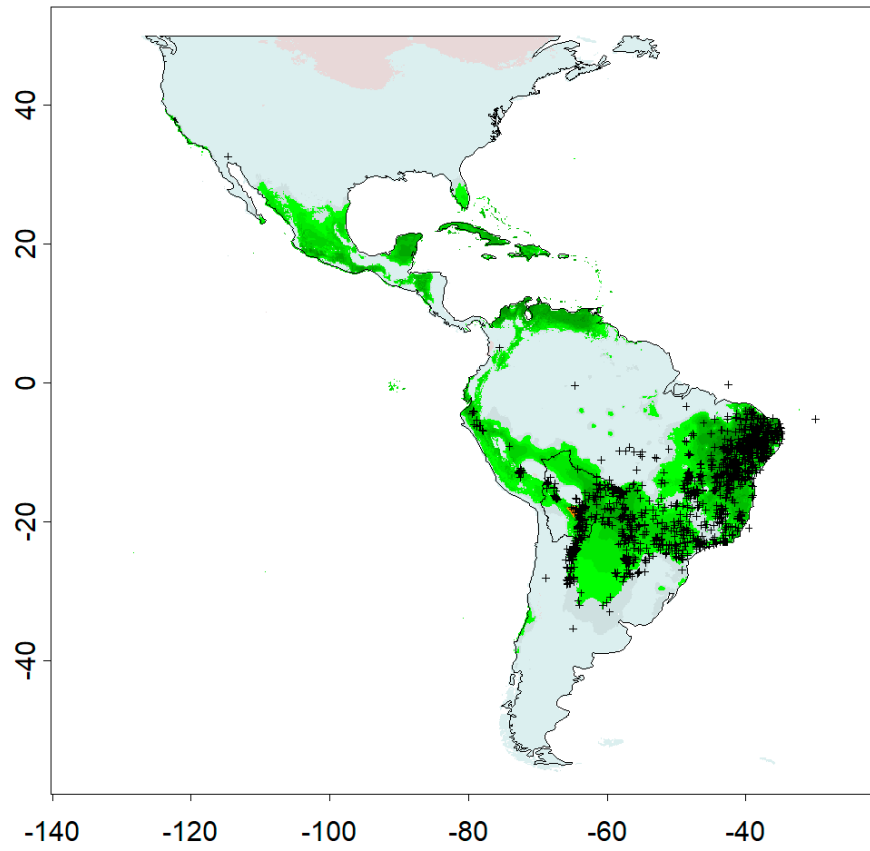


*Selaginella sellowii*

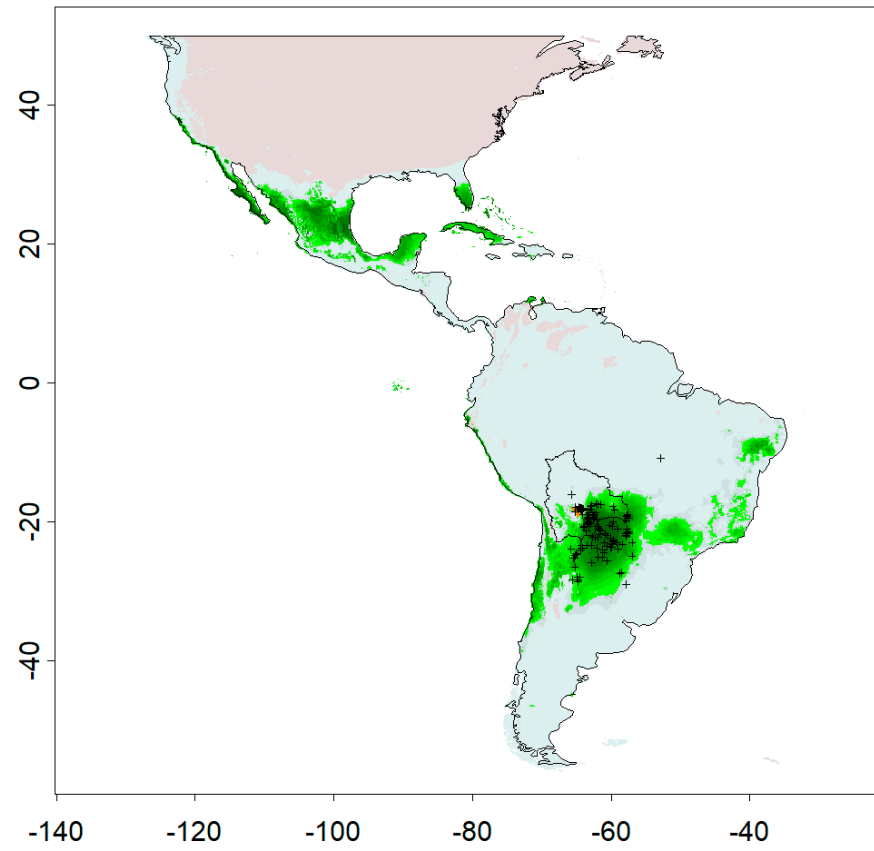


**Figure S1.** Plant species distribution over Bolivia predicted by the DVM CARAIB for present and for future climate under RCP2.6 and RCP8.5 forcings (+: present occurrences of the species, light to dark colour variation shows log of plant net productivity of the species fraction, in blue-grey between 0 and thresholds of presence, in green between thresholds and maximal values; *Ara rubrogegens* area in orange lines)

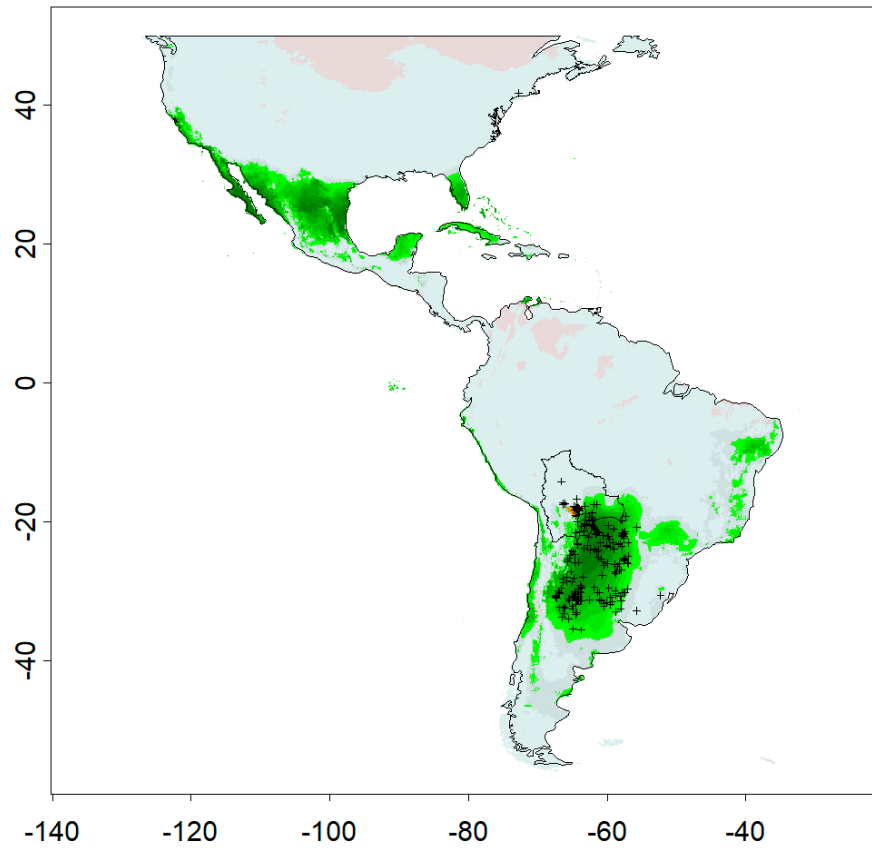
*Anadenanthera colubrina*



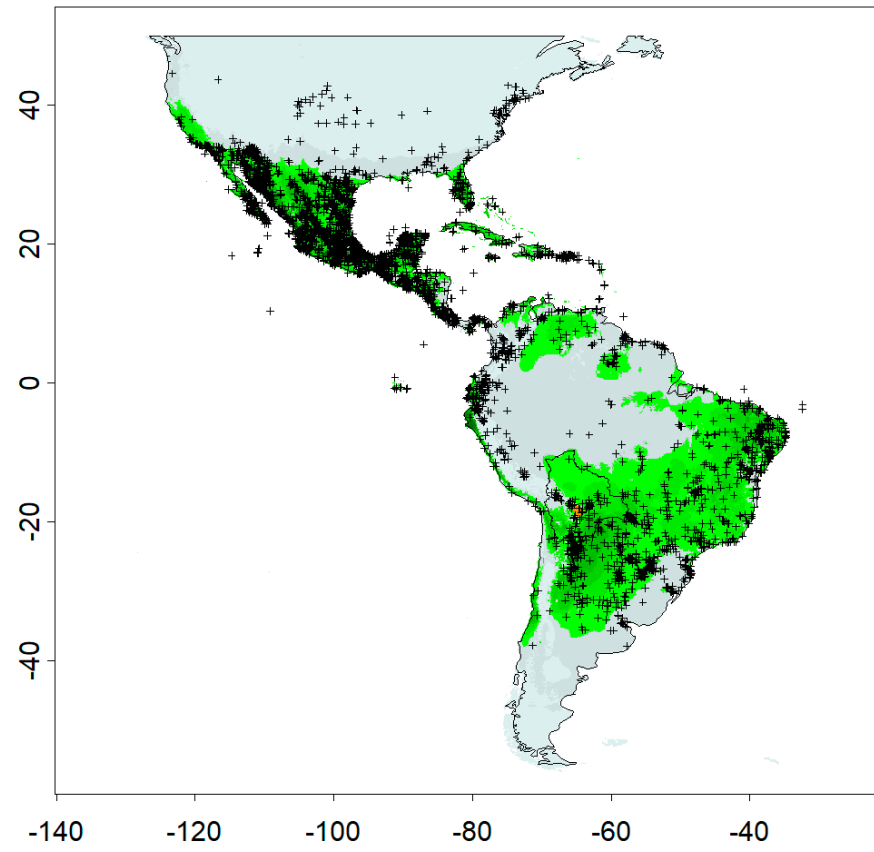
*Anisocarpis speciosa*



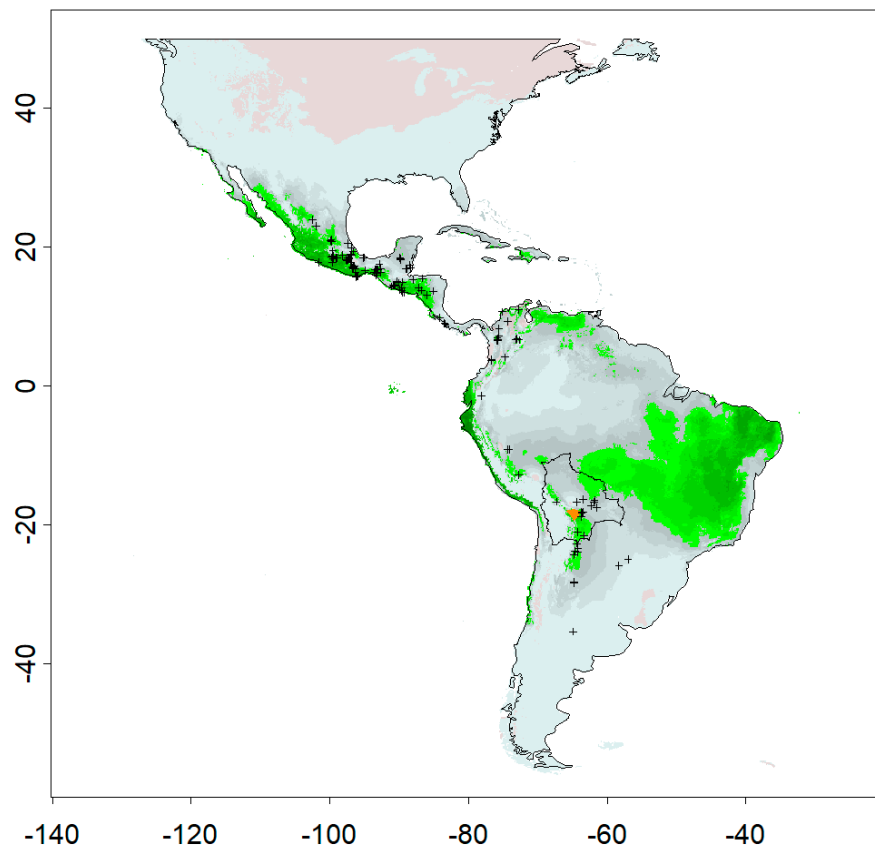
*Aspidosperma quebracho-blanco*



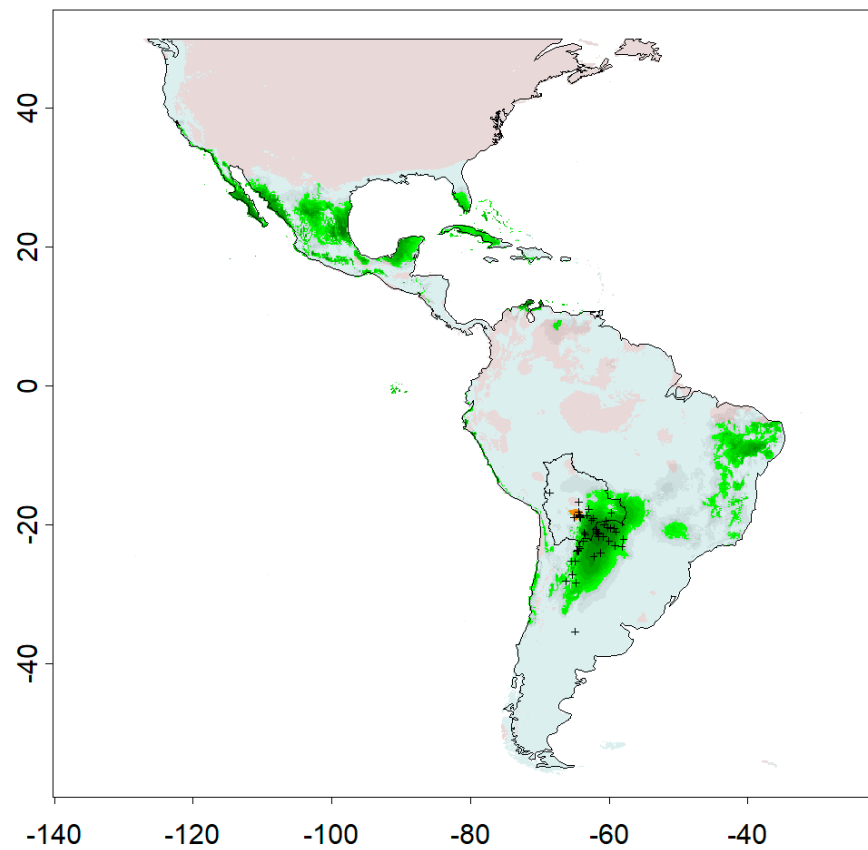
*Cenchrus*



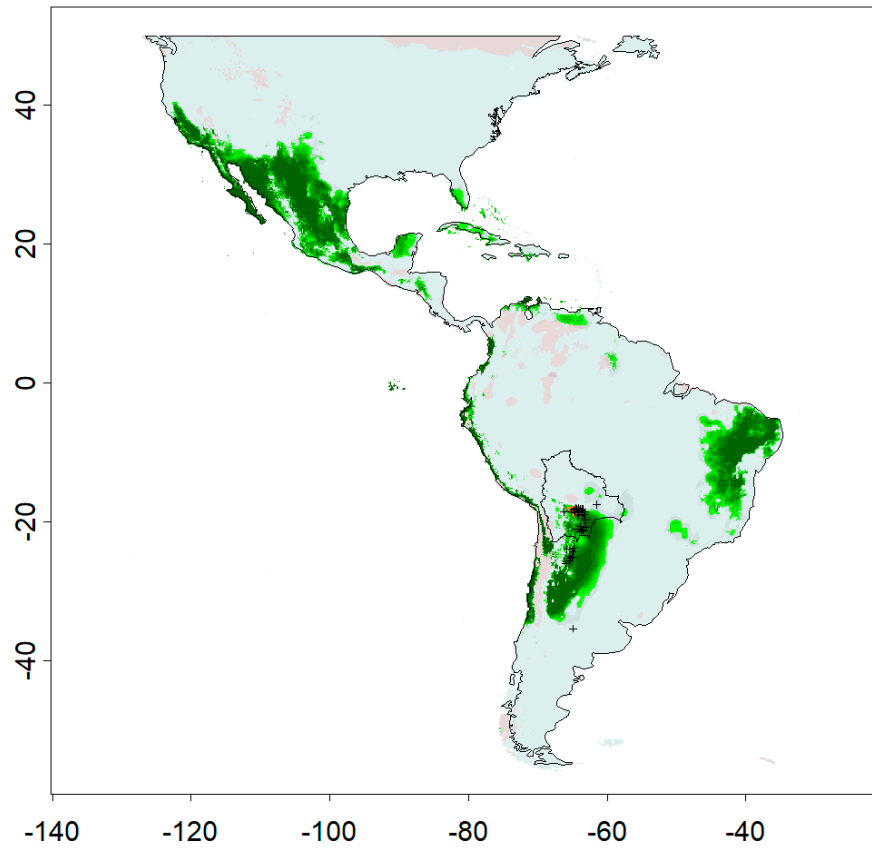
*Cnidoscolus tubulosus*



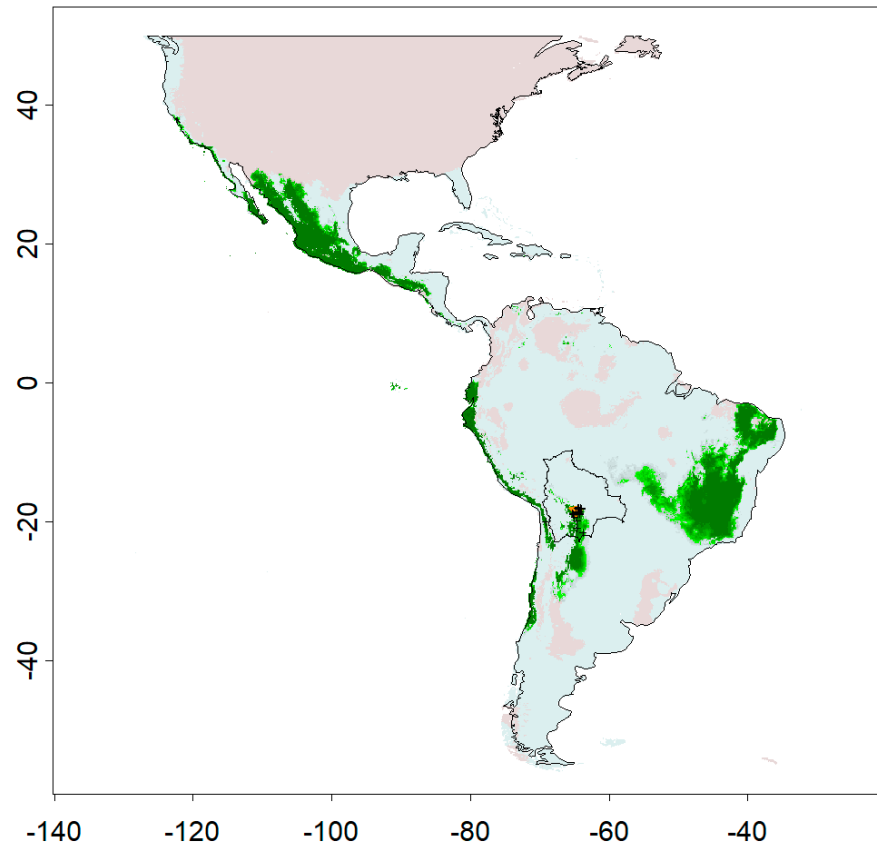
*Jatropha hieronymi*



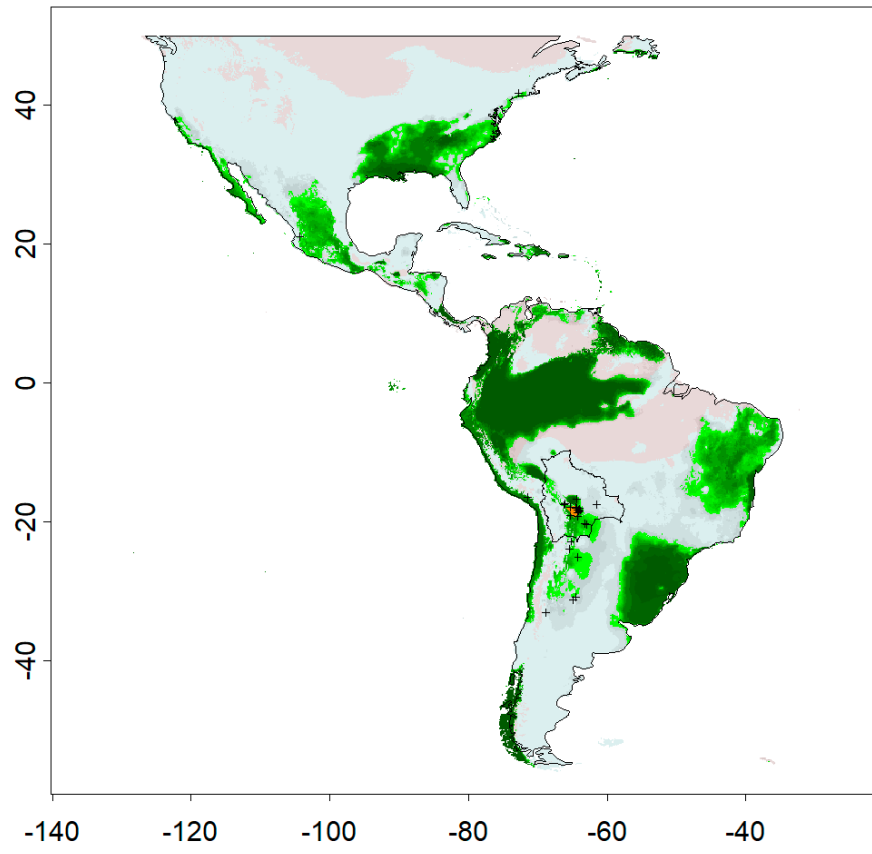
*Loxopterigium grisebachii*



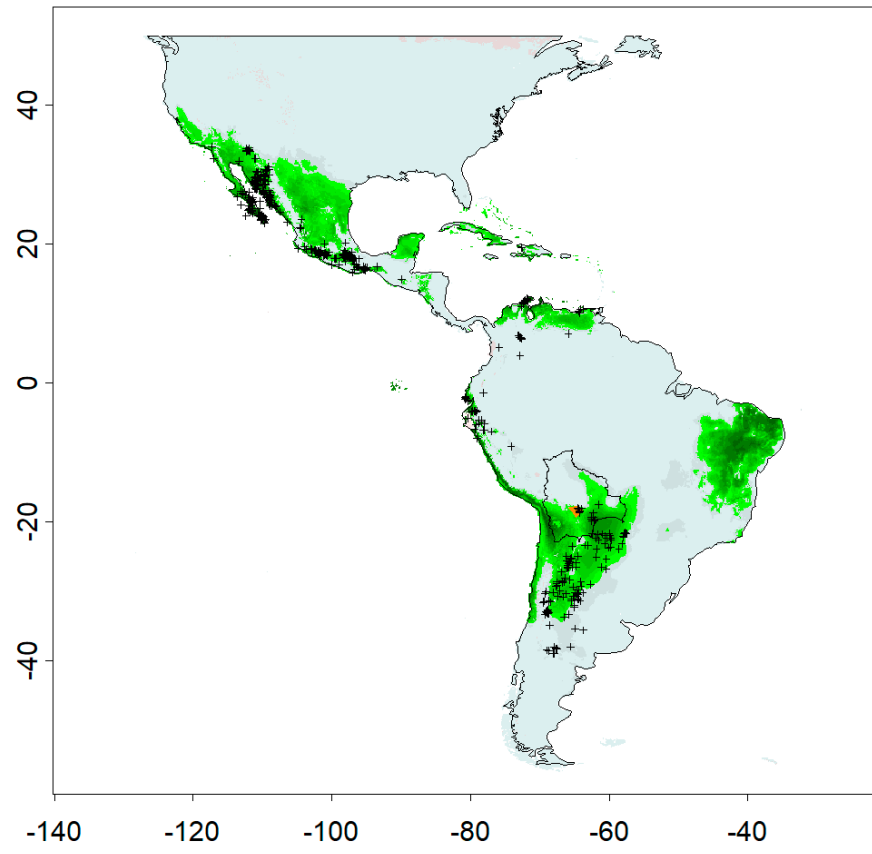
*Neoraimondia herzogiana*



*Parasenegalia visco*

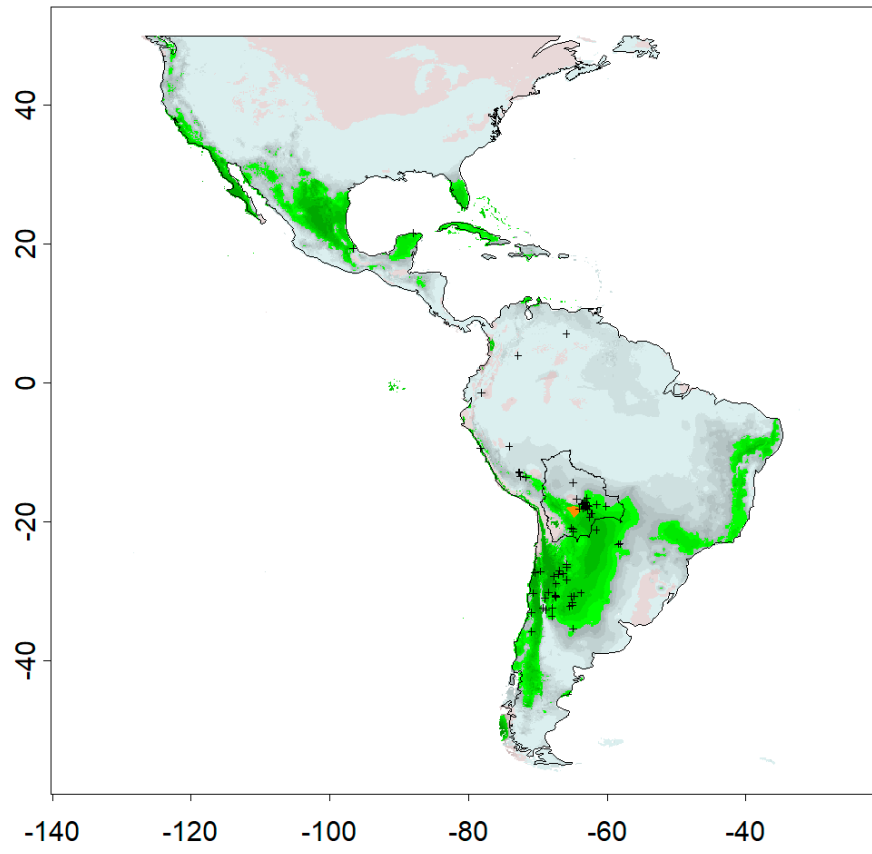


*Parkinsonia praecox*

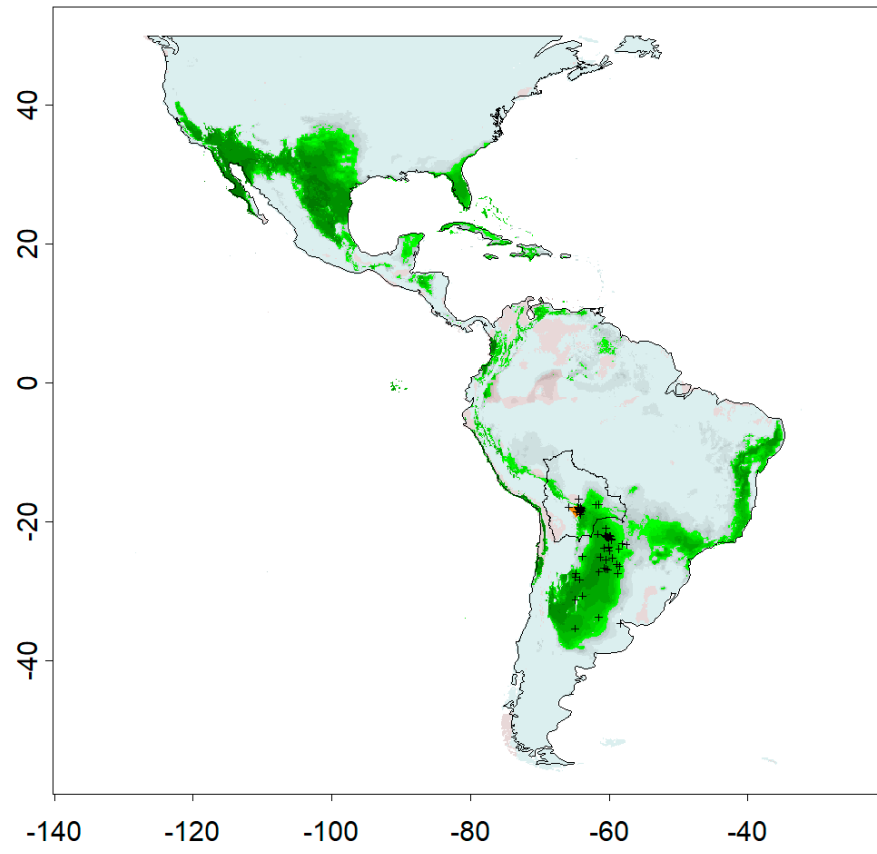




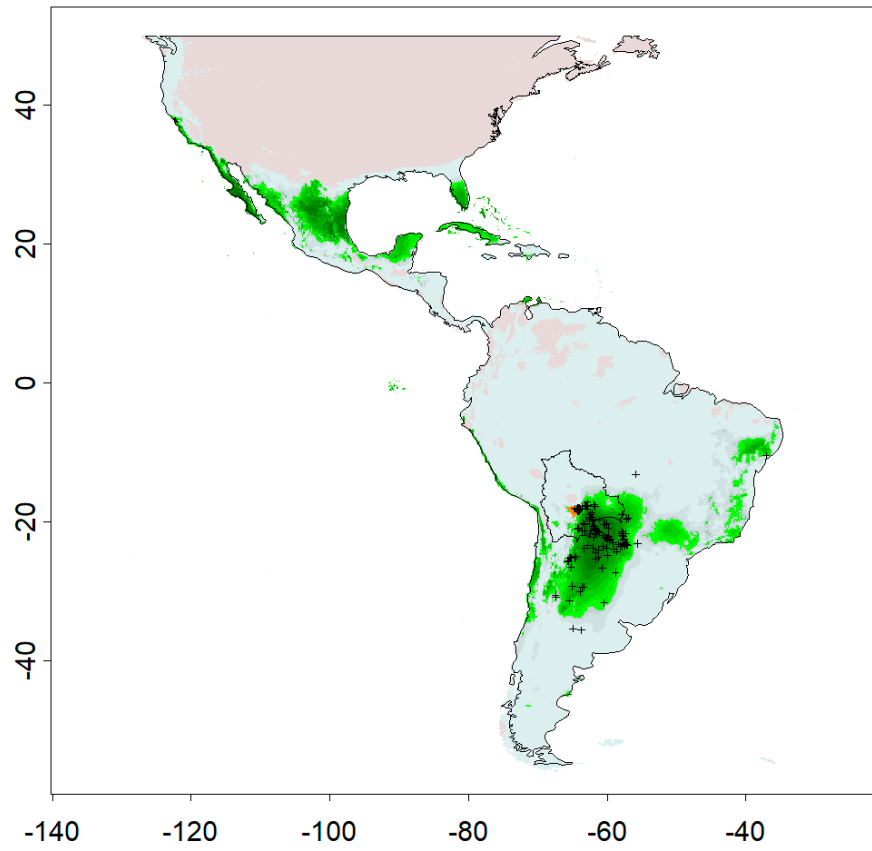
*Prosopis chilensis*



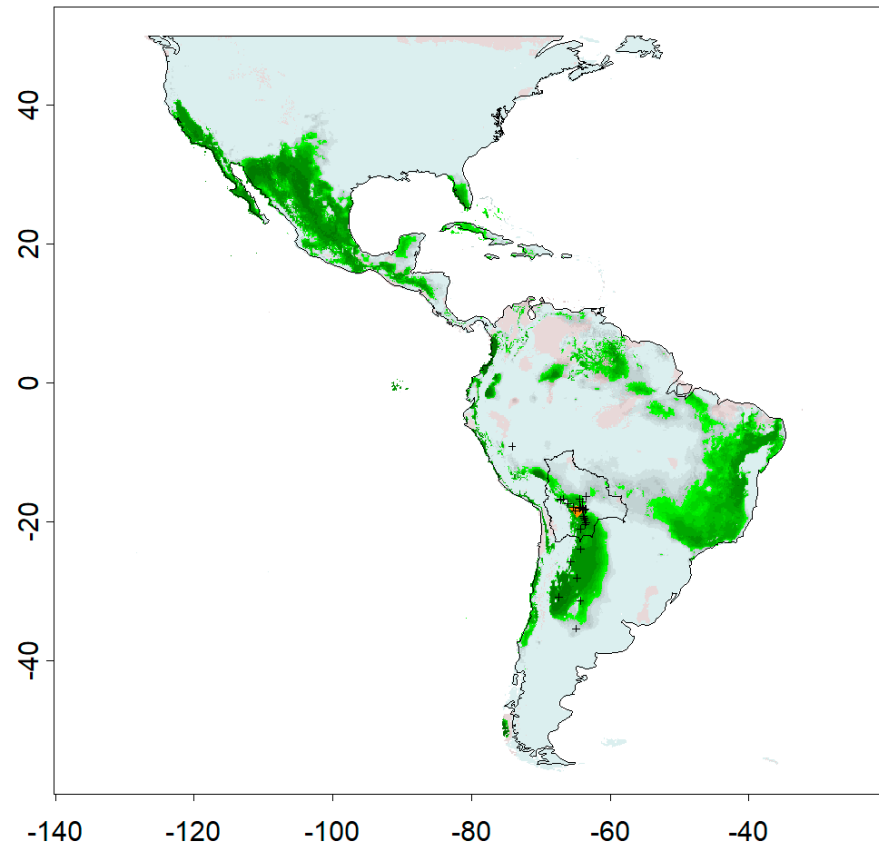
*Prosopis kuntzei*



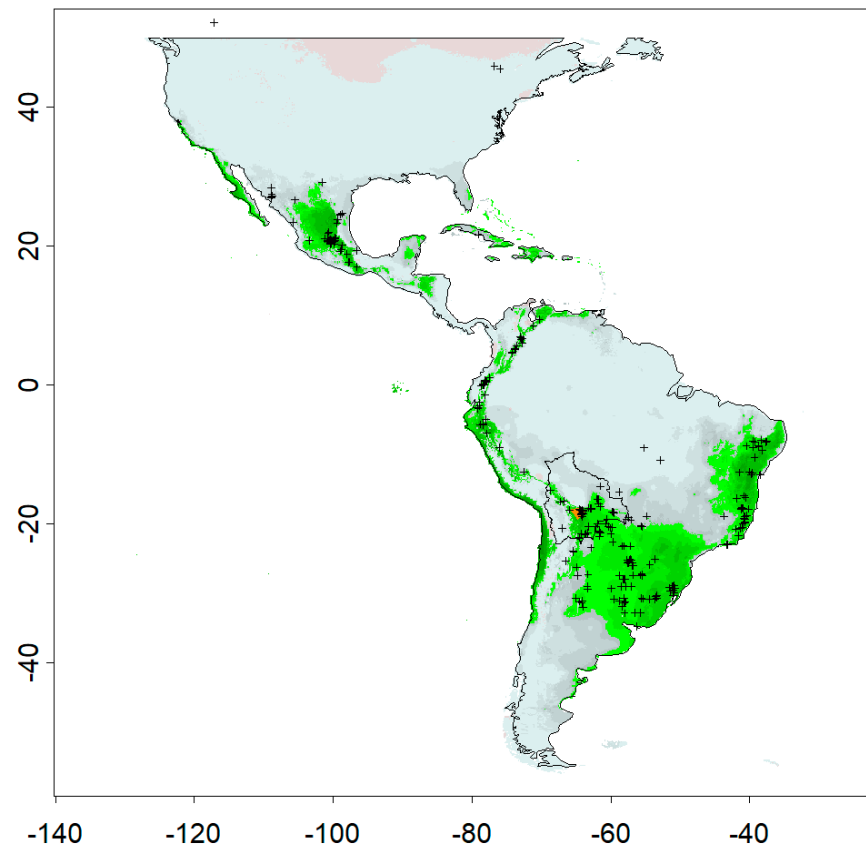
*Sarcomphalus mistol*



*Schinopsis marginata*

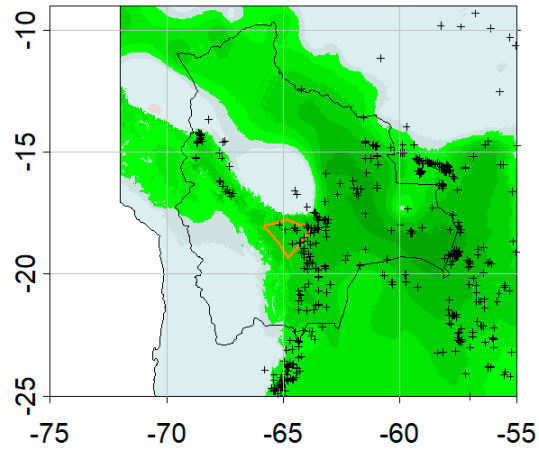


*Selaginella sellowii*

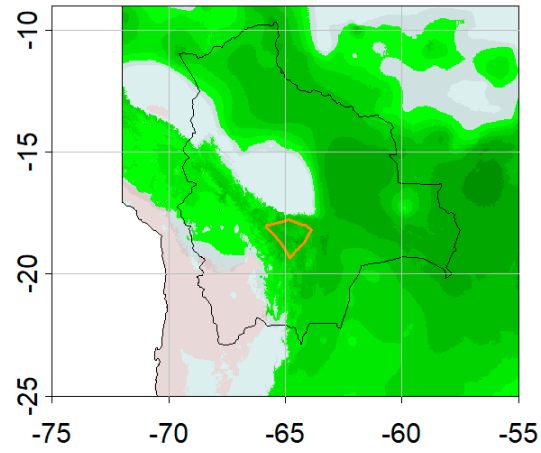


**Figure S2** Plant species continental distribution (*A. rubrogenys* area in orange) predicted by the SDMs for the present (+: present occurrences of the species, light to dark colour variation shows the probability of presence, in blue-grey between 0 and threshold of presence, in green between threshold and maximal value, pink colour masks the area where at least one of the climate factors was out of the range of the model computation dataset).

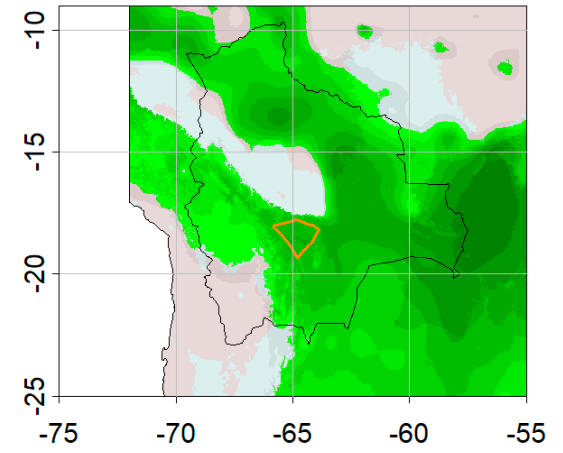
**Present**



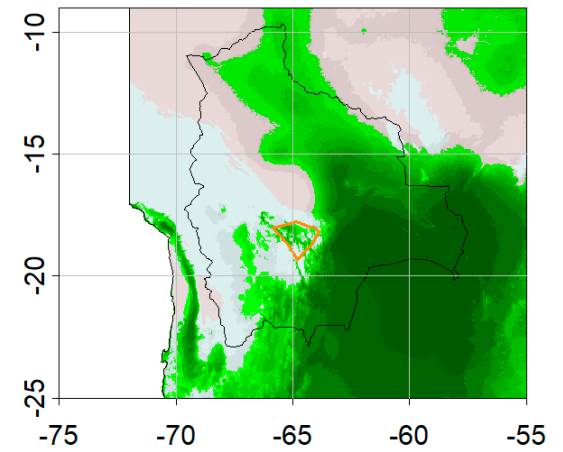
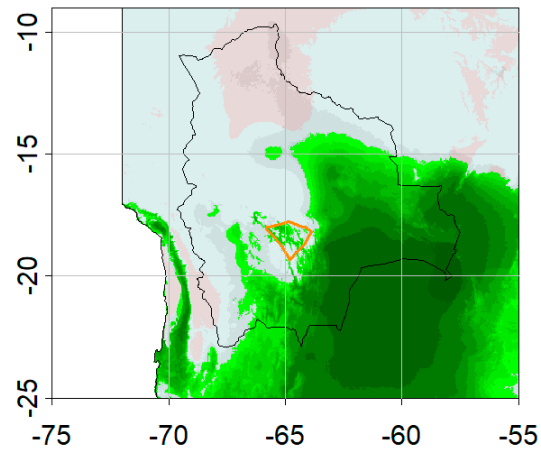
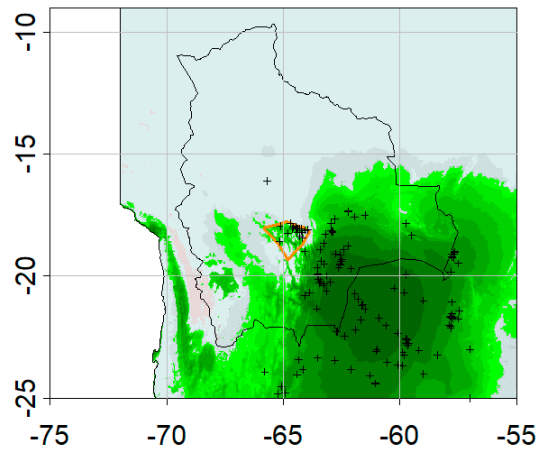
**Future, RCP2.6**  
*Anadenanthera colubrina*



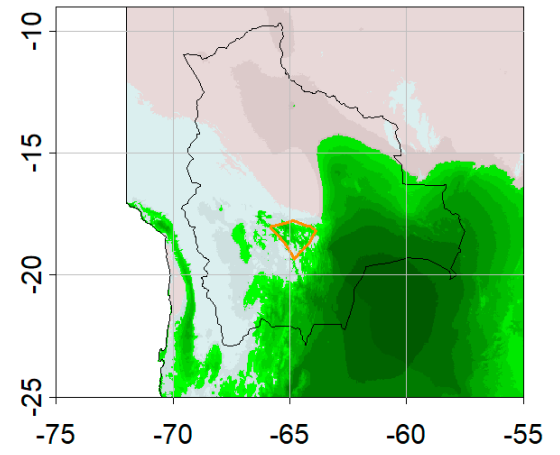
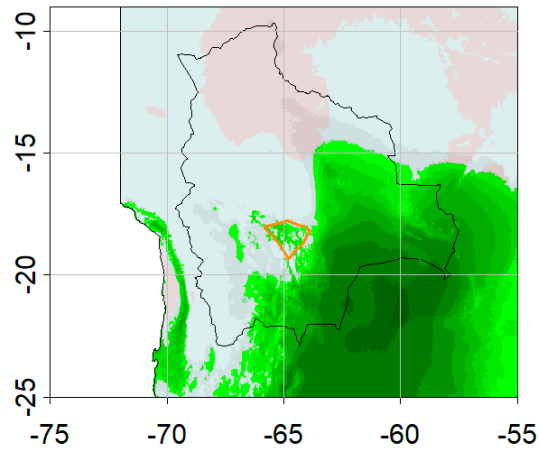
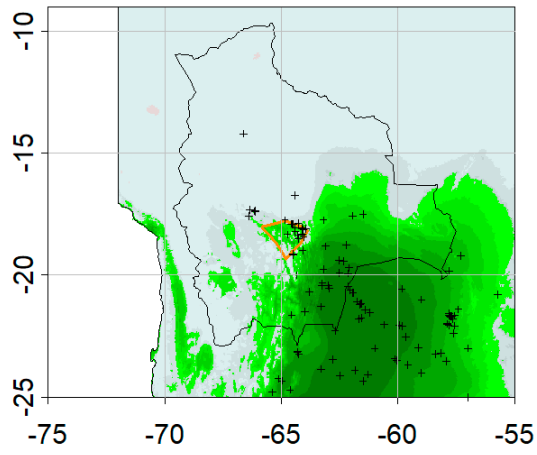
**Future, RCP8.5**



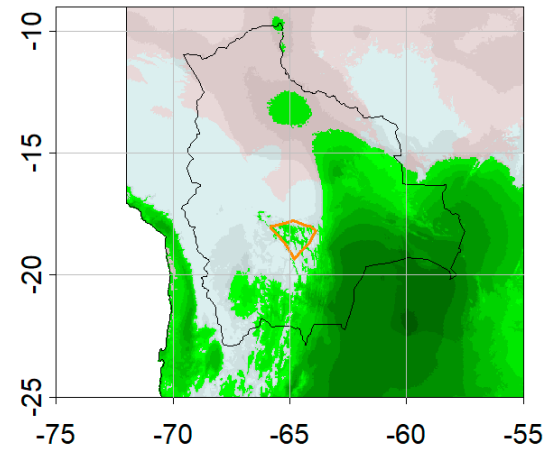
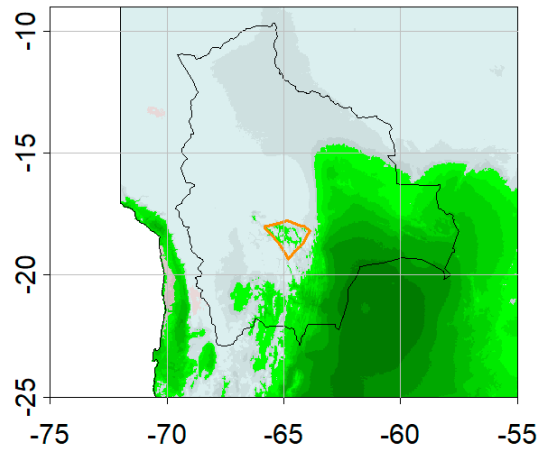
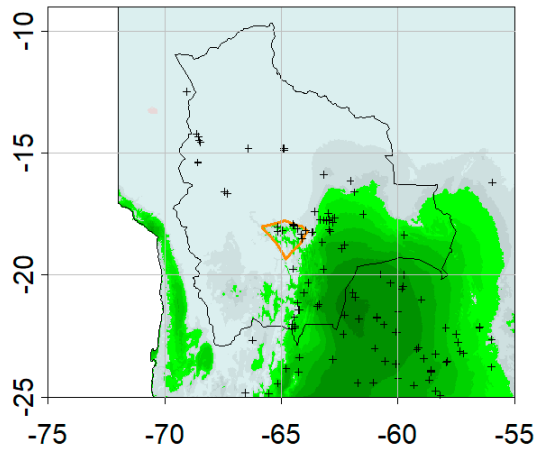
*Anisocapparis speciosa*



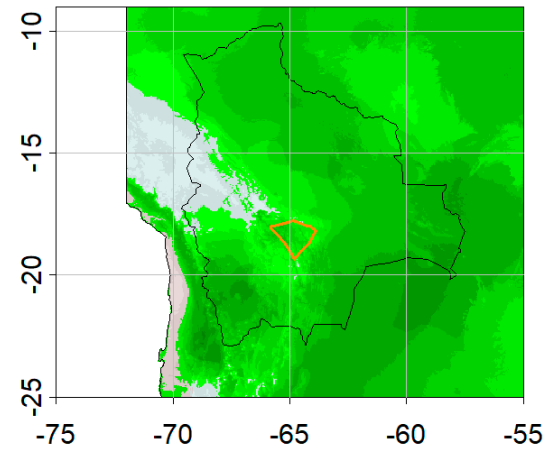
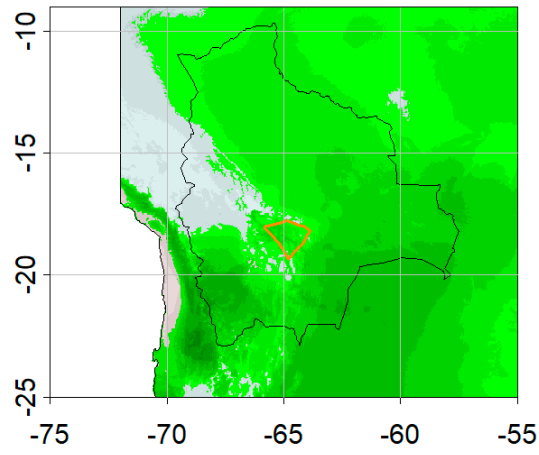
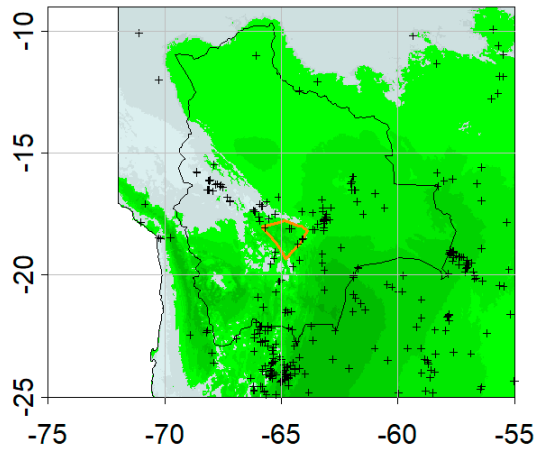
*Aspidosperma quaebracho-blanco*



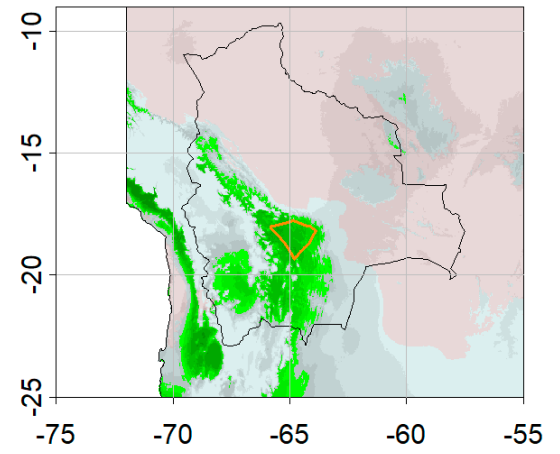
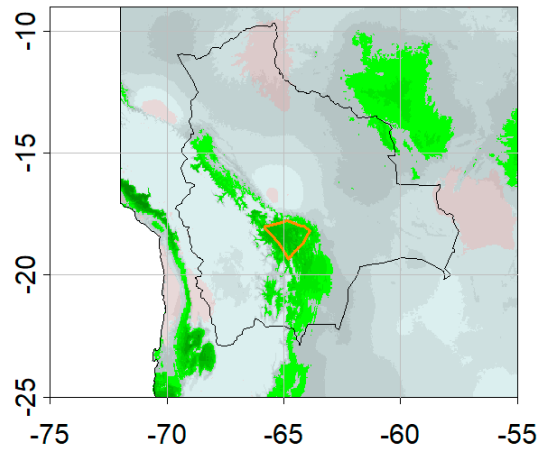
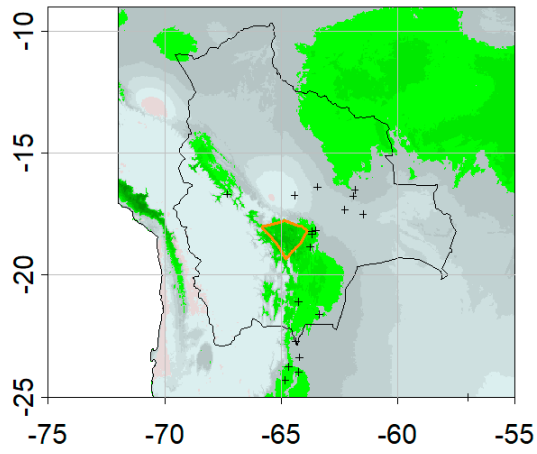
*Celtis ehrenbergina*



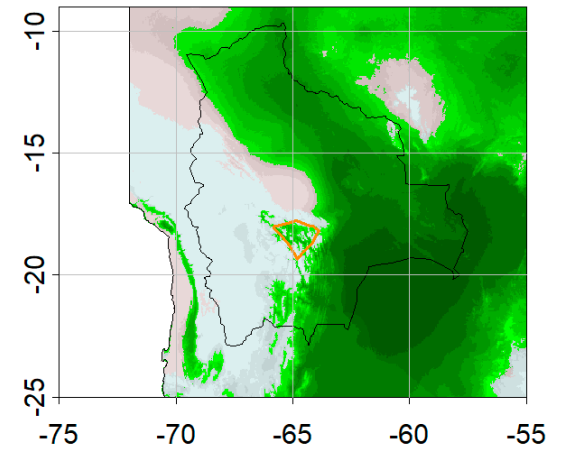
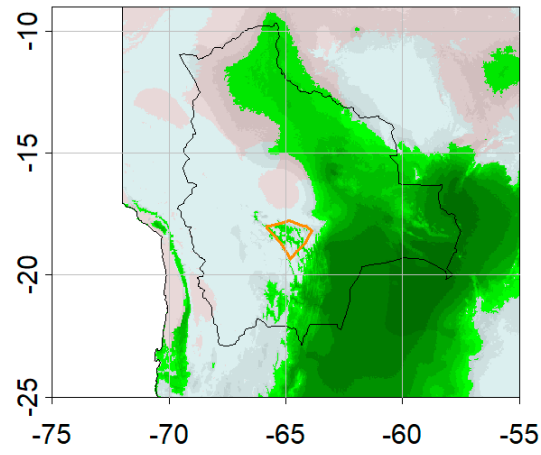
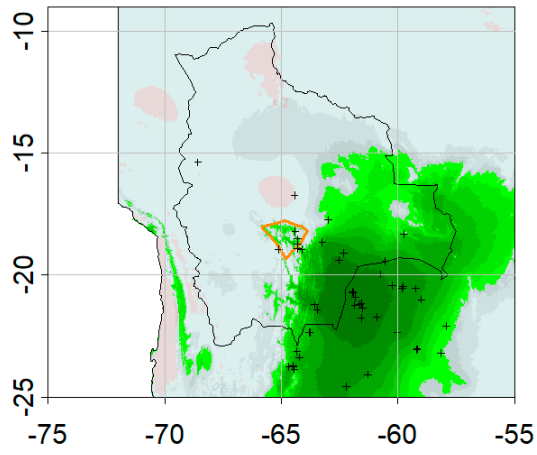
*Cenchrus*



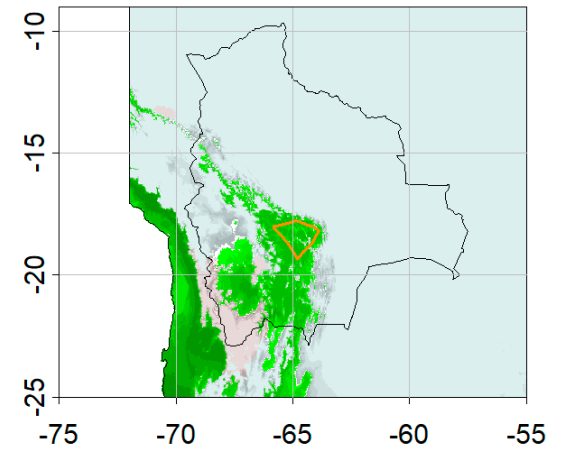
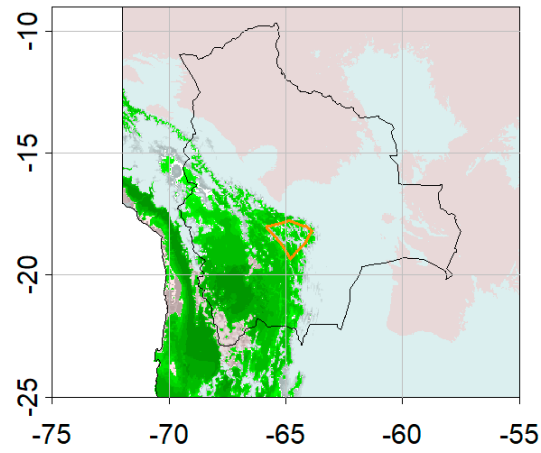
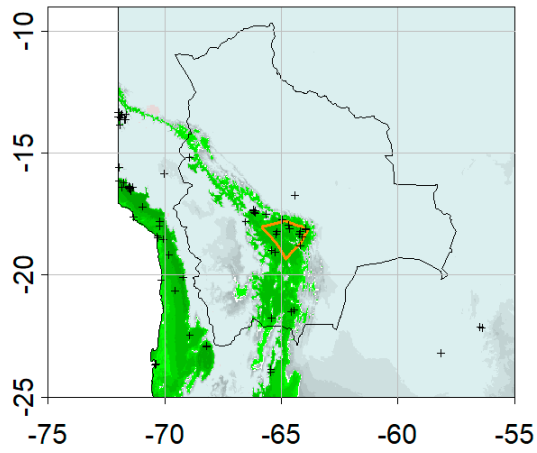
*Cnidoscopus tubulosus*



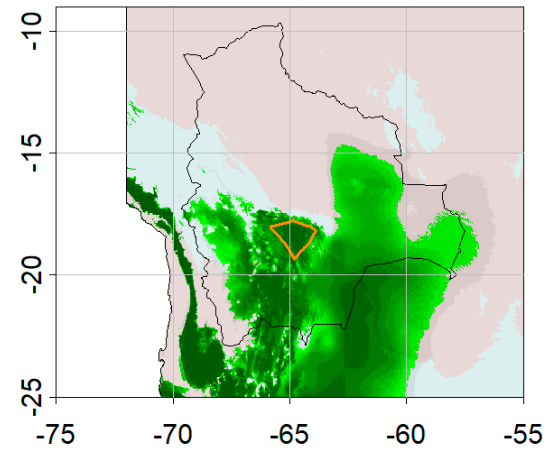
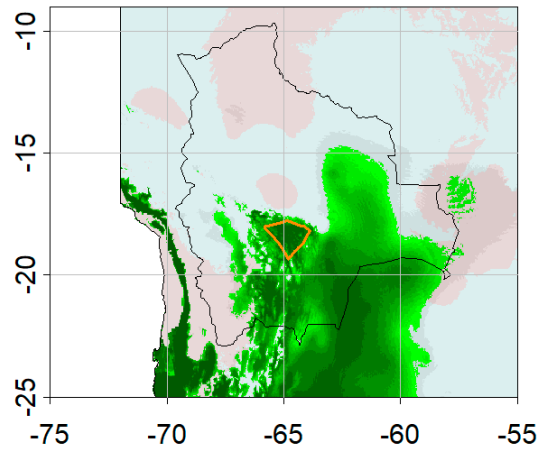
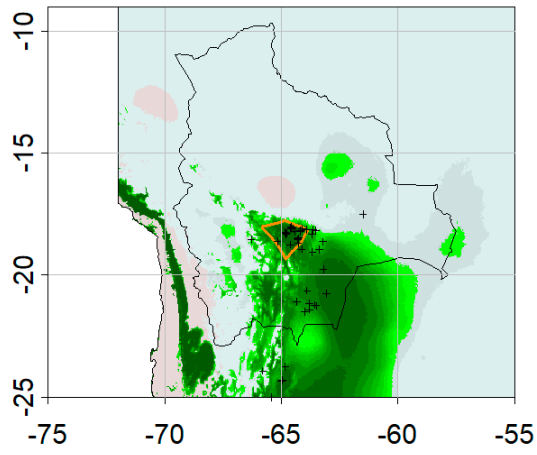
*Jatropha hieronymi*



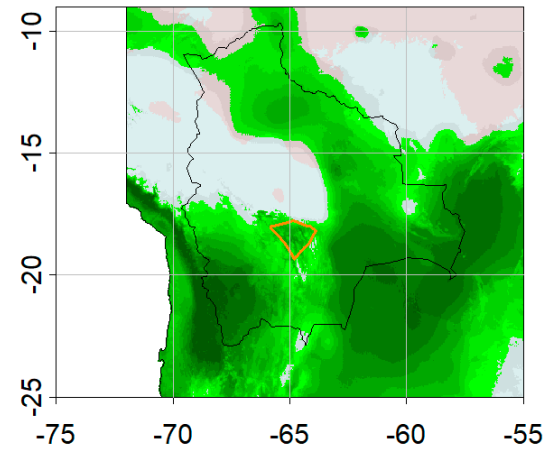
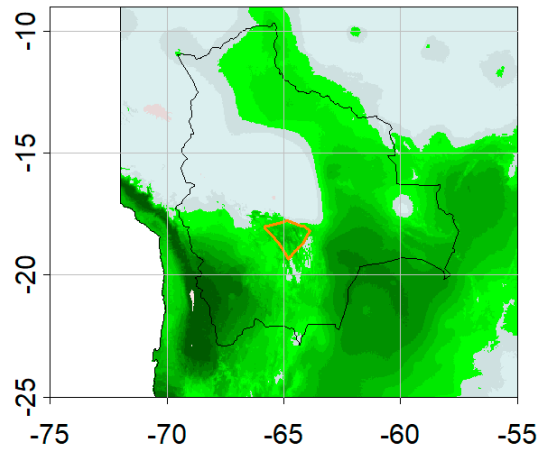
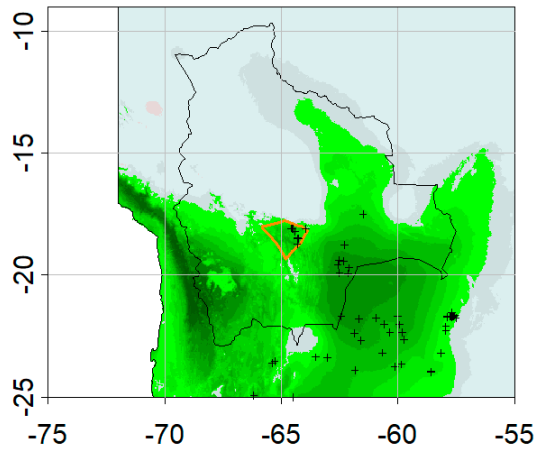
*Lythraea molleoides*



*Loxopterygium grisebachii*

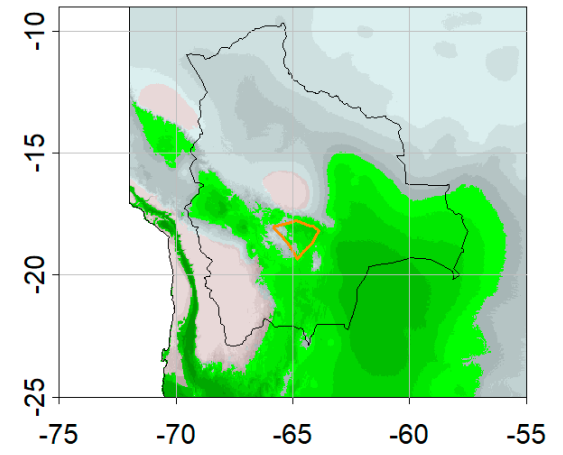
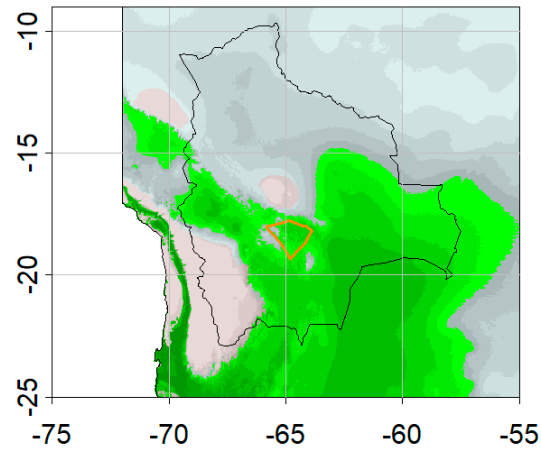
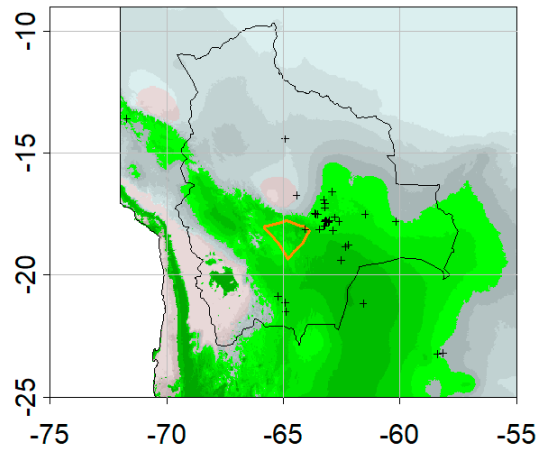


*Parkinsonia praecox*

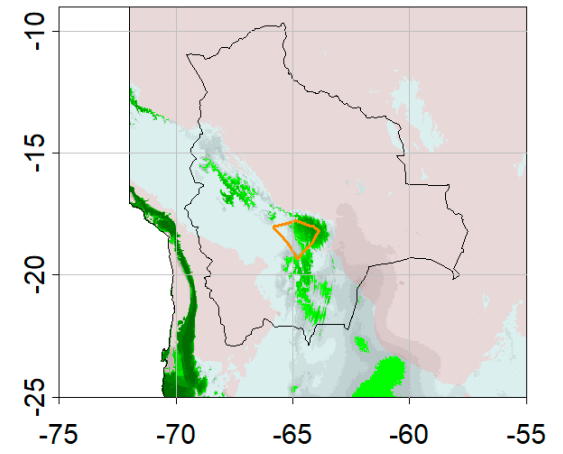
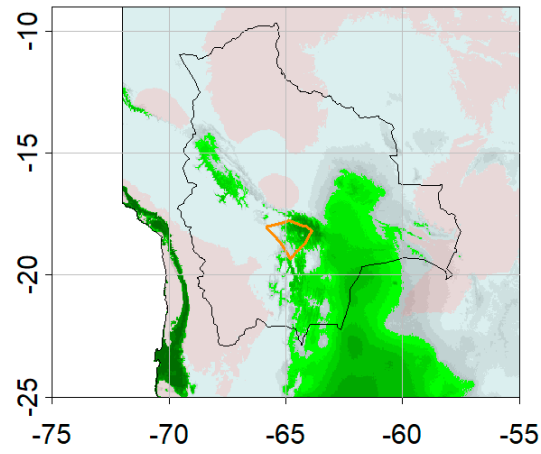
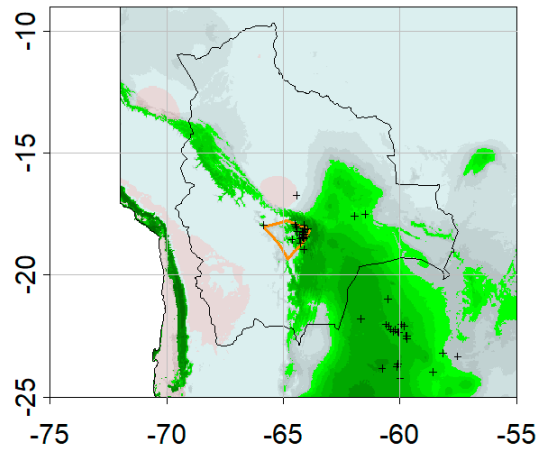


*Prosopis chilensis*

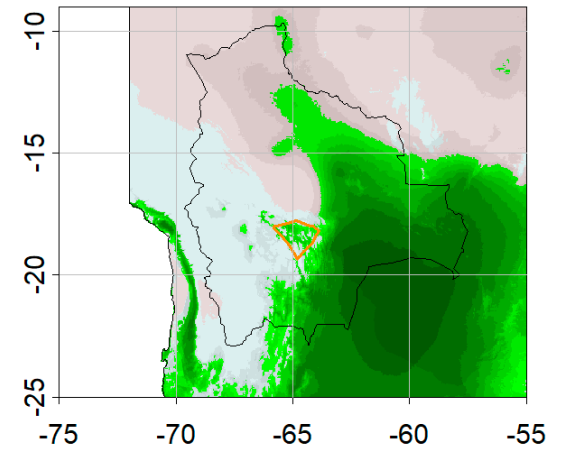
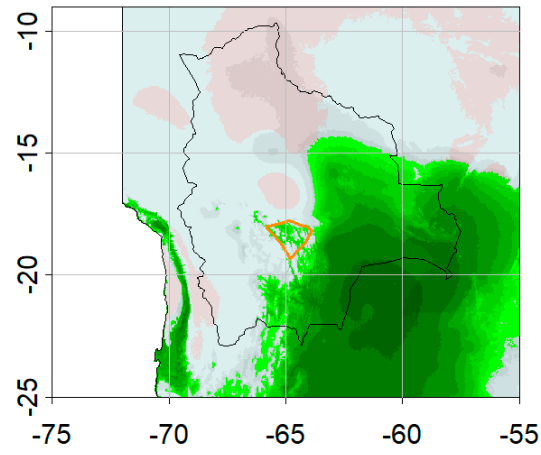
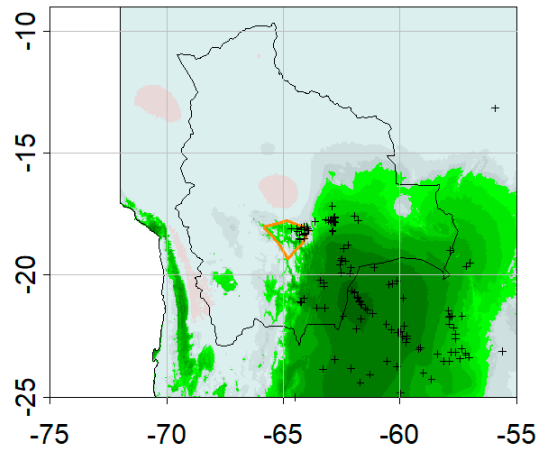




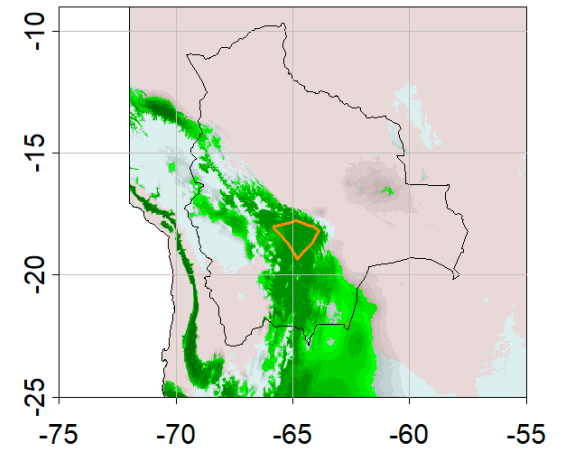
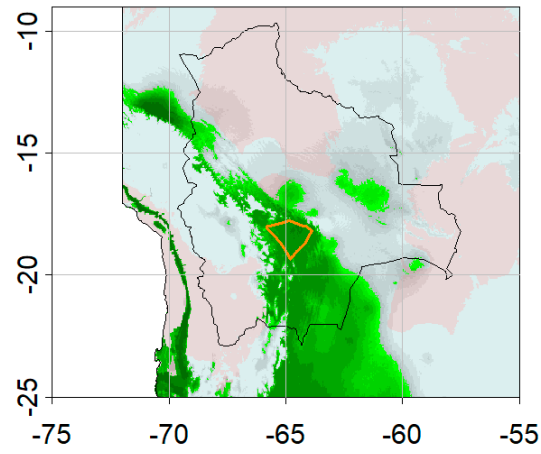
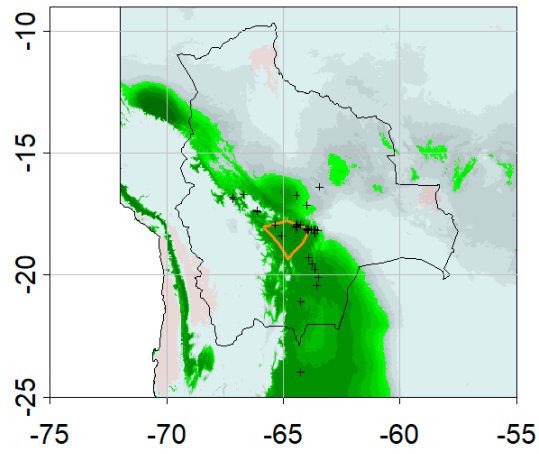
*Prosopis kuntzei*



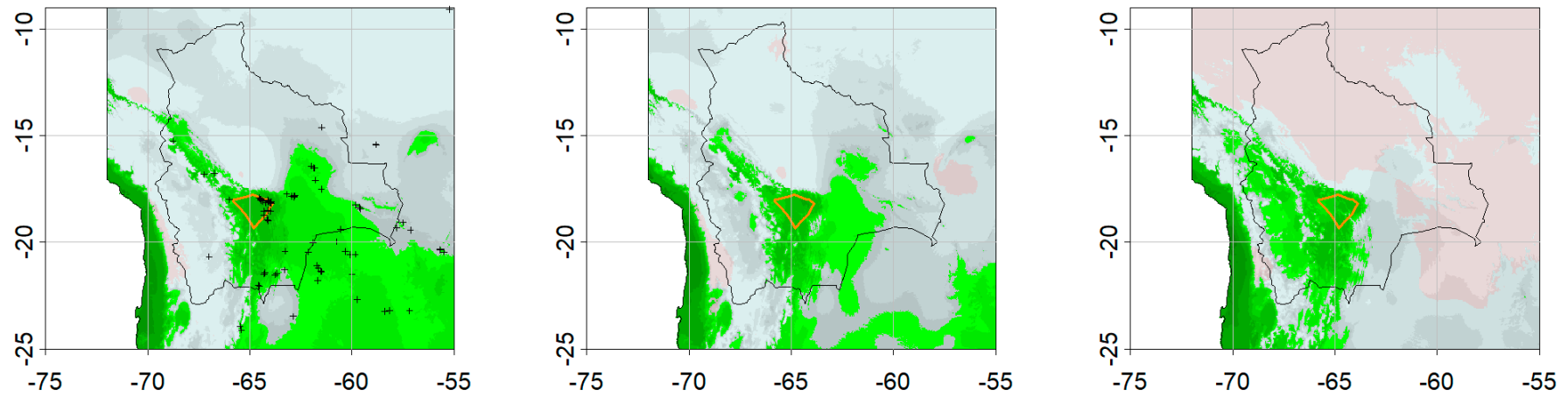
*Sarcomphalus mistol*



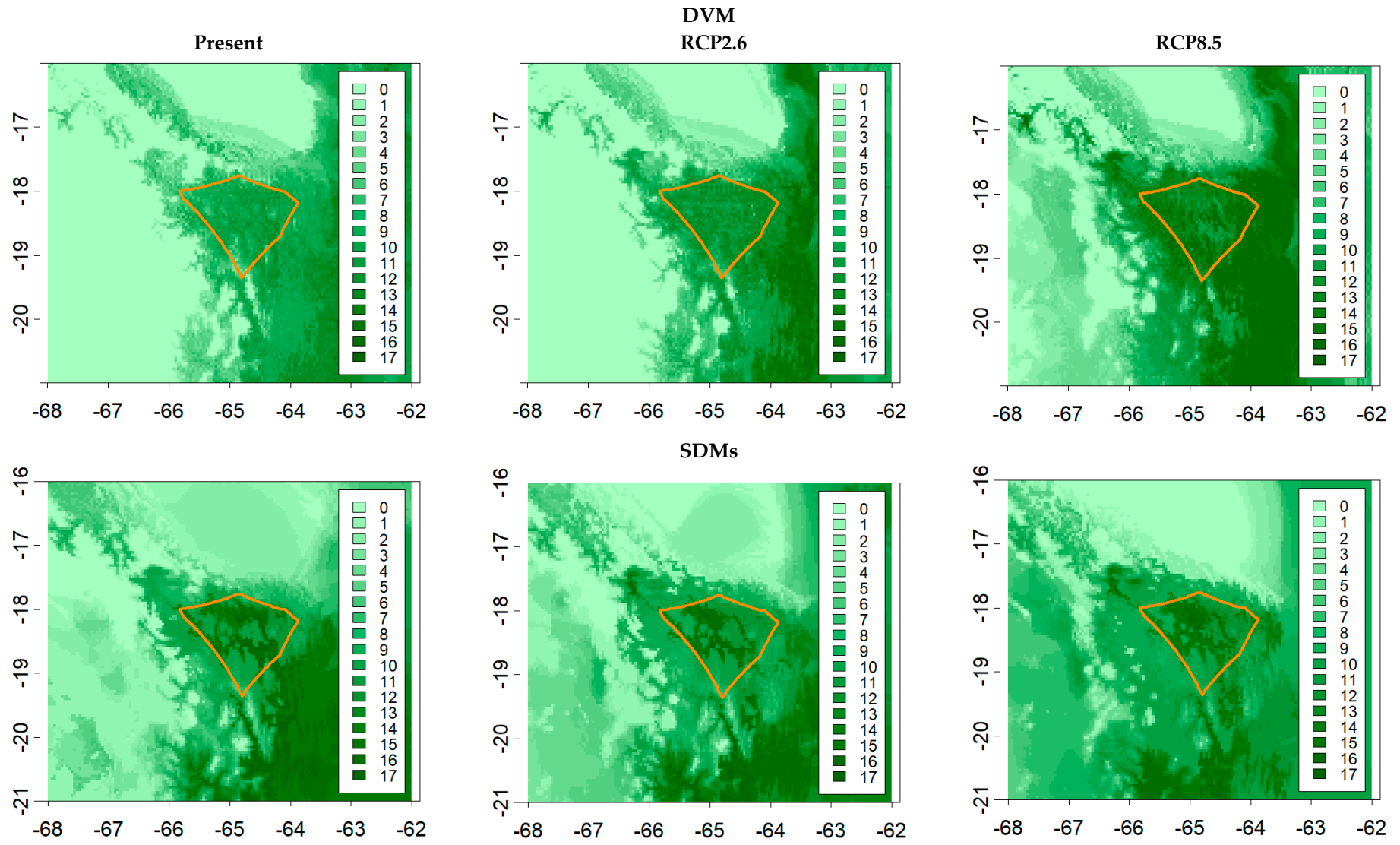
*Schinopsis marginata*



*Selaginella sellowii*



**Figure S3.** Plant species distribution over Bolivia predicted by the SDM for present and future climates under RCP2.6 and RCP8.5 forcings (+: present occurrences of the species, light to dark colour variation shows the probability of presence, in blue-grey between 0 and thresholds of presence, in green between thresholds and maximal values; *Ara rubrogenys* area in orange lines).



**Figure S4.** Number of plant species (diversity) over the area of *Ara rubrogenys* (orange lines) computed with the DVM or the SDMs for present and future climate under RCP2.6 and RCP8.5 forcings.