



## ANEXOS

### Anexo 1: Análisis de componentes principales [ACP] para las variables bioclimáticas utilizadas.

Data file produced by PRINCOMP  
 # Input raster(s): in\_raster\_bands  
 The number of components = 11  
 Output raster(s) = \_\_1000001

Layer	Description
1	BIO1 = Annual Mean Temperature
2	BIO2 = Mean Diurnal Range (Mean of monthly (max temp - min temp))
3	BIO3 = Isothermality (BIO2/BIO7) (×100)
4	BIO4 = Temperature Seasonality (standard deviation ×100)
5	BIO5 = Max Temperature of Warmest Month
6	BIO6 = Min Temperature of Coldest Month
7	BIO7 = Temperature Annual Range (BIO5-BIO6)
8	BIO8 = Mean Temperature of Wettest Quarter
9	BIO9 = Mean Temperature of Driest Quarter
10	BIO10 = Mean Temperature of Warmest Quarter
11	BIO11 = Mean Temperature of Coldest Quarter

### COVARIANCE MATRIX

Layer	1	2	3	4	5	6	7	8	9	10	11
1	11,7751	12,0125	11,9938	11,5633	1,5141	11,2717	12,7858	12,0977	0,8737	1,4126	11,7814
2	12,0125	12,4904	12,4696	11,9944	1,5204	11,5240	13,0443	13,9535	0,4739	1,3800	12,2302
3	11,9938	12,4696	12,4671	11,9653	1,5357	11,4989	13,0346	14,0042	0,5152	1,3968	12,2084
4	11,5633	11,9944	11,9653	11,5654	1,4158	11,1022	12,5180	12,1307	0,6286	1,3042	11,7630
5	1,5141	1,5204	1,5357	1,4158	0,5121	1,3099	1,8221	2,6069	0,1715	0,4634	1,4743
6	11,2717	11,5240	11,4989	11,1022	1,3099	10,8585	12,1685	11,5866	0,7378	1,2208	11,3034
7	12,7858	13,0443	13,0346	12,5180	1,8221	12,1685	13,9905	14,1935	0,9093	1,6842	12,7778
8	12,0977	13,9535	14,0042	12,1307	2,6069	11,5866	14,1935	67,1941	-9,2198	1,3800	12,9605
9	0,8737	0,4739	0,5152	0,6286	0,1715	0,7378	0,9093	-9,2198	3,7236	0,4989	0,5817
10	1,4126	1,3800	1,3968	1,3042	0,4634	1,2208	1,6842	1,3800	0,4989	0,4520	1,3504
11	11,7814	12,2302	12,2084	11,7630	1,4743	11,3034	12,7778	12,9605	0,5817	1,3504	11,9862



### CORRELATION MATRIX

Layer	1	2	3	4	5	6	7	8	9	10	11
1	<b>1,0000</b>	<b>0,9905</b>	<b>0,9899</b>	<b>0,9909</b>	<b>0,9166</b>	<b>0,9968</b>	0,9962	0,4301	0,1319	0,6123	0,9917
2	<b>0,9905</b>	<b>1,0000</b>	<b>0,9993</b>	<b>0,9980</b>	<b>0,9011</b>	<b>0,9895</b>	0,9868	0,4817	0,0695	0,5808	0,9996
3	<b>0,9899</b>	<b>0,9993</b>	<b>1,0000</b>	<b>0,9965</b>	<b>0,9078</b>	<b>0,9883</b>	0,9870	0,4839	0,0756	0,5884	0,9987
4	<b>0,9909</b>	<b>0,9980</b>	<b>0,9965</b>	<b>1,0000</b>	<b>0,8817</b>	<b>0,9907</b>	0,9841	0,4352	0,0958	0,5704	0,9991
5	<b>0,9166</b>	<b>0,9011</b>	<b>0,9078</b>	<b>0,8817</b>	<b>1,0000</b>	<b>0,8555</b>	0,6807	0,4444	0,1242	0,9631	0,5951
6	<b>0,9968</b>	<b>0,9895</b>	<b>0,9883</b>	<b>0,9907</b>	<b>0,8555</b>	<b>1,0000</b>	0,9873	0,4290	0,1160	0,5511	0,9908
7	0,9962	0,9868	0,9870	0,9841	0,6807	0,9873	<b>1,0000</b>	0,4629	0,1260	0,6697	0,9867
8	0,4301	0,4817	0,4839	0,4352	0,4444	0,4290	0,4629	<b>1,0000</b>	-0,5829	0,2504	0,4567
9	0,1319	0,0695	0,0756	0,0958	0,1242	0,1160	0,1260	-0,5829	<b>1,0000</b>	0,3846	0,0871
10	0,6123	0,5808	0,5884	0,5704	0,9631	0,5511	0,6697	0,2504	0,3846	<b>1,0000</b>	0,5802
11	0,992	1,000	0,999	0,999	0,595	0,991	0,987	0,457	0,087	0,580	<b>1,000</b>

Las variables con mayor correlación ( $R^2 \geq 0.75$ ) son resaltadas en negrita

### EIGENVALUES AND EIGENVECTORS

Number of Input Layers: 11

Number of Principal Component Layers: 11

Layer	1	2	3	4	5	6	7	8	9	10	11
<b>Eigenvalues</b>	73,7719	20,7731	19,6269	12,3885	7,9293	7,8664	7,6152	5,1030	1,9313	0,0079	0,0016
<b>Eigenvectors</b>											
<b>Input Layer</b>											
1	0,2879	0,2404	0,0106	-0,0915	-0,4192	0,0078	0,0948	0,8083	0,0287	0,1090	0,0000
2	0,3051	0,2188	-0,0908	0,0853	0,3053	0,0345	-0,4879	0,0505	0,6928	-0,1688	0,0000
3	0,3051	0,2175	-0,0598	0,0802	0,3378	-0,7355	0,4393	-0,0316	-0,0220	-0,0025	0,0000
4	0,2862	0,2345	-0,1313	0,0977	0,2907	0,6710	0,5435	-0,0783	-0,0025	-0,0003	0,0000
5	0,0428	0,0120	0,2153	-0,5994	0,1824	0,0205	0,0012	-0,0609	0,1144	0,4566	0,5774
6	0,2758	0,2299	-0,0786	0,2020	-0,5190	-0,0311	-0,0372	-0,3667	-0,0674	-0,2828	0,5774
7	0,3186	0,2420	0,1367	-0,3974	-0,3366	-0,0105	-0,0360	-0,4276	0,0470	0,1738	-0,5774
8	0,6163	-0,7634	0,1702	0,0865	-0,0108	0,0246	0,0069	0,0085	-0,0102	0,0025	0,0000
9	-0,0394	0,2115	0,8883	0,3941	0,0491	0,0385	-0,0007	-0,0009	0,0120	0,0721	0,0000
10	0,0336	0,0312	0,2674	-0,4912	0,1650	0,0325	0,0088	0,1157	-0,1954	-0,7780	0,0000
11	0,2950	0,2280	-0,1000	0,0786	0,2945	0,0537	-0,5116	0,0501	-0,6785	0,1747	0,0000

**PERCENT AND ACCUMULATIVE EIGENVALUES**

PC Layer	EigenValue	Percent of EigenValues (%)	Accumulative of EigenValues (%)
<b>1</b>	<b>73,7719</b>	<b>46,9840</b>	<b>46,9840</b>
<b>2</b>	<b>20,7731</b>	<b>13,2300</b>	<b>60,2140</b>
<b>3</b>	<b>19,6269</b>	<b>12,5000</b>	<b>72,7140</b>
<b>4</b>	<b>12,3885</b>	<b>7,8900</b>	<b>80,6040</b>
<b>5</b>	<b>7,9293</b>	<b>5,0500</b>	<b>85,6540</b>
<b>6</b>	<b>7,8664</b>	<b>5,0100</b>	<b>90,6640</b>
<b>7</b>	7,6152	4,8500	95,5140
<b>8</b>	5,1030	3,2500	98,7640
<b>9</b>	1,9313	1,2300	99,9940
<b>10</b>	0,0079	0,0050	99,9990
<b>11</b>	0,0016	0,0010	100,0000

Las variables con porcentaje de varianza explicada por autovalores > 5% son resaltadas en negrita.

# Data file produced by PRINCOMP  
 # Input raster(s): in\_raster\_bands  
 The number of components = 8  
 Output raster(s) = \_\_1000001

Layer	Description
<b>1</b>	BIO12 = Annual Precipitation
<b>2</b>	BIO13 = Precipitation of Wettest Month
<b>3</b>	BIO14 = Precipitation of Driest Month
<b>4</b>	BIO15 = Precipitation Seasonality (Coefficient of Variation)
<b>5</b>	BIO16 = Precipitation of Wettest Quarter
<b>6</b>	BIO17 = Precipitation of Driest Quarter
<b>7</b>	BIO18 = Precipitation of Warmest Quarter
<b>8</b>	BIO19 = Precipitation of Coldest Quarter



### COVARIANCE MATRIX

Layer	1	2	3	4	5	6	7	8
1	15353,6464	1537,3935	904,2105	4522,2986	4921,2695	3189,8252	4748,1049	5552,6631
2	1537,3935	438,6486	542,3964	621,7526	869,0583	5263,5010	-55,1150	1223,4470
3	904,2105	4563,3964	211,4127	695,9538	655,4364	5300,7620	851,7743	-154,0063
4	3596,2986	602,7526	769,9538	451,5218	496,9578	4276,4688	-288,4977	178,8781
5	4921,2695	869,0583	956,4364	596,9578	2441,9721	4265,1484	420,2710	2928,9292
6	3189,8252	2568,5010	530,7620	676,4688	2656,1484	3918,1025	2266,3136	-94,1024
7	4748,1049	-55,1150	851,7743	-288,4977	420,2710	2266,3136	5545,2665	-1066,4939
8	5552,6631	1223,4470	-154,0063	178,8781	2928,9292	-94,1024	-1066,4939	7510,6312

### CORRELATION MATRIX

Layer	1	2	3	4	5	6	7	8
1	<b>1,0000</b>	<b>0,7900</b>	<b>0,8800</b>	<b>0,7510</b>	<b>0,8037</b>	<b>0,8300</b>	0,5146	0,5171
2	<b>0,7900</b>	<b>1,0000</b>	<b>0,7530</b>	<b>0,7560</b>	<b>0,8397</b>	<b>0,7860</b>	-0,0353	0,6740
3	<b>0,8800</b>	<b>0,7530</b>	<b>1,0000</b>	<b>0,7550</b>	<b>0,8000</b>	<b>0,9075</b>	0,7867	-0,1222
4	<b>0,7510</b>	<b>0,7560</b>	<b>0,7550</b>	<b>1,0000</b>	<b>0,7860</b>	<b>0,7880</b>	0,6900	0,3676
5	<b>0,8037</b>	<b>0,8397</b>	<b>0,8000</b>	<b>0,7860</b>	<b>1,0000</b>	<b>0,7860</b>	0,1142	0,6839
6	<b>0,8300</b>	<b>0,7860</b>	<b>0,9075</b>	<b>0,7880</b>	<b>0,7860</b>	<b>1,0000</b>	0,7566	-0,0270
7	0,5146	-0,0353	0,7867	0,6900	0,1142	0,7566	1,0000	-0,1653
8	0,5171	0,6740	-0,1222	0,3676	0,6839	-0,0270	-0,1653	1,0000

Las variables con mayor correlación ( $R^2 \geq 0.75$ ) son resaltados en negrita

### EIGENVALUES AND EIGENVECTORS

Number of Input Layers: 8

Number of Principal Component Layers: 8

Layer	1	2	3	4	5	6	7	8
<b>Eigenvalues</b>	21755,4624	8596,32688	1686,90669	835,85403	154,74257	92,14728	27,68529	2,07663
<b>Eigenvectors</b>								
<b>Input Layer</b>								
1	0,8289	0,1197	0,3731	-0,1862	0,3172	0,1535	0,0198	0,0104
2	0,0913	-0,1039	0,0825	0,2517	-0,5286	0,7849	0,0588	-0,1085
3	0,0460	0,1077	-0,0838	-0,1687	-0,1810	-0,0930	0,9333	0,1960
4	-0,0053	-0,0466	0,0393	0,0841	-0,0303	0,0908	-0,1770	0,9740
5	0,2788	-0,1841	0,3104	0,5343	-0,4387	-0,5598	-0,0030	-0,0280
6	0,1626	0,2725	-0,1338	-0,6073	-0,6258	-0,1710	-0,3024	0,0133
7	0,2508	0,6343	-0,5683	0,4557	0,0432	0,0021	-0,0473	0,0078
8	0,3679	-0,6713	-0,6389	-0,0675	0,0184	-0,0293	-0,0102	0,0030

**PERCENT AND ACCUMULATIVE EIGENVALUES**

PC Layer	EigenValue	Percent of EigenValues (%)	Accumulative of EigenValues (%)
<b>1</b>	<b>16373,3786</b>	<b>49,3900</b>	<b>49,3900</b>
<b>2</b>	<b>6152,8630</b>	<b>18,5600</b>	<b>67,9500</b>
<b>3</b>	<b>2758,1800</b>	<b>8,3200</b>	<b>76,2700</b>
<b>4</b>	<b>2403,4621</b>	<b>7,2500</b>	<b>83,5200</b>
<b>5</b>	<b>2138,2525</b>	<b>6,4500</b>	<b>89,9700</b>
<b>6</b>	<b>1664,1903</b>	<b>5,0200</b>	<b>94,9900</b>
<b>7</b>	1309,4725	3,9500	98,9400
<b>8</b>	351,4027	1,0600	100,0000

Las variables con porcentaje de varianza explicada por autovalores > 5% son resaltadas en negrita

