

# Phytosociological Research Center

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## Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

SILVA PORTO (ANGOLA)

Altitude: 1720 m.

Latitude: 12°23'S Longitude: 16°57'E

Temperature observation period.: 1986-1994 (9)

Rainfall observation period....: 1984-1994 (11)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	Epi
Jan.	19.72	25.00	14.44	29.44	3.89	193.0	83.49
Feb.	19.44	24.44	14.44	28.89	7.22	195.6	71.61
Mar.	19.72	24.44	15.00	28.89	5.56	203.2	79.70
Apr.	18.89	24.44	13.33	29.44	0.56	76.2	68.43
May.	17.22	24.44	10.00	28.33	-1.11	10.2	58.35
Jun.	15.00	23.33	6.67	27.22	-5.00	0.0	42.41
Jul.	16.11	24.44	7.78	27.78	0.00	0.0	50.76
Aug.	18.06	26.67	9.44	31.67	0.00	2.5	65.28
Sep.	20.84	28.89	12.78	31.67	3.33	22.9	84.49
Oct.	20.28	26.67	13.89	31.67	6.11	109.2	85.75
Nov.	19.44	24.44	14.44	29.44	6.67	193.0	77.52
Dec.	19.17	23.89	14.44	28.89	5.00	221.0	79.75
Year	18.66	25.09	12.22	29.44	2.69	1227	847.56

### BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	487
Compensated thermicity index.....(Itc):	487
Simple continentality index.....(Ic):	5.8
Diurnality index.....(Id):	17.2
Annual ombrothermic index.....(Io):	5.48
Monthly dry ombrothermic index.....(Iod1):	No
Bimonthly dry ombrothermic index.....(Iod2):	No
Three monthly dry ombrothermic index.....(Iod3):	0.05
Four monthly dry ombrothermic index.....(Iod4):	0.19
Annual ombro-evaporation index.....(Ioe):	3.20
Annual positive temperature.....(Tp):	2239
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	492
Positive precipitation.....(Pp):	1227

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	7	0	1	4	0

Latitudinal Belt...: Eutropical

Continentalty.....: Hyperoceanic - High Euhyperoceanic

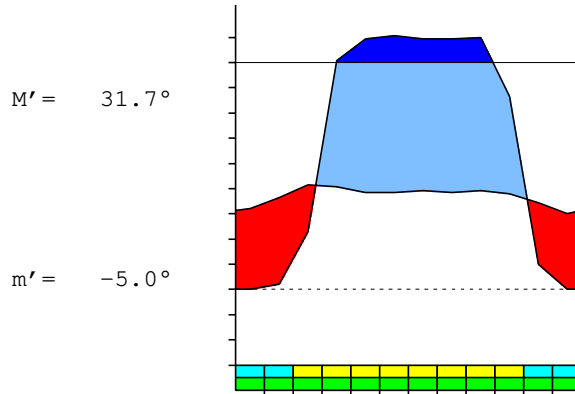
Bioclimate(Variant): TROPICAL PLUVISEASONAL (XEROPHYTIC)

Bioclimatic Belt...: LOW MESOTROPICAL UPPER SUBHUMID

SILVA PORTO (ANGOLA)

1720 m

P= 1227      12° 23'S      16° 57'E      9/11 y.  
 T= 18.7°      Ic= 5.8      Tp= 2239      Tn= 0  
 m= 6.7°      M= 23.3°      Itc= 487      Io= 5.5



TROPICAL PLUVISEASONAL (XEROPHYTIC)  
 LOW MESOTROPICAL UPPER SUBHUMID

WATER INDEX CARD      SILVA PORTO (ANGOLA)  
 Altitude: 1720 m.      Latitude: 12° 23'S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	16.1	51	0	-9	0	9	41	0	8	-1.0
Aug.	18.1	65	3	0	0	3	63	0	4	-0.9
Sep.	20.8	84	23	0	0	23	62	0	2	-0.7
Oct.	20.3	86	109	23	23	86	0	0	1	0.2
Nov.	19.4	78	193	77	100	78	0	39	20	1.4
Dec.	19.2	80	221	0	100	80	0	141	81	1.7
Jan.	19.7	83	193	0	100	83	0	110	95	1.3
Feb.	19.4	72	196	0	100	72	0	124	110	1.7
Mar.	19.7	80	203	0	100	80	0	124	117	1.5
Apr.	18.9	68	76	0	100	68	0	8	62	0.1
May.	17.2	58	10	-48	52	58	0	0	31	-0.8
Jun.	15.0	42	0	-42	9	42	0	0	16	-1.0
Year	18.7	848	1227	*	*	682	166	545	545	*

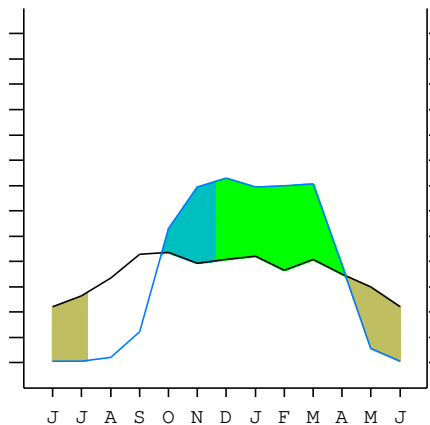
R = Reserve      VR = Variation of the reserve      RE = Real evapotranspiration  
 DR = Drainage      HC = Humidity coefficient      DF = Deficit      SP = Superavit

SILVA PORTO (ANGOLA)

12°23'S      16°57'E      1720 m      9/11 y.

T= 18.7      Ic= 5.8      TROPICAL PLUVISEASONAL (XEROPHYTIC)  
 m= 6.7      Tp= 2239      LOW MESOTROPICAL  
 M= 23.3      Tn= 0      UPPER SUBHUMID  
 M' = 31.7      Itc= 487  
 m' = -5.0      Io= 5.5  
 P= 1227      mm      ———  
 PE= 848      mm      ———

Imbibing	22 Sep.
Saturation	20 Nov.
Reserve Use	5 Apr.
Deficit	6 Jul.



SILVA PORTO (ANGOLA)

Latitude: 12°23'S Longitude: 16°57'E Altitude: 1720 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [A2a]  
 + Type .....: A. Hyperoceanic  
 + Subtype .....: 2. Euhyperoceanic  
 + Variant .....: a. High  
 Thermic types [A2.A3]  
 + Latitudinal zone .....: A. Warm  
 + Latitudinal belt .....: 2. Eutropical  
 + Thermic type .....: A. Warm  
 + Thermic subtype .....: 3. Subwarm  
 Bioclimatic types [A4.3b.6a]  
 + Macrobioclimate .....: A. TROPICAL  
 + Bioclimate .....: 4. PLUVISEASONAL  
 + Bioclimatic variant ..:  
 + Thermic type.....: 3. MESOTROPICAL  
 + Thermic subtype.....: b. LOW  
 + Ombrothermic type ...: 6. SUBHUMID  
 + Ombrothermic subtype : a. UPPER  
 Bioclimatic Classification .....: Trde.Mtr.Shu

SILVA PORTO (ANGOLA)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 935  
 Coldest semester of the year.....(Psw): 292  
 Warmest four months period of the year.....(Pcm1): 546  
 Following warmest four months period.....(Pcm2): 668  
 Positive precipitation dryest 3 months.....(Ppd): 3  
 Positive precipitation dryest 2 months.....(Ppd2): 0  
 Positive precipitation dryest 1 month.....(Ppd1): 0  
 Positive precipitation warmest 3 months.....(Pps): 325  
 Positive precipitation warmest 2 months.....(Pps2): 132  
 Positive precipitation warmest 1 month.....(Pps1): 23  
 Positive precipitation coldest 3 months.....(Ppw): 10  
 Positive precipitation coldest 2 months.....(Ppw2): 0  
 Positive precipitation coldest 1 month.....(Ppw1): 0

Seasons	Jun+Jul+Aug Ttr3-3	Sep+Oct+Nov Ttr4-4	Dec+Jan+Feb Ttr1-1	Mar+Apr+May Ttr2-2
Rainfall	2	325	609	289

Tropical rainfall rhythms: 1 > 4 > 2 > 3

SILVA PORTO (ANGOLA)

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 20.8  
 Average coldest month [T].....(Tmin): 15.0  
 Maximum temp. warmest month [M].....(Tmmax): 28.9  
 Minimum temp. coldest month [m].....(Tmmin): 6.7  
 Absolute Max.temp. warmest month [M'].....(Tamax): 31.7  
 Absolute Min.temp. coldest month [m'].....(Tamin): -5.0  
 First warmest contrasted month [M].....(Tcmax): 26.7 (8)  
 First coldest contrasted month [m].....(Tcmin): 9.4 (8)  
 Dry station temperature.....(Td): 492  
 Positive temperature dryest 3 months.....(Tpd): 492  
 Positive temperature dryest 2 months.....(Tpd2): 311  
 Positive temperature dryest 1 month.....(Tpd1): 150  
 Positive temperature warmest 3 months.....(Tps): 606  
 Positive temperature warmest 2 months.....(Tps2): 411  
 Positive temperature warmest 1 month.....(Tps1): 208  
 Positive temperature coldest 3 months.....(Tpw): 483  
 Positive temperature coldest 2 months.....(Tpw2): 311  
 Positive temperature coldest 1 month.....(Tpw1): 150

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SEASONAL PARAMETERS

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Warmest semester...(Sms)	o	o							o	o	o	o
Dryest semester...(Smd)				o	o	o	o	o	o			
Warmest 4 months...(Cm1)									o	o	o	o
Dryest 4 months...(Cmd)					o	o	o	o				
Vegetation Activity(Pav)	o	o	o	o	o	o	o	o	o	o	o	o
Ultragelid...[M' <=0] (Pf)												
Hypergelid...[M <=0] (Pf)												
Gelid.....[T <=0] (Pf)												
Subgelid.....[m <=0] (Pf)												
Pregelid.....[m' <=0] (Pf)					o	o	o	o				
Agelid.....[m' > 0] (Pf)	o	o	o	o					o	o	o	o
HiperAgelid..[all>0] (Pf)	o	o	o	o					o	o	o	o

SILVA PORTO (ANGOLA)

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 0.69  
 Mediterranean index of January.....(Im1): No  
 Mediterranean index of January & February.....(Im2): No  
 Mediterranean index of December to February...(Im3): No

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	2210	1930	1956	2032	762	102	0	0	25	229	1092	1930
Tp	192	197	194	197	189	172	150	161	181	208	203	194
Io (Iom)	11.5	9.79	10.1	10.3	4.03	0.59	0.00	0.00	0.14	1.10	5.38	9.93
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	6096 / 583			2896 / 558			25 / 492			3251 / 606		
Io (Iot)	10.45			5.187			0.051			5.368		
Semesters	December-May						June-November					
Pp(x10)/Tp	8992 / 1142						3276 / 1097					
Io (Iosm)	7.877						2.986					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 12268/2239=5.48 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	2210	1930	1956	2032	762	102	0	0	25	229	1092	1930
Tp [T*10]	192	197	194	197	189	172	150	161	181	208	203	194
Iom [Pp/Tp]	\$\$	979	\$\$	\$\$	403	59	0	0	14	110	538	993
Avm [200-Iom]	***	***	***	***	***	141	200	200	186	90	***	***
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	6096 / 583			2896 / 558			25 / 492			3251 / 606		
Iot [Pp/Tp]	1045			519			5			537		
Avs E[Avm<200]	***			***			586			***		
Lower ultrahyperarid [3]						Upper ultrahyperarid [1]						
Weak lower arid [1]						Strong lower semiarid [1]						

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....	(Sp):	5.84
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....		25.89
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....		12.07
+ Hyperoceanic (-20<CI<20)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....		1.14
+ Subcontinental (1.1<CI<1.7)		
Rainfall Index of Lang (1925) [R=P/T] .....		65.75
+ Temperate warm (100>R>60)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....		42.81
+ Humid (60>Ia>30)		
I of Emberger (1930) [Q=100*P/(Tmax <sup>2</sup> -Tmin <sup>2</sup> )] .....		155.26
+ Humid (Q>90)		
I of Dantin & Revenga (1940) [DR=100*T/P] .....		1.52
+ Humid (2>DR>0)		
Aridity Index of UNEP [I=P/PE] .....		1.45
+ Humid (I>0.65)		
Potential Erosion I of Fournier (1960) [K=Pi <sup>2</sup> /P] .....		39.81
+ Very low (K<60)		

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)  
 + Climate .....

- + Climate .....
- + Region .....
- + Thermic type: 3. Macro-mesothermic

Thornthwaite (1948)													
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	
P-E ratio	0.87	0.89	0.92	0.32	0.04	0.00	0.00	0.01	0.08	0.46	0.88	1.03	
T-E ratio	8.87	8.75	8.87	8.50	7.75	6.75	7.25	8.13	9.38	9.13	8.75	8.63	
Precipitation-effectiveness:	54.84					Temperature-efficiency .....							100.75
Moisture Index [MI=100*(P-PE)/PE] .....												44.75	
+ B2.Humid medium-humid (40<MI<60)													
Index of dryness [DI=100*d/PE] .....												19.54	
+ Moderate deficit (16.7<DI<33.3)													
Index of humidity [HI=100*s/PE] .....												64.29	
+ Strong surplus (20<HI)													
Potential Evapotranspiration PE .....												847.56	
+ Second mesothermic (712<PE<855)													

