

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

SERPA PINTO (ANGOLA)

Altitude: 1420 m.

Latitude: 14°39'S Longitude: 17°41'E

Temperature observation period.: 1990-1994 (5)

Rainfall observation period....: 1989-1994 (6)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	Epi
Jan.	22.78	28.89	16.67	32.22	10.00	190.0	107.10
Feb.	23.33	29.44	17.22	35.00	12.22	165.1	98.97
Mar.	23.33	28.33	18.33	32.78	13.89	181.1	106.04
Apr.	20.28	28.89	11.67	32.22	5.56	57.9	71.83
May.	17.78	27.78	7.78	31.11	0.00	7.1	53.15
Jun.	15.00	26.11	3.89	30.00	-3.33	0.0	34.55
Jul.	15.00	26.67	3.33	30.56	-2.22	0.0	35.65
Aug.	18.06	29.44	6.67	35.00	0.00	0.0	57.34
Sep.	21.67	32.78	10.56	36.67	2.78	8.1	85.30
Oct.	24.72	33.33	16.11	37.22	8.33	26.9	123.36
Nov.	23.89	33.33	14.44	38.33	8.89	83.1	114.09
Dec.	22.78	29.44	16.11	32.78	10.00	149.1	107.10
Year	20.72	29.54	11.90	33.66	5.51	868	994.50

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	507
Compensated thermicity index.....(Itc):	507
Simple continentality index.....(Ic):	9.7
Diurnality index.....(Id):	23.3
Annual ombrothermic index.....(Io):	3.49
Monthly dry ombrothermic index.....(Iod1):	No
Bimonthly dry ombrothermic index.....(Iod2):	No
Three monthly dry ombrothermic index.....(Iod3):	No
Four monthly dry ombrothermic index.....(Iod4):	0.11
Annual ombro-evaporation index.....(Ioe):	10.88
Annual positive temperature.....(Tp):	2486
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	481
Positive precipitation.....(Pp):	868

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	4	2	1	5	0

Latitudinal Belt...: Eutropical

Continentalty.....: Hyperoceanic - High Subhyperoceanic

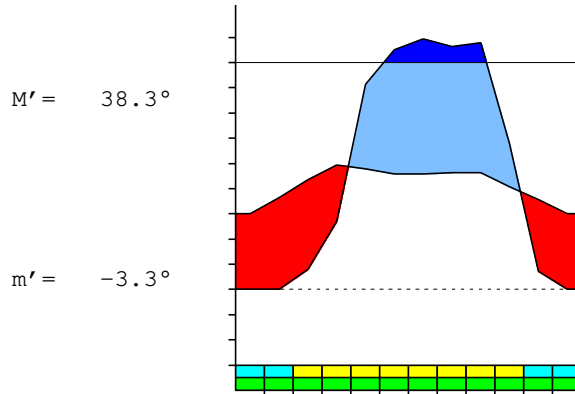
Bioclimate(Variant): TROPICAL XERIC (DRY)

Bioclimatic Belt...: UPPER THERMOTROPICAL UPPER DRY

SERPA PINTO (ANGOLA)

1420 m

P= 868 14° 39'S 17° 41'E 5/6 y.
 T= 20.7° Ic= 9.7 Tp= 2486 Tn= 0
 m= 3.9° M= 26.1° Itc= 507 Io= 3.5



TROPICAL XERIC (DRY)
 UPPER THERMOTROPICAL UPPER DRY

WATER INDEX CARD SERPA PINTO (ANGOLA)
 Altitude: 1420 m. Latitude: 14° 39'S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	15.0	36	0	-5	0	5	30	0	4	-1.0
Aug.	18.1	57	0	0	0	0	57	0	2	-1.0
Sep.	21.7	85	8	0	0	8	77	0	1	-0.9
Oct.	24.7	123	27	0	0	27	96	0	0	-0.7
Nov.	23.9	114	83	0	0	83	31	0	0	-0.2
Dec.	22.8	107	149	42	42	107	0	0	0	0.3
Jan.	22.8	107	190	58	100	107	0	25	13	0.7
Feb.	23.3	99	165	0	100	99	0	66	39	0.6
Mar.	23.3	106	181	0	100	106	0	75	57	0.7
Apr.	20.3	72	58	-14	86	72	0	0	29	-0.1
May.	17.8	53	7	-46	40	53	0	0	14	-0.8
Jun.	15.0	35	0	-35	5	35	0	0	7	-1.0
Year	20.7	994	868	*	*	702	292	166	166	*

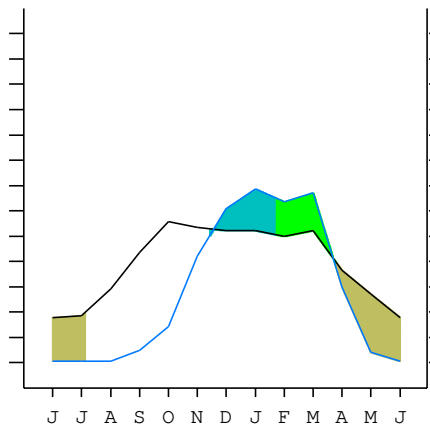
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

SERPA PINTO (ANGOLA)

14°39'S 17°41'E 1420 m 5/6 y.

T= 20.7 Ic= 9.7 TROPICAL XERIC (DRY)
 m= 3.9 Tp= 2486 UPPER THERMOTROPICAL
 M= 26.1 Tn= 0 UPPER DRY
 M' = 38.3 Itc= 507
 m' = -3.3 Io= 3.5
 P= 868 mm ———
 PE= 994 mm ———

Imbibing	13 Nov.
Saturation	21 Jan.
Reserve Use	26 Mar.
Deficit	5 Jul.



SERPA PINTO (ANGOLA)

Latitude: 14°39'S Longitude: 17°41'E Altitude: 1420 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [A3a]
 + Type: A. Hyperoceanic
 + Subtype: 3. Subhyperoceanic
 + Variant: a. High
 Thermic types [A2.A2]
 + Latitudinal zone: A. Warm
 + Latitudinal belt: 2. Eutropical
 + Thermic type: A. Warm
 + Thermic subtype: 2. Warm
 Bioclimatic types [A3.2a.5a]
 + Macrobioclimate: A. TROPICAL
 + Bioclimate: 3. XERIC
 + Bioclimatic variant ..:
 + Thermic type.....: 2. THERMOTROPICAL
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 5. DRY
 + Ombrothermic subtype : a. UPPER
 Bioclimatic Classification: Trxe.Ttr.Dry

SERPA PINTO (ANGOLA)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 795
 Coldest semester of the year.....(Psw): 73
 Warmest four months period of the year.....(Pcm1): 449
 Following warmest four months period.....(Pcm2): 411
 Positive precipitation dryest 3 months.....(Ppd): 0
 Positive precipitation dryest 2 months.....(Ppd2): 0
 Positive precipitation dryest 1 month.....(Ppd1): 0
 Positive precipitation warmest 3 months.....(Pps): 259
 Positive precipitation warmest 2 months.....(Pps2): 110
 Positive precipitation warmest 1 month.....(Pps1): 27
 Positive precipitation coldest 3 months.....(Ppw): 7
 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	0	118	504	246

Tropical rainfall rhythms: 1 > 2 > 4 > 3

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 24.7
 Average coldest month [T].....(Tmin): 15.0
 Maximum temp. warmest month [M].....(Tmmax): 33.3
 Minimum temp. coldest month [m].....(Tmmin): 3.3
 Absolute Max.temp. warmest month [M'].....(Tamax): 38.3
 Absolute Min.temp. coldest month [m'].....(Tamin): -3.3
 First warmest contrasted month [M].....(Tcmax): 26.7 (7)
 First coldest contrasted month [m].....(Tcmin): 3.3 (7)
 Dry station temperature.....(Td): 481
 Positive temperature dryest 3 months.....(Tpd): 481
 Positive temperature dryest 2 months.....(Tpd2): 300
 Positive temperature dryest 1 month.....(Tpd1): 150
 Positive temperature warmest 3 months.....(Tps): 714
 Positive temperature warmest 2 months.....(Tps2): 486
 Positive temperature warmest 1 month.....(Tps1): 247
 Positive temperature coldest 3 months.....(Tpw): 478
 Positive temperature coldest 2 months.....(Tpw2): 300
 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

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 1.15
 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)	1491	1900	1651	1811	579	71	0	0	0	81	269	831
Tp	228	228	233	233	203	178	150	150	181	217	247	239
Io (Iom)	6.55	8.34	7.08	7.76	2.86	0.40	0.00	0.00	0.00	0.37	1.09	3.48
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	5042 / 689			2461 / 614			0 / 481			1181 / 703		
Io (Iot)	7.319			4.009			0.000			1.680		
Semesters	December-May						June-November					
Pp(x10)/Tp	7503 / 1303						1181 / 1183					
Io (Iosm)	5.759						0.998					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 8684/2486=3.49 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	1491	1900	1651	1811	579	71	0	0	0	81	269	831
Tp [T*10]	228	228	233	233	203	178	150	150	181	217	247	239
Iom [Pp/Tp]	655	834	708	776	286	40	0	0	0	37	109	348
Avm [200-Iom]	***	***	***	***	***	160	200	200	200	163	91	***
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	5042 / 689			2461 / 614			0 / 481			1181 / 703		
Iot [Pp/Tp]	732			401			0			168		
Avs E[Avm<200]	***			***			600			***		
Lower ultrahyperarid [4]						Upper hyperarid [2]						
Strong lower semiarid [1]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp):	9.72
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]		44.93
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]		25.62
+ Oceanic (20<CI<40)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)]		1.65
+ Subcontinental (1.1<CI<1.7)		
Rainfall Index of Lang (1925) [R=P/T]		41.91
+ Semiarid (60>R>40)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)]		28.27
+ Subhumid (30>Ia>20)		
I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)]		78.96
+ Subhumid (90>Q>50)		
I of Dantin & Revenga (1940) [DR=100*T/P]		2.39
+ Semiarid (3>DR>2)		
Aridity Index of UNEP [I=P/PE]		0.87
+ Humid (I>0.65)		
Potential Erosion I of Fournier (1960) [K=Pi ² /P]		41.57
+ Very low (K<60)		

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)
 + Climate

- + Climate
- + Region
- + Thermic type: 2. Macrothermic

Thornthwaite (1948)													
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	
P-E ratio	0.79	0.67	0.74	0.23	0.02	0.00	0.00	0.00	0.02	0.09	0.31	0.61	
T-E ratio	10.25	10.50	10.50	9.13	8.00	6.75	6.75	8.13	9.75	11.12	10.75	10.25	
Precipitation-effectiveness:	34.79					Temperature-efficiency							111.88
Moisture Index [MI=100*(P-PE)/PE]	-12.68												
+ C1.Subhumid dry (-33.3<MI<0)													
Index of dryness [DI=100*d/PE]	29.37												
+ Moderate deficit (16.7<DI<33.3)													
Index of humidity [HI=100*s/PE]	16.69												
+ Moderate surplus (10<HI<20)													
Potential Evapotranspiration PE	994.50												
+ Third mesothermic (855<PE<997)													

