

# Phytosociological Research Center

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## Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

LUSO (ANGOLA)

Altitude: 1328 m.

Latitude: 11°45'S Longitude: 19°51'E

Temperature observation period.: 1981-1994 (14)

Rainfall observation period....: 1981-1994 (14)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	Epi
Jan.	21.95	27.22	16.67	32.78	11.11	231.1	96.41
Feb.	21.67	26.67	16.67	32.22	13.33	193.0	82.54
Mar.	21.95	27.22	16.67	32.22	11.67	182.9	92.03
Apr.	21.39	27.22	15.56	33.33	8.89	73.7	80.94
May.	19.45	27.22	11.67	32.22	5.56	2.5	66.36
Jun.	17.50	26.11	8.89	31.11	3.33	1.3	49.44
Jul.	17.22	26.11	8.33	30.00	2.78	0.0	49.64
Aug.	20.00	28.89	11.11	33.89	4.44	2.5	72.17
Sep.	22.78	31.11	14.44	35.00	8.89	17.8	95.46
Oct.	23.06	29.44	16.67	34.44	11.11	76.2	105.06
Nov.	21.67	27.22	16.11	33.89	12.78	152.4	89.35
Dec.	21.95	27.22	16.67	32.22	11.67	205.7	97.29
Year	20.88	27.64	14.12	32.78	8.80	1139	976.68

### BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	553
Compensated thermicity index.....(Itc):	553
Simple continentality index.....(Ic):	5.8
Diurnality index.....(Id):	17.8
Annual ombrothermic index.....(Io):	4.55
Monthly dry ombrothermic index.....(Iod1):	No
Bimonthly dry ombrothermic index.....(Iod2):	0.04
Three monthly dry ombrothermic index.....(Iod3):	0.07
Four monthly dry ombrothermic index.....(Iod4):	1.03
Annual ombro-evaporation index.....(Ioe):	3.33
Annual positive temperature.....(Tp):	2506
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	542
Positive precipitation.....(Pp):	1139

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

Latitudinal Belt...: Eutropical

Continentalty.....: Hyperoceanic - High Euhyperoceanic

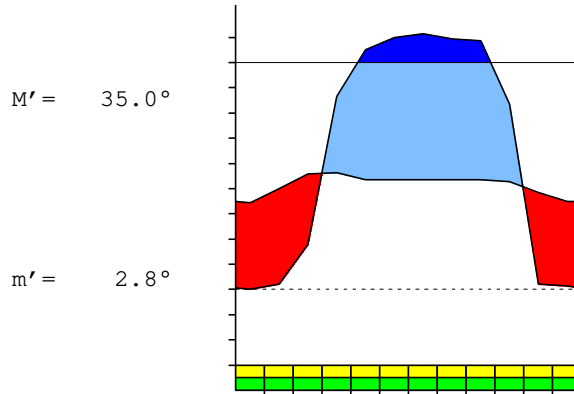
Bioclimate(Variant): TROPICAL PLUVISEASONAL (XEROPHYTIC)

Bioclimatic Belt...: UPPER THERMOTROPICAL LOW SUBHUMID

LUSO (ANGOLA)

1328 m

P= 1139      11° 45' S      19° 51' E      14/14 y.  
 T= 20.9°      Ic= 5.8      Tp= 2506      Tn= 0  
 m= 8.3°      M= 26.1°      Itc= 553      Io= 4.5



TROPICAL PLUVISEASONAL (XEROPHYTIC)  
 UPPER THERMOTROPICAL LOW SUBHUMID

WATER INDEX CARD

LUSO (ANGOLA)

Altitude: 1328 m.

Latitude: 11° 45' S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	17.2	50	0	0	0	0	50	0	6	-1.0
Aug.	20.0	72	3	0	0	3	70	0	3	-0.9
Sep.	22.8	95	18	0	0	18	78	0	1	-0.8
Oct.	23.1	105	76	0	0	76	29	0	1	-0.2
Nov.	21.7	89	152	63	63	89	0	0	0	0.7
Dec.	22.0	97	206	37	100	97	0	71	36	1.1
Jan.	22.0	96	231	0	100	96	0	135	85	1.3
Feb.	21.7	83	193	0	100	83	0	110	98	1.3
Mar.	22.0	92	183	0	100	92	0	91	94	0.9
Apr.	21.4	81	74	-7	93	81	0	0	47	0.0
May.	19.5	66	3	-64	29	66	0	0	24	-0.9
Jun.	17.5	49	1	-29	0	30	19	0	12	-0.9
Year	20.9	977	1139	*	*	732	245	407	407	*

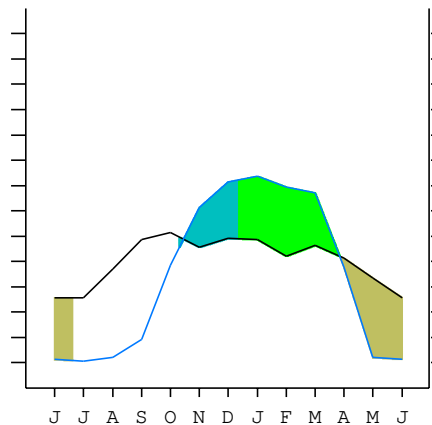
R = Reserve    VR = Variation of the reserve    RE = Real evapotranspiration  
 DR = Drainage    HC = Humidity coefficient    DF = Deficit    SP = Superavit

LUSO (ANGOLA)

11°45' S    19°51' E    1328 m 14/14 y.

T= 20.9      Ic= 5.8      TROPICAL PLUVISEASONAL (XEROPHYTIC)  
 m= 8.3      Tp= 2506      UPPER THERMOTROPICAL  
 M= 26.1      Tn= 0      LOW SUBHUMID  
 M' = 35.0      Itc= 553  
 m' = 2.8      Io= 4.5  
 P= 1139      mm ———  
 PE= 977      mm ———

Imbibing	10 Oct.
Saturation	11 Dec.
Reserve Use	28 Mar.
Deficit	19 Jun.



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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [A2a]  
 + Type .....: A. Hyperoceanic  
 + Subtype .....: 2. Euhyperoceanic  
 + 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 [A4.2a.6b]  
 + Macrobioclimate .....: A. TROPICAL  
 + Bioclimate .....: 4. PLUVISEASONAL  
 + Bioclimatic variant .:  
 + Thermic type.....: 2. THERMOTROPICAL  
 + Thermic subtype.....: a. UPPER  
 + Ombrothermic type ...: 6. SUBHUMID  
 + Ombrothermic subtype : b. LOW

Bioclimatic Classification .....: Trde.Ttr.Shu

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 876  
 Coldest semester of the year.....(Psw): 263  
 Warmest four months period of the year.....(Pcm1): 452  
 Following warmest four months period.....(Pcm2): 681  
 Positive precipitation dryest 3 months.....(Ppd): 4  
 Positive precipitation dryest 2 months.....(Ppd2): 1  
 Positive precipitation dryest 1 month.....(Ppd1): 0  
 Positive precipitation warmest 3 months.....(Pps): 246  
 Positive precipitation warmest 2 months.....(Pps2): 94  
 Positive precipitation warmest 1 month.....(Pps1): 76  
 Positive precipitation coldest 3 months.....(Ppw): 4  
 Positive precipitation coldest 2 months.....(Ppw2): 1  
 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	3	246	629	259

Tropical rainfall rhythms: 1 > 2 > 4 > 3

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 23.1  
 Average coldest month [T].....(Tmin): 17.2  
 Maximum temp. warmest month [M].....(Tmmax): 31.1  
 Minimum temp. coldest month [m].....(Tmmin): 8.3  
 Absolute Max.temp. warmest month [M'].....(Tamax): 35.0  
 Absolute Min.temp. coldest month [m'].....(Tamin): 2.8  
 First warmest contrasted month [M].....(Tcmax): 26.1 (7)  
 First coldest contrasted month [m].....(Tcmin): 8.3 (7)  
 Dry station temperature.....(Td): 542  
 Positive temperature dryest 3 months.....(Tpd): 542  
 Positive temperature dryest 2 months.....(Tpd2): 347  
 Positive temperature dryest 1 month.....(Tpd1): 172  
 Positive temperature warmest 3 months.....(Tps): 675  
 Positive temperature warmest 2 months.....(Tps2): 458  
 Positive temperature warmest 1 month.....(Tps1): 231  
 Positive temperature coldest 3 months.....(Tpw): 542  
 Positive temperature coldest 2 months.....(Tpw2): 347  
 Positive temperature coldest 1 month.....(Tpw1): 172

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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)												
Agelid.....[m' > 0] (Pf)	o	o	o	o	o	o	o	o	o	o	o	o
HiperAgelid..[all>0] (Pf)	o	o	o	o	o	o	o	o	o	o	o	o

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 0.86  
 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)	2057	2311	1930	1829	737	25	13	0	25	178	762	1524
Tp	220	220	217	220	214	195	175	172	200	228	231	217
Io (Iom)	9.37	10.5	8.91	8.33	3.45	0.13	0.07	0.00	0.13	0.78	3.30	7.03
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	6298 / 656			2591 / 628			38 / 547			2464 / 675		
Io (Iot)	9.605			4.126			0.069			3.650		
Semesters	December-May						June-November					
Pp(x10)/Tp	8889 / 1284						2502 / 1222					
Io (Iosm)	6.925						2.047					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 11391/2506=4.55 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	2057	2311	1930	1829	737	25	13	0	25	178	762	1524
Tp [T*10]	220	220	217	220	214	195	175	172	200	228	231	217
Iom [Pp/Tp]	937	\$\$\$	891	833	345	13	7	0	13	78	330	703
Avm [200-Iom]	***	***	***	***	***	187	193	200	188	122	***	***
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	6298 / 656			2591 / 628			38 / 547			2464 / 675		
Iot [Pp/Tp]	961			413			7			365		
Avs E[Avm<200]	***			***			580			***		
Lower ultrahyperarid [3]							Upper ultrahyperarid [2]					
Strong upper arid [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] .....: 28.35  
 CI of Conrad (1946) [1.7\*Sp/sin(Lat+10)-14] .....: 12.79  
 + Hyperoceanic (-20<CI<20)  
 CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....: 1.19  
 + Subcontinental (1.1<CI<1.7)  
 Rainfall Index of Lang (1925) [R=P/T] .....: 54.55  
 + Semiarid (60>R>40)  
 Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....: 36.88  
 + Humid (60>Ia>30)  
 I of Emberger (1930) [Q=100\*P/(Tmax<sup>2</sup>-Tmin<sup>2</sup>)] .....: 126.79  
 + Humid (Q>90)  
 I of Dantin & Revenga (1940) [DR=100\*T/P] .....: 1.83  
 + Humid (2>DR>0)  
 Aridity Index of UNEP [I=P/PE] .....: 1.17  
 + Humid (I>0.65)  
 Potential Erosion I of Fournier (1960) [K=Pi<sup>2</sup>/P].....: 46.89  
 + Very low (K<60)

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)  
 + Climate .....: A. Warm and temperate warm  
 + Region .....: 3. Termoxeroteric (Mediterranean warm)  
 + Thermic type: 2. Macrothermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	1.01	0.83	0.78	0.29	0.01	0.00	0.00	0.01	0.06	0.29	0.64	0.88
T-E ratio	9.88	9.75	9.88	9.63	8.75	7.88	7.75	9.00	10.25	10.38	9.75	9.88
Precipitation-effectiveness: 47.80						Temperature-efficiency .....: 112.77						
Moisture Index [MI=100*(P-PE)/PE] .....: 16.63 + C2.Subhumid humid (0<MI<20)												
Index of dryness [DI=100*d/PE] .....: 25.08 + Moderate deficit (16.7<DI<33.3)												
Index of humidity [HI=100*s/PE] .....: 41.71 + Strong surplus (20<HI)												
Potential Evapotranspiration PE .....: 976.68 + Third mesothermic (855<PE<997)												

