

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

LUANDA NEW (ANGOLA)

Altitude: 74 m.

Latitude: 8°51'S Longitude: 13°14'E

Temperature observation period.: 1958-1994 (37)

Rainfall observation period....: 1935-1994 (60)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPi
Jan.	25.83	28.33	23.33	32.78	20.56	25.4	135.38
Feb.	26.67	29.44	23.89	35.00	21.11	35.6	131.39
Mar.	26.95	30.00	23.89	35.00	21.11	76.2	146.06
Apr.	26.67	29.44	23.89	34.44	21.11	116.8	135.49
May.	25.28	27.78	22.78	36.11	17.78	12.7	118.49
Jun.	22.50	25.00	20.00	31.67	15.00	1.3	79.51
Jul.	20.83	23.33	18.33	29.44	14.44	0.0	64.66
Aug.	20.56	23.33	17.78	28.33	14.44	1.3	63.35
Sep.	21.94	24.44	19.44	28.89	16.67	2.5	75.86
Oct.	23.89	26.11	21.67	31.67	18.33	5.1	104.49
Nov.	25.28	27.78	22.78	36.67	20.00	27.9	123.18
Dec.	25.83	28.33	23.33	34.44	19.44	20.3	136.63
Year	24.35	26.94	21.76	32.87	18.33	325	1314.5

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	655
Compensated thermicity index.....(Itc):	655
Simple continentality index.....(Ic):	6.4
Diurnality index.....(Id):	6.1
Annual ombrothermic index.....(Io):	1.11
Monthly dry ombrothermic index.....(Iod1):	No
Bimonthly dry ombrothermic index.....(Iod2):	0.03
Three monthly dry ombrothermic index.....(Iod3):	0.04
Four monthly dry ombrothermic index.....(Iod4):	0.17
Annual ombro-evaporation index.....(Ioe):	13.20
Annual positive temperature.....(Tp):	2922
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	639
Positive precipitation.....(Pp):	325

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	1	1	2	8	0

Latitudinal Belt...: Eutropical

Continentalty.....: Hyperoceanic - Low Euhyperoceanic

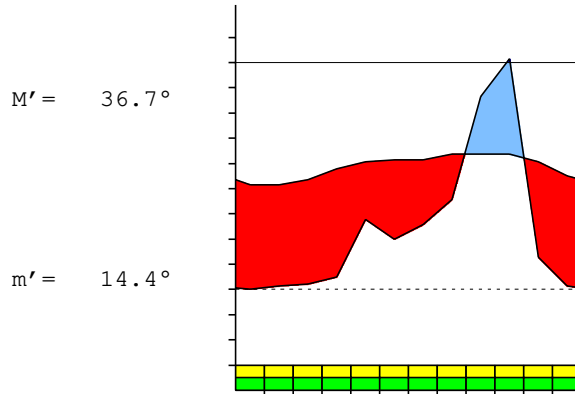
Bioclimate(Variant): TROPICAL XERIC (PLUVISEROTIN, SEMIARID)

Bioclimatic Belt...: LOW THERMOTROPICAL LOW SEMIARID

LUANDA NEW (ANGOLA)

74 m

P= 325 8° 51'S 13° 14'E 37/60 y.
 T= 24.4° Ic= 6.4 Tp= 2922 Tn= 0
 m= 17.8° M= 23.3° Itc= 655 Io= 1.1



TROPICAL XERIC (PLUVISEROTIN)
 LOW THERMOTROPICAL LOW SEMIARID

WATER INDEX CARD
 Altitude: 74 m.

LUANDA NEW (ANGOLA)
 Latitude: 8° 51'S

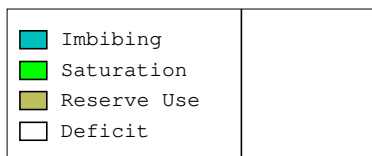
(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	20.8	65	0	0	0	0	65	0	0	-1.0
Aug.	20.6	63	1	0	0	1	62	0	0	-0.9
Sep.	21.9	76	3	0	0	3	73	0	0	-0.9
Oct.	23.9	104	5	0	0	5	99	0	0	-0.9
Nov.	25.3	123	28	0	0	28	95	0	0	-0.7
Dec.	25.8	137	20	0	0	20	116	0	0	-0.8
Jan.	25.8	135	25	0	0	25	110	0	0	-0.8
Feb.	26.7	131	36	0	0	36	96	0	0	-0.7
Mar.	27.0	146	76	0	0	76	70	0	0	-0.4
Apr.	26.7	135	117	0	0	117	19	0	0	-0.1
May.	25.3	118	13	0	0	13	106	0	0	-0.8
Jun.	22.5	80	1	0	0	1	78	0	0	-0.9
Year	24.4	1314	325	*	*	325	989	0	0	*

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

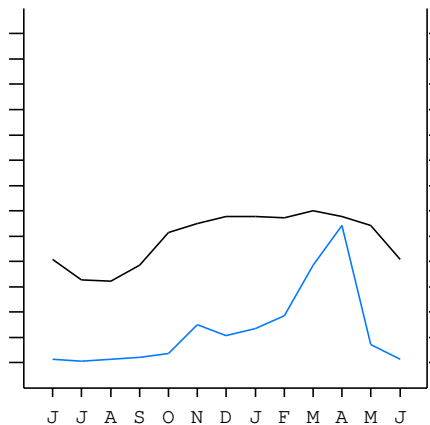
LUANDA NEW (ANGOLA)

8°51'S 13°14'E 74 m 37/60 y.

T= 24.4 Ic= 6.4 TROPICAL XERIC (PLUVISEROTIN)
 m= 17.8 Tp= 2922 LOW THERMOTROPICAL
 M= 23.3 Tn= 0 LOW SEMIARID
 M' = 36.7 Itc= 655
 m' = 14.4 Io= 1.1
 P= 325 mm ———
 PE= 1314 mm ———



All over the year,
 there is hydric deficit



LUANDA NEW (ANGOLA)

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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [A2b]
 + Type: A. Hyperoceanic
 + Subtype: 2. Euhyperoceanic
 + Variant: b. Low

Thermic types [A2.A1]
 + Latitudinal zone: A. Warm
 + Latitudinal belt: 2. Eutropical
 + Thermic type: A. Warm
 + Thermic subtype: 1. Torrid

Bioclimatic types [A3e.2b.4b]
 + Macrobioclimate: A. TROPICAL
 + Bioclimate: 3. XERIC
 + Bioclimatic variant .: e. PLUVISEROTIN, SEMIARID
 + Thermic type.....: 2. THERMOTROPICAL
 + Thermic subtype.....: b. LOW
 + Ombrothermic type ...: 4. SEMIARID
 + Ombrothermic subtype : b. LOW

Bioclimatic Classification: Trxe (Pse).Ttr.Sar

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 302
 Coldest semester of the year.....(Psw): 23
 Warmest four months period of the year.....(Pcm1): 254
 Following warmest four months period.....(Pcm2): 15
 Positive precipitation dryest 3 months.....(Ppd): 3
 Positive precipitation dryest 2 months.....(Ppd2): 1
 Positive precipitation dryest 1 month.....(Ppd1): 0
 Positive precipitation warmest 3 months.....(Pps): 229
 Positive precipitation warmest 2 months.....(Pps2): 112
 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): 1

Seasons	Jun+Jul+Aug Ttr3-3	Sep+Oct+Nov Ttr4-4	Dec+Jan+Feb Ttr1-1	Mar+Apr+May Ttr2-2
Rainfall	2	35	81	205

Tropical rainfall rhythms: 2 > 1 > 4 > 3

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 27.0
 Average coldest month [T].....(Tmin): 20.6
 Maximum temp. warmest month [M].....(Tmmax): 30.0
 Minimum temp. coldest month [m].....(Tmmin): 17.8
 Absolute Max.temp. warmest month [M'].....(Tamax): 36.7
 Absolute Min.temp. coldest month [m'].....(Tamin): 14.4
 First warmest contrasted month [M].....(Tcmax): 30.0 (3)
 First coldest contrasted month [m].....(Tcmin): 23.9 (3)
 Dry station temperature.....(Td): 639
 Positive temperature dryest 3 months.....(Tpd): 639
 Positive temperature dryest 2 months.....(Tpd2): 433
 Positive temperature dryest 1 month.....(Tpd1): 208
 Positive temperature warmest 3 months.....(Tps): 803
 Positive temperature warmest 2 months.....(Tps2): 536
 Positive temperature warmest 1 month.....(Tps1): 270
 Positive temperature coldest 3 months.....(Tpw): 633
 Positive temperature coldest 2 months.....(Tpw2): 414
 Positive temperature coldest 1 month.....(Tpw1): 206

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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): 4.04
 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)	203	254	356	762	1168	127	13	0	13	25	51	279
Tp	258	258	267	270	267	253	225	208	206	219	239	253
Io (Iom)	0.79	0.98	1.33	2.83	4.38	0.50	0.06	0.00	0.06	0.11	0.21	1.10
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	813 / 783			2057 / 789			26 / 639			355 / 711		
Io (Iot)	1.038			2.607			0.041			0.499		
Semesters	December-May						June-November					
Pp(x10)/Tp	2870 / 1572						381 / 1350					
Io (Iosm)	1.825						0.282					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 3251/2922=1.11 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	203	254	356	762	1168	127	13	0	13	25	51	279
Tp [T*10]	258	258	267	270	267	253	225	208	206	219	239	253
Iom [Pp/Tp]	79	98	133	283	438	50	6	0	6	11	21	110
Avm [200-Iom]	121	102	67	***	***	150	194	200	194	189	179	90
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	813 / 783			2057 / 789			26 / 639			355 / 711		
Iot [Pp/Tp]	104			261			4			50		
Avs E[Avm<200]	290			***			588			457		
Lower ultrahyperarid [4]						Upper ultrahyperarid [1]						
Lower hyperarid [1]						Strong lower arid [1]						
Weak lower arid [1]						Strong upper arid [1]						
Weak upper arid [1]						Strong lower semiarid [2]						

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp):	6.39
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]		50.21
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]		19.62
+ Hyperoceanic (-20<CI<20)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)]		1.62
+ Subcontinental (1.1<CI<1.7)		
Rainfall Index of Lang (1925) [R=P/T]		13.35
+ Steppic (40>R>0)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)]		9.46
+ Arid -steppic- (15>Ia>5)		
I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)]		55.68
+ Subhumid (90>Q>50)		
I of Dantin & Revenga (1940) [DR=100*T/P]		7.49
+ Extremely arid (DR>6)		
Aridity Index of UNEP [I=P/PE]		0.25
+ Semiarid (0.5>Im>0.2)		
Potential Erosion I of Fournier (1960) [K=Pi ² /P]		41.96
+ Very low (K<60)		

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)
 + Climate

- + Climate
- + Region
- + Thermic type: 1. Megathermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.08	0.11	0.26	0.42	0.04	0.00	0.00	0.00	0.01	0.01	0.09	0.06
T-E ratio	11.62	12.00	12.13	12.00	11.38	10.13	9.37	9.25	9.87	10.75	11.38	11.62
Precipitation-effectiveness: 10.89						Temperature-efficiency						131.50
Moisture Index [MI=100*(P-PE)/PE]												-75.27
+ E.Dry (-110<MI<-66.7)												
Index of dryness [DI=100*d/PE]												75.26
+ Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE]												0.00
+ No surplus (0<HI<10)												
Potential Evapotranspiration PE												1314.49
+ Forth mesothermic (997<PE<1440)												

