

# Phytosociological Research Center

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## Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

NOVA LISBOA (ANGOLA)

Altitude: 1715 m.

Latitude: 12°48'S Longitude: 15°45'E

Temperature observation period.: 1980-1994 (15)

Rainfall observation period....: 1980-1994 (15)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPi
Jan.	20.00	25.56	14.44	31.11	8.89	221.0	83.77
Feb.	20.00	25.56	14.44	31.11	10.00	198.1	74.63
Mar.	20.00	25.56	14.44	30.00	10.00	248.9	79.96
Apr.	19.73	25.56	13.89	28.89	7.22	144.8	72.60
May.	18.06	25.56	10.56	28.89	5.56	10.2	61.30
Jun.	16.11	24.44	7.78	28.33	2.22	0.0	46.66
Jul.	16.67	25.00	8.33	28.33	2.22	1.3	51.58
Aug.	18.89	27.22	10.56	31.11	5.56	1.3	69.18
Sep.	20.84	28.89	12.78	32.22	7.78	15.2	82.78
Oct.	20.83	27.22	14.44	32.22	10.56	139.7	88.49
Nov.	20.00	25.56	14.44	30.56	8.33	243.8	80.72
Dec.	20.00	25.56	14.44	30.56	9.44	226.1	84.53
Year	19.26	25.97	12.54	30.28	7.32	1450	876.20

### BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	515
Compensated thermicity index.....(Itc):	515
Simple continentality index.....(Ic):	4.7
Diurnality index.....(Id):	16.7
Annual ombrothermic index.....(Io):	6.28
Monthly dry ombrothermic index.....(Iod1):	No
Bimonthly dry ombrothermic index.....(Iod2):	0.04
Threemonthly dry ombrothermic index.....(Iod3):	0.05
Fourmonthly dry ombrothermic index.....(Iod4):	0.18
Annual ombro-evaporation index.....(Ioe):	2.57
Annual positive temperature.....(Tp):	2311
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	517
Positive precipitation.....(Pp):	1450

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	7	0	0	5	0

Latitudinal Belt...: Eutropical

Continentalty.....: Hyperoceanic - High Euhyperoceanic

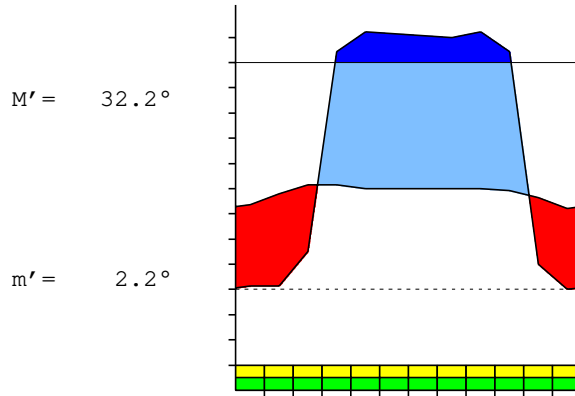
Bioclimate(Variant): TROPICAL PLUVISEASONAL (XEROPHYTIC)

Bioclimatic Belt...: UPPER THERMOTROPICAL LOW HUMID

NOVA LISBOA (ANGOLA)

1715 m

P= 1450      12° 48' S      15° 45' E      15/15 y.  
 T= 19.3°      Ic= 4.7      Tp= 2311      Tn= 0  
 m= 7.8°      M= 24.4°      Itc= 515      Io= 6.3



TROPICAL PLUVISEASONAL (XEROPHYTIC)  
 UPPER THERMOTROPICAL LOW HUMID

WATER INDEX CARD      NOVA LISBOA (ANGOLA)  
 Altitude: 1715 m.      Latitude: 12° 48' S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	16.7	52	1	-2	0	4	48	0	14	-0.9
Aug.	18.9	69	1	0	0	1	68	0	7	-0.9
Sep.	20.8	83	15	0	0	15	68	0	3	-0.8
Oct.	20.8	88	140	51	51	88	0	0	2	0.5
Nov.	20.0	81	244	49	100	81	0	114	58	2.0
Dec.	20.0	85	226	0	100	85	0	142	100	1.6
Jan.	20.0	84	221	0	100	84	0	137	119	1.6
Feb.	20.0	75	198	0	100	75	0	123	121	1.6
Mar.	20.0	80	249	0	100	80	0	169	145	2.1
Apr.	19.7	73	145	0	100	73	0	72	109	0.9
May.	18.1	61	10	-51	49	61	0	0	54	-0.8
Jun.	16.1	47	0	-47	2	47	0	0	27	-1.0
Year	19.3	876	1450	*	*	693	183	758	758	*

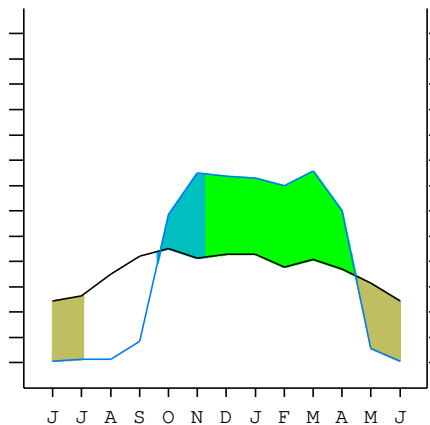
R = Reserve      VR = Variation of the reserve      RE = Real evapotranspiration  
 DR = Drainage      HC = Humidity coefficient      DF = Deficit      SP = Superavit

NOVA LISBOA (ANGOLA)

12°48' S      15°45' E      1715 m 15/15 y.

T= 19.3      Ic= 4.7      TROPICAL PLUVISEASONAL (XEROPHYTIC)  
 m= 7.8      Tp= 2311      UPPER THERMOTROPICAL  
 M= 24.4      Tn= 0      LOW HUMID  
 M' = 32.2      Itc= 515  
 m' = 2.2      Io= 6.3  
 P= 1450      mm      ———  
 PE= 876      mm      ———

Imbibing	18 Sep.
Saturation	9 Nov.
Reserve Use	18 Apr.
Deficit	2 Jul.



NOVA LISBOA (ANGOLA)

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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.7b]  
 + Macrobioclimate .....: A. TROPICAL  
 + Bioclimate .....: 4. PLUVISEASONAL  
 + Bioclimatic variant .:  
 + Thermic type.....: 2. THERMOTROPICAL  
 + Thermic subtype.....: a. UPPER  
 + Ombrothermic type ...: 7. HUMID  
 + Ombrothermic subtype : b. LOW  
 Bioclimatic Classification .....: Trde.Ttr.Hum

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 1044  
 Coldest semester of the year.....(Psw): 407  
 Warmest four months period of the year.....(Pcm1): 625  
 Following warmest four months period.....(Pcm2): 813  
 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): 399  
 Positive precipitation warmest 2 months.....(Pps2): 155  
 Positive precipitation warmest 1 month.....(Pps1): 15  
 Positive precipitation coldest 3 months.....(Ppw): 12  
 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	2	398	645	403

Tropical rainfall rhythms: 1 > 2 > 4 > 3

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 20.8  
 Average coldest month [T].....(Tmin): 16.1  
 Maximum temp. warmest month [M].....(Tmmax): 28.9  
 Minimum temp. coldest month [m].....(Tmmin): 7.8  
 Absolute Max.temp. warmest month [M'].....(Tamax): 32.2  
 Absolute Min.temp. coldest month [m'].....(Tamin): 2.2  
 First warmest contrasted month [M].....(Tcmax): 25.0 (7)  
 First coldest contrasted month [m].....(Tcmin): 8.3 (7)  
 Dry station temperature.....(Td): 517  
 Positive temperature dryest 3 months.....(Tpd): 517  
 Positive temperature dryest 2 months.....(Tpd2): 328  
 Positive temperature dryest 1 month.....(Tpd1): 161  
 Positive temperature warmest 3 months.....(Tps): 617  
 Positive temperature warmest 2 months.....(Tps2): 417  
 Positive temperature warmest 1 month.....(Tps1): 208  
 Positive temperature coldest 3 months.....(Tpw): 508  
 Positive temperature coldest 2 months.....(Tpw2): 328  
 Positive temperature coldest 1 month.....(Tpw1): 161

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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): 0.60  
 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)	2261	2210	1981	2489	1448	102	0	13	13	152	1397	2438
Tp	200	200	200	200	197	181	161	167	189	208	208	200
Io (Iom)	11.3	11.1	9.91	12.4	7.34	0.56	0.00	0.08	0.07	0.73	6.71	12.2
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	6452 / 600			4039 / 578			26 / 517			3987 / 617		
Io (Iot)	10.75			6.989			0.050			6.465		
Semesters	December-May						June-November					
Pp(x10)/Tp	10491 / 1178						4013 / 1133					
Io (Iosm)	8.907						3.541					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 14504/2311=6.28 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	2261	2210	1981	2489	1448	102	0	13	13	152	1397	2438
Tp [T*10]	200	200	200	200	197	181	161	167	189	208	208	200
Iom [Pp/Tp]	\$\$	\$\$	991	\$\$	734	56	0	8	7	73	671	\$\$
Avm [200-Iom]	***	***	***	***	***	144	200	192	193	127	***	***
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	6452 / 600			4039 / 578			26 / 517			3987 / 617		
Iot [Pp/Tp]	1075			699			5			647		
Avs E[Avm<200]	***			***			585			***		
Lower ultrahyperarid [4]							Weak lower arid [1]					
Strong upper arid [1]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....	(Sp):	4.73
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....		15.89
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....		6.75
+ Hyperoceanic (-20<CI<20)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....		0.90
+ Oceanic (0.6<CI<1.1)		
Rainfall Index of Lang (1925) [R=P/T] .....		75.30
+ Temperate warm (100>R>60)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....		49.57
+ Humid (60>Ia>30)		
I of Emberger (1930) [Q=100*P/(Tmax <sup>2</sup> -Tmin <sup>2</sup> )] .....		187.37
+ Humid (Q>90)		
I of Dantin & Revenga (1940) [DR=100*T/P] .....		1.33
+ Humid (2>DR>0)		
Aridity Index of UNEP [I=P/PE] .....		1.66
+ Humid (I>0.65)		
Potential Erosion I of Fournier (1960) [K=Pi <sup>2</sup> /P] .....		42.71
+ 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	1.01	0.89	1.15	0.63	0.03	0.00	0.00	0.00	0.05	0.59	1.12	1.03
T-E ratio	9.00	9.00	9.00	8.88	8.13	7.25	7.50	8.50	9.38	9.37	9.00	9.00
Precipitation-effectiveness: 65.12						Temperature-efficiency .....						104.01
Moisture Index [MI=100*(P-PE)/PE] .....												65.53
+ B3.Humid high-humid (60<MI<80)												
Index of dryness [DI=100*d/PE] .....												20.93
+ Moderate deficit (16.7<DI<33.3)												
Index of humidity [HI=100*s/PE] .....												86.46
+ Strong surplus (20<HI)												
Potential Evapotranspiration PE .....												876.20
+ Third mesothermic (855<PE<997)												

