Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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DUNDO (ANGOLA) Altitude: 745 m.

Latitude: 7° 22'S Longitude: 20° 50'E
Temperature observation period.: 1991-1994 (4)
Rainfall observation period....: 1981-1994 (14)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPi
Jan.	24.44	29.44	19.44	33.33	17.78	181.1	113.14
Feb.	24.72	29.44	20.00	34.44	18.33	139.7	105.13
Mar.	25.00	30.00	20.00	33.89	17.78	186.7	117.91
Apr.	24.72	29.44	20.00	32.78	17.78	200.9	109.51
May.	24.17	30.00	18.33	32.78	13.89	48.3	104.23
Jun.	23.34	31.11	15.56	34.44	12.22	3.0	89.94
Jul.	23.62	31.67	15.56	33.89	10.56	7.1	96.15
Aug.	25.00	31.67	18.33	35.00	13.33	41.4	115.64
Sep.	25.00	30.56	19.44	34.44	16.11	91.2	113.37
Oct.	24.72	30.00	19.44	33.33	17.22	186.7	114.98
Nov.	23.89	28.33	19.44	32.22	17.22	219.2	102.53
Dec.	24.17	28.89	19.44	31.67	17.78	196.3	109.34
Year	24.40	30.05	18.75	33.52	15.83	1502	1291.9

BIOCLIMATIC INDICES AND DIAGNOSIS

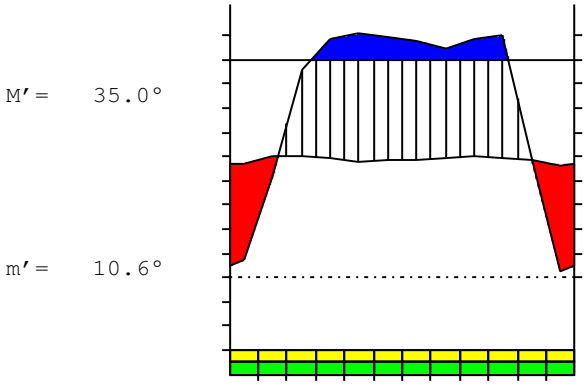
Thermicity index.....(It): 711
Compensated thermicity index.....(Itc): 711
Simple continentality index.....(Ic): 1.7
Diurnality index.....(Id): 16.1
Annual ombrothermic index.....(Io): 5.13
Monthly dry ombrothermic index.....(Iod1): 0.13
Bimonthly dry ombrothermic index.....(Iod2): 0.22
Threemonthly dry ombrothermic index.....(Iod3): 0.72
Fourmonthly dry ombrothermic index.....(Iod4): 1.04
Annual ombro-evaporation index.....(Ioe): 1.16
Annual positive temperature.....(Tp): 2928
Annual negative temperature.....(Tn): -0
Dry station temperature.....(Td): 720
Positive precipitation.....(Pp): 1502

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

Latitudinal Belt...: Eutropical
Continentality.....: Hyperoceanic - High Ultrahyperoceanic
Bioclimate(Variant): TROPICAL PLUVISEASONAL (SUBMESOPHYTIC)
Bioclimatic belt...: UPPER INFRATROPICAL UPPER SUBHUMID

DUNDO (ANGOLA) 745 m

P= 1502 7° 22'S 20° 50'E 4/14 y.
T= 24.4 ° Ic= 1.7 Tp= 2928 Tn= -0
m= 15.6 ° M= 31.1 ° Itc= 711 Io= 5.1



TROPICAL PLUVISEASONAL (SUBMESOPHYTIC)
UPPER INFRATROPICAL UPPER SUBHUMID

WATER INDEX CARD **DUNDO (ANGOLA)**
Altitude: 745 m. Latitude: 7° 22'S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	23.6	96	7	0	0	7	89	0	9	-0.9
Aug.	25.0	116	41	0	0	41	74	0	5	-0.6
Sep.	25.0	113	91	0	0	91	22	0	2	-0.1
Oct.	24.7	115	187	72	72	115	0	0	1	0.6
Nov.	23.9	103	219	28	100	102	0	88	45	1.1
Dec.	24.2	109	196	0	100	109	0	87	66	0.7
Jan.	24.4	113	181	0	100	113	0	68	67	0.6
Feb.	24.7	105	140	0	100	105	0	34	51	0.3
Mar.	25.0	118	187	0	100	118	0	69	60	0.5
Apr.	24.7	110	201	0	100	110	0	91	76	0.8
May.	24.2	104	48	-56	44	104	0	0	38	-0.5
Jun.	23.3	90	3	-44	0	47	43	0	19	-0.9
Year	24.4	1292	1502	*	*	1064	228	438	438	*

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

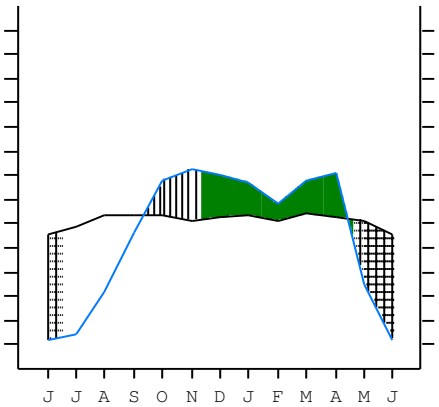
DUNDO (ANGOLA)

7°22'S 20°50'E 745 m 4/14 y.

T= 24.4 Ic= 1.7
m= 15.6 Tp= 2928
M= 31.1 Tn= -0
M'= 35.0 Itc= 711
m'= 10.6 Io= 5.1
P= 1502 mm
PE= 1292 mm

TROPICAL PLUVISEASONAL (SUBMESOPHYTIC)
UPPER INFRATROPICAL
UPPER SUBHUMID

Imbibing	8 Sep.
Saturation	8 Nov.
Reserve Use	19 Apr.
Deficit	16 Jun.



DUNDO (ANGOLA)

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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continentality Index [A1a]
- + Type .....: A. Hyperoceanic
- + Subtype .....: 1. Ultrahyperoceanic
- + Variant .....: a. High

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

Bioclimatic types [A4.1a.6a]
- + Macrobioclimate .....: A. TROPICAL
- + Bioclimate .....: 4. PLUVISEASONAL
- + Bioclimatic variant .:
- + Thermic type.....: 1. INFRATROPICAL
- + Thermic subtype.....: a. UPPER
- + Ombrothermic type ...: 6. SUBHUMID
- + Ombrothermic subtype : a. UPPER

Bioclimatic Classification .....: Trde.Itr.Shu

DUNDO (ANGOLA)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 916
Coldest semester of the year.....(Psw): 586
Warmest four months period of the year.....(Pcm1): 708
Following warmest four months period.....(Pcm2): 100
Positive precipitation dryest 3 months.....(Ppd): 52
Positive precipitation dryest 2 months.....(Ppd2): 10
Positive precipitation dryest 1 month.....(Ppd1): 3
Positive precipitation warmest 3 months.....(Pps): 319
Positive precipitation warmest 2 months.....(Pps2): 133
Positive precipitation warmest 1 month.....(Pps1): 187
Positive precipitation coldest 3 months.....(Ppw): 58
Positive precipitation coldest 2 months.....(Ppw2): 10
Positive precipitation coldest 1 month.....(Ppw1): 3

Seasons	Jun+Jul+Aug Ttr3-3	Sep+Oct+Nov Ttr4-4	Dec+Jan+Feb Ttr1-1	Mar+Apr+May Ttr2-2
Rainfall	51	497	517	435

Tropical rainfall rhythms: 1 > 4 > 2 > 3

DUNDO (ANGOLA)

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 25.0
Average coldest month [T].....(Tmin): 23.3
Maximum temp. warmest month [M].....(Tmmax): 31.7
Minimum temp. coldest month [m].....(Tmmin): 15.6
Absolute Max.temp. warmest month [M'].....(Tamax): 35.0
Absolute Min.temp. coldest month [m'].....(Tamin): 10.6
First warmest contrasted month [M].....(Tcmax): 31.7 (7)
First coldest contrasted month [m].....(Tcmin): 15.6 (7)
Dry station temperature.....(Td): 720
Positive temperature dryest 3 months.....(Tpd): 720
Positive temperature dryest 2 months.....(Tpd2): 470
Positive temperature dryest 1 month.....(Tpd1): 233
Positive temperature warmest 3 months.....(Tps): 747
Positive temperature warmest 2 months.....(Tps2): 500
Positive temperature warmest 1 month.....(Tps1): 250
Positive temperature coldest 3 months.....(Tpw): 711
Positive temperature coldest 2 months.....(Tpw2): 470
Positive temperature coldest 1 month.....(Tpw1): 233

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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)	1963	1811	1397	1867	2009	483	30	71	414	912	1867	2192
Tp	242	244	247	250	247	242	233	236	250	250	247	239
Io (Iom)	8.12	7.41	5.65	7.47	8.13	2.00	0.13	0.30	1.66	3.65	7.55	9.18
Seasons	**Dec+Jan+Feb**			**Mar+Apr+May**			**Jun+Jul+Aug**			**Sep+Oct+Nov**		
Pp(x10)/Tp	5171 / 733			4359 / 739			515 / 720			4971 / 736		
Io (Iot)	7.052			5.899			0.716			6.753		
Semesters	**December-May**						**June-November**					
Pp(x10)/Tp	9530 / 1472						5486 / 1456					
Io (Iosm)	6.473						3.769					

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....(Sp): 1.66
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....: 1.61
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....: -4.55
  + Hyperoceanic (-20<CI<20)
CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....: 0.48
  + Hyperoceanic (0<CI<0.6)
Rainfall Index of Lang (1925) [R=P/T] .....: 61.54
  + Temperate warm (100>R>60)
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....: 43.65
  + Humid (60>Ia>30)
I of Emberger (1930) [Q=100*P/(Tmmax²-Tmmin²)] .....: 197.35
  + Humid (Q>90)
I of Dantin & Revenga (1940) [DR=100*T/P] .....: 1.62
  + Humid (2>DR>0)
Aridity Index of UNEP [I=P/PE] .....: 1.16
  + Humid (I>0.65)
Potencial Erosion I of Fournier (1960) [K=Pi²/P].....: 32.00
  + 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: 1. Megathermic

Thornthwaite (1948)

	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.72	0.54	0.74	0.81	0.17	0.01	0.02	0.14	0.33	0.74	0.91	0.80
T-E ratio	11.00	11.12	11.25	11.12	10.88	10.50	10.63	11.25	11.25	11.12	10.75	10.88

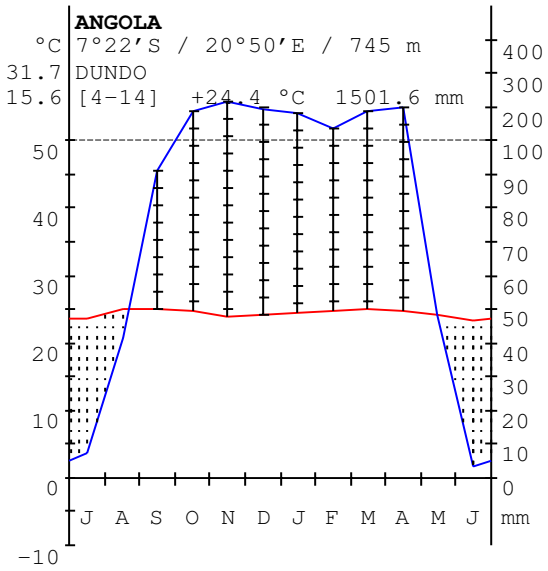
Precipitation-effectiveness: 59.17 Temperature-efficiency ....: 131.76

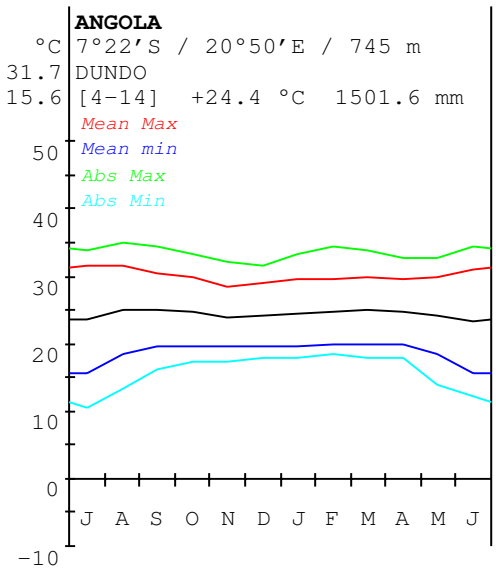
Moisture Index [MI=100*(P-PE)/PE] .....: 16.24
- + C2.Subhumid humid (0<MI<20)

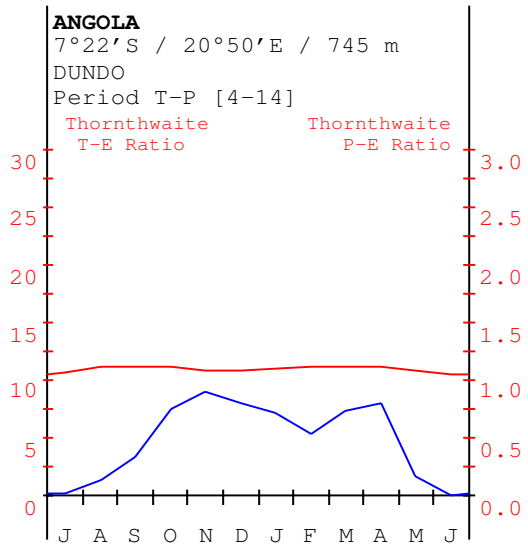
Index of dryness [DI=100*d/PE] .....: 17.67
- + Moderate deficit (16.7<DI<33.3)

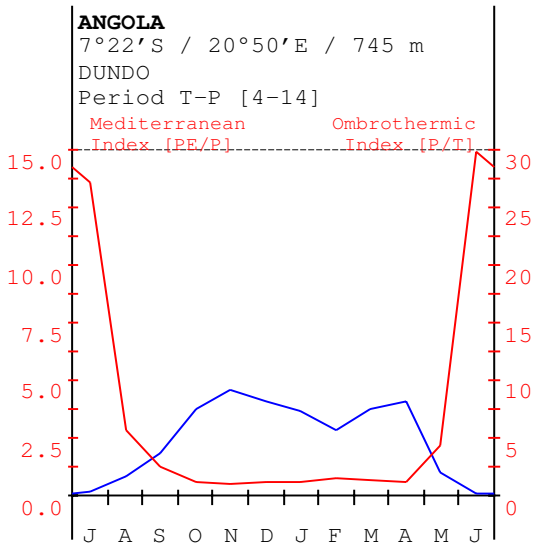
Index of humidity [HI=100*s/PE] .....: 33.90
- + Strong surplus (20<HI)

Potential Evapotranspiration PE .....: 1291.86
- + Forth mesothermic (997<PE<1440)






ANGOLA
7°22'S / 20°50'E / 745 m
DUNDO
Period T-P [4-14]
Thornthwaite T-E Ratio
Thornthwaite P-E Ratio
30
25
20
15
10
5
0
3.0
2.5
2.0
1.5
1.0
0.5
0.0
J A S O N D J F M A M J


ANGOLA
7°22'S / 20°50'E / 745 m
DUNDO
Period T-P [4-14]
Mediterranean Index [PE/P]
Ombrothermic Index [P/T]
15.0
12.5
10.0
7.5
5.0
2.5
0.0
30
25
20
15
10
5
0
J A S O N D J F M A M J