

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

RECIFE -OLINDA- (BRAZIL)

Altitude: 7 m.

Latitude: 8°3'S Longitude: 34°55'W

Temperature observation period.: 1961-1990 (30)

Rainfall observation period....: 1961-1990 (30)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	26.60	30.20	22.40	32.60	16.80	103.0	145.84
Feb.	26.60	30.20	22.60	32.70	17.80	144.0	130.85
Mar.	26.50	30.00	22.70	35.10	17.90	265.0	141.59
Apr.	25.90	29.70	22.60	32.70	19.30	326.0	123.55
May.	25.20	28.90	21.90	31.80	16.90	329.0	114.89
Jun.	24.50	28.80	21.60	30.90	17.10	390.0	100.31
Jul.	24.00	27.30	21.10	32.00	16.00	386.0	97.41
Aug.	23.90	27.50	20.60	32.20	15.30	214.0	96.99
Sep.	24.60	28.10	20.70	32.70	15.00	123.0	104.84
Oct.	25.50	29.00	21.40	33.10	15.80	66.0	125.50
Nov.	25.90	30.10	21.90	32.30	14.00	48.0	129.79
Dec.	26.30	30.20	22.20	32.70	14.60	65.0	143.27
Year	25.46	29.17	21.81	32.57	16.38	2459	1454.8

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	736
Compensated thermicity index.....(Itc):	736
Simple continentality index.....(Ic):	2.7
Diurnality index.....(Id):	8.2
Annual ombrothermic index.....(Io):	8.05
Monthly dry ombrothermic index.....(Iod1):	1.85
Bimonthly dry ombrothermic index.....(Iod2):	2.16
Three monthly dry ombrothermic index.....(Iod3):	2.30
Four monthly dry ombrothermic index.....(Iod4):	2.95
Annual ombro-evaporation index.....(Ioe):	0.63
Annual positive temperature.....(Tp):	3055
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	777
Positive precipitation.....(Pp):	2459

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	8	3	1	0	0

Latitudinal Belt...: Eutropical

Continentalty.....: Hyperoceanic - Low Ultrahyperoceanic

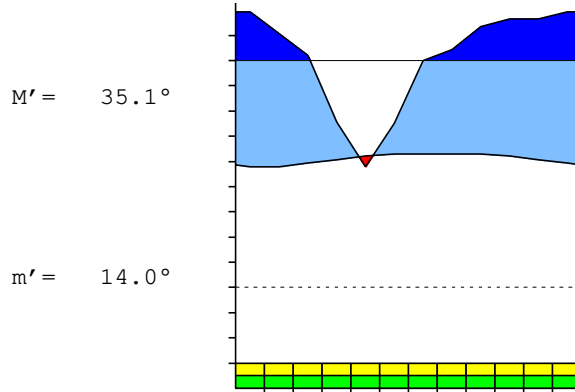
Bioclimate(Variant): TROPICAL PLUVISEASONAL (PLUVISEROTIN,MESOPHYTIC)

Bioclimatic Belt...: UPPER INFRATROPICAL LOW HUMID

RECIFE -OLINDA- (BRAZIL)

7 m

P= 2459 8° 3'S 34° 55'W 30/30 y.
 T= 25.5° Ic= 2.7 Tp= 3055 Tn= 0
 m= 20.6° M= 27.5° Itc= 736 Io= 8.0



TROPICAL PLUVISEASONAL (PLUVISEROTIN)
 UPPER INFRATROPICAL LOW HUMID

WATER INDEX CARD

RECIFE -OLINDA- (BRAZIL)

Altitude: 7 m.

Latitude: 8° 3'S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	24.0	97	386	0	100	97	0	289	257	2.9
Aug.	23.9	97	214	0	100	97	0	117	187	1.2
Sep.	24.6	105	123	0	100	105	0	18	103	0.1
Oct.	25.5	126	66	-60	40	126	0	0	51	-0.4
Nov.	25.9	130	48	-40	0	88	41	0	26	-0.6
Dec.	26.3	143	65	0	0	65	78	0	13	-0.5
Jan.	26.6	146	103	0	0	103	43	0	6	-0.2
Feb.	26.6	131	144	13	13	131	0	0	3	0.1
Mar.	26.5	142	265	87	100	142	0	37	20	0.8
Apr.	25.9	124	326	0	100	124	0	202	111	1.6
May.	25.2	115	329	0	100	115	0	214	163	1.8
Jun.	24.5	100	390	0	100	100	0	290	226	2.8
Year	25.5	1455	2459	*	*	1292	162	1167	1167	*

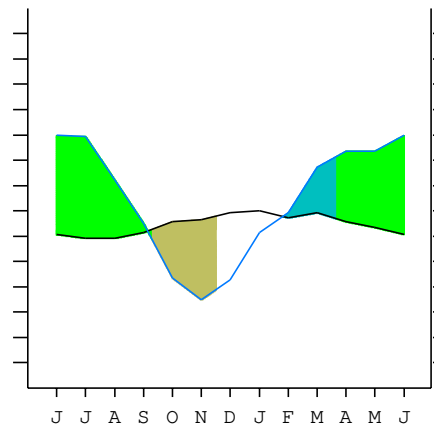
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

RECIFE -OLINDA- (BRAZIL)

8°3'S 34°55'W 7 m 30/30 y.

T= 25.5 Ic= 2.7 TROPICAL PLUVISEASONAL (PLUVISEROTIN)
 m= 20.6 Tp= 3055 UPPER INFRATROPICAL
 M= 27.5 Tn= 0 LOW HUMID
 M' = 35.1 Itc= 736
 m' = 14.0 Io= 8.0
 P= 2459 mm ———
 PE= 1455 mm ———

Imbibing	23 Jan.
Saturation	22 Mar.
Reserve Use	8 Sep.
Deficit	15 Nov.



RECIFE -OLINDA- (BRAZIL)

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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [A1b]
 + Type: A. Hyperoceanic
 + Subtype: 1. Ultrahyperoceanic
 + 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 [A4e.1a.7b]
 + Macrobioclimate: A. TROPICAL
 + Bioclimate: 4. PLUVISEASONAL
 + Bioclimatic variant .: e. PLUVISEROTIN, MESOPHYTIC
 + Thermic type.....: 1. INFRATROPICAL
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 7. HUMID
 + Ombrothermic subtype : b. LOW

Bioclimatic Classification: Trde (Pse).Itr.Hum

RECIFE -OLINDA- (BRAZIL)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 951
 Coldest semester of the year.....(Psw): 1508
 Warmest four months period of the year.....(Pcm1): 577
 Following warmest four months period.....(Pcm2): 1431
 Positive precipitation dryest 3 months.....(Ppd): 179
 Positive precipitation dryest 2 months.....(Ppd2): 113
 Positive precipitation dryest 1 month.....(Ppd1): 48
 Positive precipitation warmest 3 months.....(Pps): 512
 Positive precipitation warmest 2 months.....(Pps2): 247
 Positive precipitation warmest 1 month.....(Pps1): 103
 Positive precipitation coldest 3 months.....(Ppw): 990
 Positive precipitation coldest 2 months.....(Ppw2): 600
 Positive precipitation coldest 1 month.....(Ppw1): 214

Seasons	Jun+Jul+Aug Ttr3-3	Sep+Oct+Nov Ttr4-4	Dec+Jan+Feb Ttr1-1	Mar+Apr+May Ttr2-2
Rainfall	990	237	312	920

Tropical rainfall rhythms: 3 > 2 > 1 > 4

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 26.6
 Average coldest month [T].....(Tmin): 23.9
 Maximum temp. warmest month [M].....(Tmmax): 30.2
 Minimum temp. coldest month [m].....(Tmmin): 20.6
 Absolute Max.temp. warmest month [M'].....(Tamax): 35.1
 Absolute Min.temp. coldest month [m'].....(Tamin): 14.0
 First warmest contrasted month [M].....(Tcmax): 30.1 (11)
 First coldest contrasted month [m].....(Tcmin): 21.9 (11)
 Dry station temperature.....(Td): 777
 Positive temperature dryest 3 months.....(Tpd): 777
 Positive temperature dryest 2 months.....(Tpd2): 522
 Positive temperature dryest 1 month.....(Tpd1): 259
 Positive temperature warmest 3 months.....(Tps): 797
 Positive temperature warmest 2 months.....(Tps2): 532
 Positive temperature warmest 1 month.....(Tps1): 266
 Positive temperature coldest 3 months.....(Tpw): 724
 Positive temperature coldest 2 months.....(Tpw2): 479
 Positive temperature coldest 1 month.....(Tpw1): 239

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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): 0.59
 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)	650	1030	1440	2650	3260	3290	3900	3860	2140	1230	660	480
Tp	263	266	266	265	259	252	245	240	239	246	255	259
Io (Iom)	2.47	3.87	5.41	10.0	12.6	13.1	15.9	16.1	8.95	5.00	2.59	1.85
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	3120 / 795			9200 / 776			9900 / 724			2370 / 760		
Io (Iot)	3.925			11.86			13.67			3.118		
Semesters	December-May						June-November					
Pp(x10)/Tp	12320 / 1571						12270 / 1484					
Io (Iosm)	7.842						8.268					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 24590/3055=8.05 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	650	1030	1440	2650	3260	3290	3900	3860	2140	1230	660	480
Tp [T*10]	263	266	266	265	259	252	245	240	239	246	255	259
Iom [Pp/Tp]	247	387	541	\$\$	\$\$	\$\$	\$\$	\$\$	895	500	259	185
Avm [200-Iom]	***	***	***	***	***	***	***	***	***	***	***	15
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	3120 / 795			9200 / 776			9900 / 724			2370 / 760		
Iot [Pp/Tp]	392			1186			1367			312		
Avs E[Avm<200]	***			***			***			***		
Weak upper semiarid [1]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp):	2.70
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]		12.38
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]		0.81
+ Hyperoceanic (-20<CI<20)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)]		0.73
+ Oceanic (0.6<CI<1.1)		
Rainfall Index of Lang (1925) [R=P/T]		96.59
+ Temperate warm (100>R>60)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)]		69.35
+ Perhumid (Ia>60)		
I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)]		504.22
+ Humid (Q>90)		
I of Dantin & Revenga (1940) [DR=100*T/P]		1.04
+ Humid (2>DR>0)		
Aridity Index of UNEP [I=P/PE]		1.69
+ Humid (I>0.65)		
Potential Erosion I of Fournier (1960) [K=Pi ² /P]		61.85
+ Low (60<K<90)		

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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	0.37	0.53	1.05	1.34	1.38	1.69	1.69	0.88	0.47	0.23	0.16	0.22
T-E ratio	11.97	11.97	11.92	11.65	11.34	11.02	10.80	10.75	11.07	11.48	11.65	11.83
Precipitation-effectiveness: 100.26						Temperature-efficiency						137.47
Moisture Index [MI=100*(P-PE)/PE]												69.02
+ B3.Humid high-humid (60<MI<80)												
Index of dryness [DI=100*d/PE]												11.16
+ No deficit (0<DI<16.7)												
Index of humidity [HI=100*s/PE]												80.18
+ Strong surplus (20<HI)												
Potential Evapotranspiration PE												1454.83
+ Megathermic (PE>1440)												

