

# Phytosociological Research Center

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## Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 14/02/2020)

TRACUATEUA (BRAZIL)

Altitude: 36 m.

Latitude: 1°5'S Longitude: 47°10'W

Temperature observation period.: 1973-1990 (18)

Rainfall observation period....: 1973-1990 (18)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	25.70	30.80	21.70	35.60	19.00	239.0	125.96
Feb.	25.20	29.70	21.80	34.50	19.00	408.0	106.40
Mar.	25.20	27.30	22.00	34.30	18.50	468.0	117.72
Apr.	25.40	29.80	22.00	33.10	18.90	454.0	117.48
May.	25.40	30.40	21.00	33.30	15.50	328.0	120.97
Jun.	25.20	30.80	21.00	33.30	17.80	224.0	114.32
Jul.	25.10	30.80	20.50	36.70	17.50	173.0	116.12
Aug.	25.60	31.20	20.50	33.70	15.50	101.0	124.28
Sep.	25.80	31.60	20.40	34.30	14.90	29.0	123.98
Oct.	26.30	32.50	20.40	34.70	16.50	19.0	136.39
Nov.	26.60	32.80	20.80	34.70	17.40	12.0	137.66
Dec.	26.50	32.50	21.50	34.90	17.40	91.0	139.99
Year	25.67	30.85	21.13	34.42	17.32	2546	1481.3

### BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	770
Compensated thermicity index.....(Itc):	770
Simple continentality index.....(Ic):	1.5
Diurnality index.....(Id):	12.1
Annual ombrothermic index.....(Io):	8.27
Monthly dry ombrothermic index.....(Iod1):	0.45
Bimonthly dry ombrothermic index.....(Iod2):	0.59
Threemonthly dry ombrothermic index.....(Iod3):	0.76
Fourmonthly dry ombrothermic index.....(Iod4):	1.54
Annual ombro-evaporation index.....(Ioe):	1.72
Annual positive temperature.....(Tp):	3080
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	787
Positive precipitation.....(Pp):	2546

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

Latitudinal Belt...: Equatorial

Continentalite.....: Hyperoceanic - High Ultrahyperoceanic

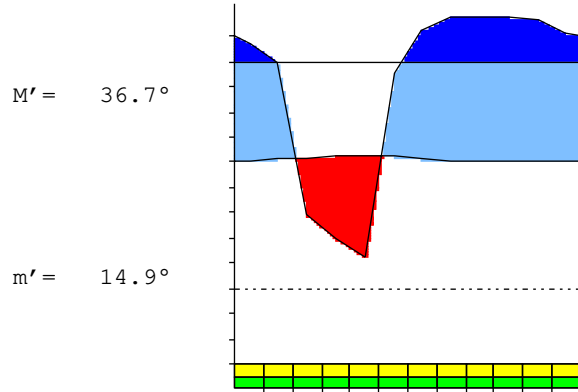
Bioclimate(Variant): TROPICAL PLUVISEASONAL (PLUVISEROTIN, SUBMESOPHYTIC)

Bioclimatic Belt...: UPPER INFRATROPICAL LOW HUMID

TRACUATEUA (BRAZIL)

36 m

P= 2546      1° 5'S      47° 10'W      18/18 y.  
 T= 25.7 °    Ic= 1.5      Tp= 3080      Tn= 0  
 m= 20.5 °    M= 30.8 °    Itc= 770      Io= 8.3



TROPICAL PLUVISEASONAL (PLUVISEROTIN)  
 UPPER INFRATROPICAL LOW HUMID

WATER INDEX CARD      TRACUATEUA (BRAZIL)  
 Altitude: 36 m.      Latitude: 1° 5'S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	25.1	116	173	0	100	116	0	57	119	0.4
Aug.	25.6	124	101	-23	77	124	0	0	59	-0.1
Sep.	25.8	124	29	-77	0	106	18	0	30	-0.7
Oct.	26.3	136	19	0	0	19	117	0	15	-0.8
Nov.	26.6	138	12	0	0	12	126	0	7	-0.9
Dec.	26.5	140	91	0	0	91	49	0	4	-0.3
Jan.	25.7	126	239	100	100	126	0	13	8	0.8
Feb.	25.2	106	408	0	100	106	0	302	155	2.8
Mar.	25.2	118	468	0	100	118	0	350	253	2.9
Apr.	25.4	117	454	0	100	117	0	337	295	2.8
May.	25.4	121	328	0	100	121	0	207	251	1.7
Jun.	25.2	114	224	0	100	114	0	110	180	0.9
Year	25.7	1481	2546	*	*	1171	310	1375	1375	*

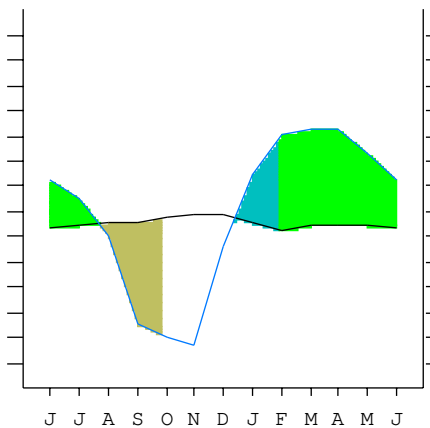
R = Reserve    VR = Variation of the reserve    RE = Real evapotranspiration  
 DR = Drainage    HC = Humidity coefficient    DF = Deficit    SP = Superavit

TRACUATEUA (BRAZIL)

1°5'S    47°10'W    36 m 18/18 y.

T= 25.7    Ic= 1.5    TROPICAL PLUVISEASONAL (PLUVISEROTIN)  
 m= 20.5    Tp= 3080    UPPER INFRATROPICAL  
 M= 30.8    Tn= 0    LOW HUMID  
 M' = 36.7    Itc= 770  
 m' = 14.9    Io= 8.3  
 P= 2546    mm ———  
 PE= 1481    mm ———

Imbibing	10 Dec.
Saturation	27 Jan.
Reserve Use	22 Jul.
Deficit	25 Sep.



TRACUATEUA (BRAZIL)

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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continentality Index [A1a]  
 + Type .....: A. Hyperoceanic  
 + Subtype .....: 1. Ultrahyperoceanic  
 + Variant .....: a. High  
 Thermic types [A1.A1]  
 + Latitudinal zone ....: A. Warm  
 + Latitudinal belt ....: 1. Equatorial  
 + Thermic type .....: A. Warm  
 + Thermic subtype .....: 1. Torrid  
 Bioclimatic types [A4e.1a.7b]  
 + Macrobioclimate .....: A. TROPICAL  
 + Bioclimate .....: 4. PLUVISEASONAL  
 + Bioclimatic variant .: PLUVISEROTIN, SUBMESOPHYTIC  
 + Thermic type.....: 1. INFRATROPICAL  
 + Thermic subtype.....: a. UPPER  
 + Ombrothermic type ...: 7. HUMID  
 + Ombrothermic subtype : b. LOW  
 Bioclimatic Classification .....Trps(Pse).Itr.Hum.Uho

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 491  
 Coldest semester of the year.....(Psw): 2055  
 Warmest four months period of the year.....(Pcm1): 151  
 Following warmest four months period.....(Pcm2): 1569  
 Positive precipitation dryest 3 months.....(Ppd): 60  
 Positive precipitation dryest 2 months.....(Ppd2): 31  
 Positive precipitation dryest 1 month.....(Ppd1): 12  
 Positive precipitation warmest 3 months.....(Pps): 122  
 Positive precipitation warmest 2 months.....(Pps2): 103  
 Positive precipitation warmest 1 month.....(Pps1): 12  
 Positive precipitation coldest 3 months.....(Ppw): 725  
 Positive precipitation coldest 2 months.....(Ppw2): 397  
 Positive precipitation coldest 1 month.....(Ppw1): 173

Seasons	Jun+Jul+Aug Ttr3-3	Sep+Oct+Nov Ttr4-4	Dec+Jan+Feb Ttr1-1	Mar+Apr+May Ttr2-2
Rainfall	498	60	738	1250

Tropical rainfall rhythms: 2 > 1 > 3 > 4

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 26.6  
 Average coldest month [T].....(Tmin): 25.1  
 Maximum temp. warmest month [M].....(Tmmax): 32.8  
 Minimum temp. coldest month [m].....(Tmmin): 20.4  
 Absolute Max.temp. warmest month [M'].....(Tamax): 36.7  
 Absolute Min.temp. coldest month [m'].....(Tamin): 14.9  
 First warmest contrasted month [M].....(Tcmax): 32.5 (10)  
 First coldest contrasted month [m].....(Tcmin): 20.4 (10)  
 Dry station temperature.....(Td): 787  
 Positive temperature dryest 3 months.....(Tpd): 787  
 Positive temperature dryest 2 months.....(Tpd2): 529  
 Positive temperature dryest 1 month.....(Tpd1): 266  
 Positive temperature warmest 3 months.....(Tps): 794  
 Positive temperature warmest 2 months.....(Tps2): 531  
 Positive temperature warmest 1 month.....(Tps1): 266  
 Positive temperature coldest 3 months.....(Tpw): 757  
 Positive temperature coldest 2 months.....(Tpw2): 503  
 Positive temperature coldest 1 month.....(Tpwl): 251

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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): 0.58  
 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)	910	2390	4080	4680	4540	3280	2240	1730	1010	290	190	120
Tp	265	257	252	252	254	254	252	251	256	258	263	266
Io (Iom)	3.43	9.30	16.2	18.6	17.9	12.9	8.89	6.89	3.95	1.12	0.72	0.45
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	7380 / 774			12500 / 760			4980 / 759			600 / 787		
Io (Iot)	9.535			16.45			6.561			0.762		
Semesters	December-May						June-November					
Pp(x10)/Tp	19880 / 1534						5580 / 1546					
Io (Iosm)	12.96						3.609					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 25460/3080=8.27 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	910	2390	4080	4680	4540	3280	2240	1730	1010	290	190	120
Tp [T*10]	265	257	252	252	254	254	252	251	256	258	263	266
Iom [Pp/Tp]	343	930	\$\$	\$\$	\$\$	\$\$	889	689	395	112	72	45
Avm [200-Iom]	***	***	***	***	***	***	***	***	***	88	128	155
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	7380 / 774			12500 / 760			4980 / 759			600 / 787		
Iot [Pp/Tp]	953			1645			656			76		
Avs E[Avm<200]	***			***			***			370		
Strong lower arid [1]							Strong upper arid [2]					
Strong lower semiarid [1]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....(Sp): 1.50  
 CI of Gorezinski (1920) [1.7\*Sp/sin(Lat)-20.4] .....: 114.47  
 CI of Conrad (1946) [1.7\*Sp/sin(Lat+10)-14] .....: -0.74  
 + Hyperoceanic (-20<CI<20)  
 CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....: 1.10  
 + Subcontinental (1.1<CI<1.7)  
 Rainfall Index of Lang (1925) [R=P/T] .....: 99.19  
 + Temperate warm (100>R>60)  
 Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....: 71.38  
 + Perhumid (Ia>60)  
 I of Emberger (1930) [Q=100\*P/(Tmax<sup>2</sup>-Tmin<sup>2</sup>)] .....: 385.94  
 + Humid (Q>90)  
 I of Dantin & Revenga (1940) [DR=100\*T/P] .....: 1.01  
 + Humid (2>DR>0)  
 Aridity Index of UNEP [I=P/PE] .....: 1.72  
 + Humid (I>0.65)  
 Potential Erosion I of Fournier (1960) [K=Pi<sup>2</sup>/P].....: 86.03  
 + Low (60<K<90)

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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	0.96	1.75	2.04	1.96	1.37	0.90	0.68	0.37	0.09	0.06	0.03	0.32
T-E ratio	11.57	11.34	11.34	11.43	11.43	11.34	11.30	11.52	11.61	11.83	11.97	11.92
Precipitation-effectiveness: 105.28						Temperature-efficiency .....: 138.60						
Moisture Index [MI=100*(P-PE)/PE] .....: 71.88 + B3.Humid high-humid (60<MI<80)												
Index of dryness [DI=100*d/PE] .....: 20.95 + Moderate deficit (16.7<DI<33.3)												
Index of humidity [HI=100*s/PE] .....: 92.83 + Strong surplus (20<HI)												
Potential Evapotranspiration PE .....: 1481.28 + Megathermic (PE>1440)												

