

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 14/02/2020)

TUCURUI (BRAZIL)

Altitude: 40 m.

Latitude: 3°43'S Longitude: 49°43'W

Temperature observation period.: 1971-1990 (20)

Rainfall observation period....: 1971-1990 (20)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	26.00	31.80	22.00	36.10	16.00	344.0	130.49
Feb.	25.83	31.40	22.10	36.50	17.20	411.0	115.24
Mar.	25.90	31.60	22.30	37.00	17.70	438.0	127.42
Apr.	26.50	31.80	22.50	36.60	16.60	410.0	133.35
May.	26.40	32.50	22.50	36.80	17.00	226.0	135.44
Jun.	26.40	32.70	22.10	36.80	17.10	102.0	130.18
Jul.	26.20	33.00	21.50	36.80	15.10	54.0	131.69
Aug.	26.40	33.40	21.80	38.00	16.70	30.0	135.44
Sep.	27.00	33.60	22.40	37.50	16.20	30.0	139.50
Oct.	27.00	33.60	22.70	38.00	17.40	73.0	146.48
Nov.	26.90	33.00	22.30	37.80	17.70	105.0	142.86
Dec.	26.70	32.70	22.30	37.80	16.30	204.0	145.33
Year	26.44	32.59	22.21	37.14	16.75	2427	1613.4

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	799
Compensated thermicity index.....(Itc):	799
Simple continentality index.....(Ic):	1.2
Diurnality index.....(Id):	11.6
Annual ombrothermic index.....(Io):	7.65
Monthly dry ombrothermic index.....(Iod1):	1.14
Bimonthly dry ombrothermic index.....(Iod2):	1.12
Threemonthly dry ombrothermic index.....(Iod3):	1.43
Fourmonthly dry ombrothermic index.....(Iod4):	2.04
Annual ombro-evaporation index.....(Ioe):	1.50
Annual positive temperature.....(Tp):	3172
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	796
Positive precipitation.....(Pp):	2427

N. of Months	P>4T	P:2T-4T	PT-2T	P<T	T<0
	6	4	2	0	0

Latitudinal Belt...: Equatorial

Continentalite.....: Hyperoceanic - High Ultrahyperoceanic

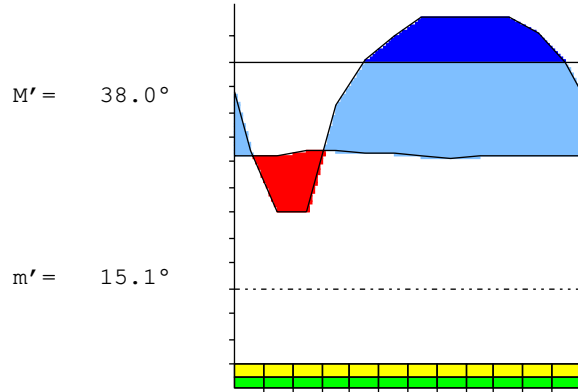
Bioclimate(Variant): TROPICAL PLUVISEASONAL (PLUVISEROTIN,MESOPHYTIC)

Bioclimatic Belt...: UPPER INFRATROPICAL LOW HUMID

TUCURUI (BRAZIL)

40 m

P= 2427 3° 43'S 49° 43'W 20/20 y.
 T= 26.4 ° Ic= 1.2 Tp= 3172 Tn= 0
 m= 22.1 ° M= 31.4 ° Itc= 799 Io= 7.7



TROPICAL PLUVISEASONAL (PLUVISEROTIN)
 UPPER INFRATROPICAL LOW HUMID

WATER INDEX CARD

TUCURUI (BRAZIL)

Altitude: 40 m.

Latitude: 3° 43'S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	26.2	132	54	-72	0	126	6	0	44	-0.5
Aug.	26.4	135	30	0	0	30	105	0	22	-0.7
Sep.	27.0	140	30	0	0	30	110	0	11	-0.7
Oct.	27.0	146	73	0	0	73	73	0	6	-0.5
Nov.	26.9	143	105	0	0	105	38	0	3	-0.2
Dec.	26.7	145	204	59	59	145	0	0	1	0.4
Jan.	26.0	130	344	41	100	130	0	172	87	1.6
Feb.	25.8	115	411	0	100	115	0	296	191	2.5
Mar.	25.9	127	438	0	100	127	0	311	251	2.4
Apr.	26.5	133	410	0	100	133	0	277	264	2.0
May.	26.4	135	226	0	100	135	0	91	177	0.6
Jun.	26.4	130	102	-28	72	130	0	0	89	-0.2
Year	26.4	1613	2427	*	*	1281	332	1146	1146	*

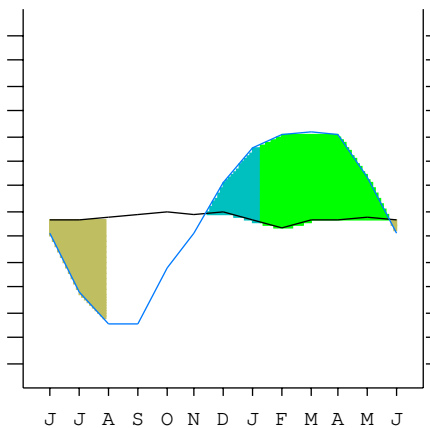
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

TUCURUI (BRAZIL)

3°43'S 49°43'W 40 m 20/20 y.

T= 26.4 Ic= 1.2 TROPICAL PLUVISEASONAL (PLUVISEROTIN)
 m= 22.1 Tp= 3172 UPPER INFRATROPICAL
 M= 31.4 Tn= 0 LOW HUMID
 M' = 38.0 Itc= 799
 m' = 15.1 Io= 7.7
 P= 2427 mm ———
 PE= 1613 mm ———

Imbibing	12 Nov.
Saturation	6 Jan.
Reserve Use	23 May.
Deficit	28 Jul.



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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, MESOPHYTIC
 + Thermic type.....: 1. INFRATROPICAL
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 7. HUMID
 + Ombrothermic subtype : b. LOW

Bioclimatic ClassificationTrps(Pse).Itr.Hum.Uho

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 496
 Coldest semester of the year.....(Psw): 1931
 Warmest four months period of the year.....(Pcm1): 412
 Following warmest four months period.....(Pcm2): 1603
 Positive precipitation dryest 3 months.....(Ppd): 114
 Positive precipitation dryest 2 months.....(Ppd2): 60
 Positive precipitation dryest 1 month.....(Ppd1): 30
 Positive precipitation warmest 3 months.....(Pps): 208
 Positive precipitation warmest 2 months.....(Pps2): 103
 Positive precipitation warmest 1 month.....(Pps1): 30
 Positive precipitation coldest 3 months.....(Ppw): 1193
 Positive precipitation coldest 2 months.....(Ppw2): 849
 Positive precipitation coldest 1 month.....(Ppw1): 411

Seasons	Jun+Jul+Aug Ttr3-3	Sep+Oct+Nov Ttr4-4	Dec+Jan+Feb Ttr1-1	Mar+Apr+May Ttr2-2
Rainfall	186	208	959	1074

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): 25.8
 Maximum temp. warmest month [M].....(Tmmax): 33.6
 Minimum temp. coldest month [m].....(Tmmin): 21.5
 Absolute Max.temp. warmest month [M'].....(Tamax): 38.0
 Absolute Min.temp. coldest month [m'].....(Tamin): 15.1
 First warmest contrasted month [M].....(Tcmax): 33.4 (8)
 First coldest contrasted month [m].....(Tcmin): 21.8 (8)
 Dry station temperature.....(Td): 796
 Positive temperature dryest 3 months.....(Tpd): 796
 Positive temperature dryest 2 months.....(Tpd2): 534
 Positive temperature dryest 1 month.....(Tpd1): 264
 Positive temperature warmest 3 months.....(Tps): 809
 Positive temperature warmest 2 months.....(Tps2): 540
 Positive temperature warmest 1 month.....(Tps1): 270
 Positive temperature coldest 3 months.....(Tpw): 777
 Positive temperature coldest 2 months.....(Tpw2): 517
 Positive temperature coldest 1 month.....(Tpw1): 258

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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): 0.66
 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)	2040	3440	4110	4380	4100	2260	1020	540	300	300	730	1050
Tp	267	260	258	259	265	264	264	262	264	270	270	269
Io (Iom)	7.64	13.2	15.9	16.9	15.5	8.56	3.86	2.06	1.14	1.11	2.70	3.90
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	9590 / 785			10740 / 788			1860 / 790			2080 / 809		
Io (Iot)	12.21			13.63			2.354			2.571		
Semesters	December-May						June-November					
Pp(x10)/Tp	20330 / 1573						3940 / 1599					
Io (Iosm)	12.92						2.464					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 24270/3172=7.65 There is No Yearly Aridity

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	2040	3440	4110	4380	4100	2260	1020	540	300	300	730	1050
TP [T*10]	267	260	258	259	265	264	264	262	264	270	270	269
Iom [Pp/TP]	764	\$\$\$	\$\$\$	\$\$\$	\$\$\$	856	386	206	114	111	270	390
Avm [200-Iom]	***	***	***	***	***	***	***	***	86	89	***	***
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	9590 / 785			10740 / 788			1860 / 790			2080 / 809		
Iot [Pp/TP]	1221			1363			235			257		
Avs E[Avm<200]	***			***			***			***		
Strong lower semiarid [2]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin](Sp): 1.17
 CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]: 10.28
 CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]: -5.61
 + Hyperoceanic (-20<CI<20)
 CI of Currey (1974) [CI=Sp/(1+Lat/3)]: 0.52
 + Hyperoceanic (0<CI<0.6)
 Rainfall Index of Lang (1925) [R=P/T]: 91.81
 + Temperate warm (100>R>60)
 Aridity Index of Martonne (1926) [Ia=P/(T+10)]: 66.61
 + Perhumid (Ia>60)
 I of Emberger (1930) [Q=100*P/(Tmax²-Tmin²)]: 364.03
 + Humid (Q>90)
 I of Dantin & Revenga (1940) [DR=100*T/P]: 1.09
 + Humid (2>DR>0)
 Aridity Index of UNEP [I=P/PE]: 1.50
 + Humid (I>0.65)
 Potential Erosion I of Fournier (1960) [K=Pi²/P].....: 79.05
 + 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	1.42	1.74	1.87	1.71	0.88	0.37	0.18	0.09	0.09	0.25	0.37	0.78
T-E ratio	11.70	11.62	11.65	11.92	11.88	11.88	11.79	11.88	12.15	12.15	12.10	12.02
Precipitation-effectiveness: 97.63						Temperature-efficiency: 142.75						
Moisture Index [MI=100*(P-PE)/PE]: 50.42 + B2.Humid medium-humid (40<MI<60)												
Index of dryness [DI=100*d/PE]: 20.58 + Moderate deficit (16.7<DI<33.3)												
Index of humidity [HI=100*s/PE]: 71.01 + Strong surplus (20<HI)												
Potential Evapotranspiration PE: 1613.43 + Megathermic (PE>1440)												

