

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

BELTERRA (BRAZIL)

Altitude: 176 m.

Latitude: 2°38'S Longitude: 54°57'W

Temperature observation period.: 1967-1990 (24)

Rainfall observation period....: 1967-1990 (24)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPi
Jan.	24.70	29.80	20.80	34.00	16.60	184.0	112.68
Feb.	24.50	29.20	20.50	32.40	16.10	258.0	98.22
Mar.	24.50	29.20	20.50	33.00	16.20	311.0	108.67
Apr.	24.70	29.40	20.90	32.70	15.60	283.0	108.38
May.	24.50	29.40	21.70	34.00	20.00	265.0	107.62
Jun.	24.40	29.60	21.40	35.00	19.80	126.0	103.09
Jul.	24.20	29.90	21.10	33.20	14.10	94.0	103.36
Aug.	26.20	30.80	21.00	33.40	14.00	52.0	135.43
Sep.	26.30	31.60	21.00	35.60	14.90	42.0	131.86
Oct.	26.50	31.90	20.90	35.80	15.00	48.0	140.59
Nov.	25.70	31.80	21.20	35.80	17.30	77.0	124.69
Dec.	25.30	30.90	21.40	36.00	16.00	180.0	121.91
Year	25.12	30.29	21.03	34.24	16.30	1920	1396.5

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	761
Compensated thermicity index.....(Itc):	761
Simple continentality index.....(Ic):	2.3
Diurnality index.....(Id):	11.0
Annual ombrothermic index.....(Io):	6.37
Monthly dry ombrothermic index.....(Iod1):	1.60
Bimonthly dry ombrothermic index.....(Iod2):	1.70
Three-monthly dry ombrothermic index.....(Iod3):	1.80
Four-monthly dry ombrothermic index.....(Iod4):	2.29
Annual ombro-evaporation index.....(Ioe):	0.44
Annual positive temperature.....(Tp):	3015
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	790
Positive precipitation.....(Pp):	1920

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	7	2	3	0	0

Latitudinal Belt...: Equatorial

Continentalty.....: Hyperoceanic - Low Ultrahyperoceanic

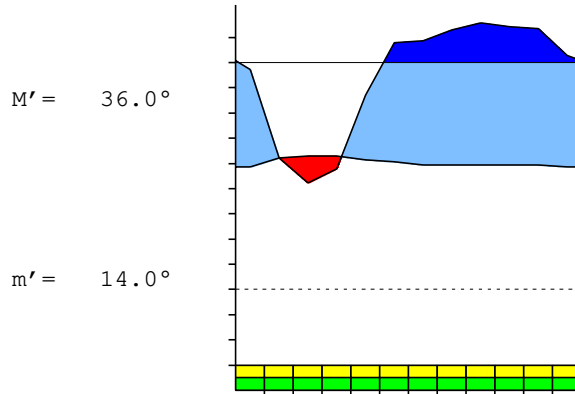
Bioclimate(Variant): TROPICAL PLUVISEASONAL (PLUVISEROTIN, MESOPHYTIC)

Bioclimatic Belt...: UPPER INFRATROPICAL LOW HUMID

BELTERRA (BRAZIL)

176 m

P= 1920 2° 38'S 54° 57'W 24/24 y.
 T= 25.1° Ic= 2.3 Tp= 3015 Tn= 0
 m= 21.1° M= 29.9° Itc= 761 Io= 6.4



TROPICAL PLUVISEASONAL (PLUVISEROTIN)
 UPPER INFRATROPICAL LOW HUMID

WATER INDEX CARD

BELTERRA (BRAZIL)

Altitude: 176 m.

Latitude: 2° 38'S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	24.2	103	94	-9	91	103	0	0	45	0.0
Aug.	26.2	135	52	-83	7	135	0	0	23	-0.6
Sep.	26.3	132	42	-7	0	49	83	0	11	-0.6
Oct.	26.5	141	48	0	0	48	93	0	6	-0.6
Nov.	25.7	125	77	0	0	77	48	0	3	-0.3
Dec.	25.3	122	180	58	58	122	0	0	1	0.4
Jan.	24.7	113	184	42	100	113	0	29	15	0.6
Feb.	24.5	98	258	0	100	98	0	160	88	1.6
Mar.	24.5	109	311	0	100	109	0	202	145	1.8
Apr.	24.7	108	283	0	100	108	0	175	160	1.6
May.	24.5	108	265	0	100	108	0	157	159	1.4
Jun.	24.4	103	126	0	100	103	0	23	91	0.2
Year	25.1	1396	1920	*	*	1174	223	746	746	*

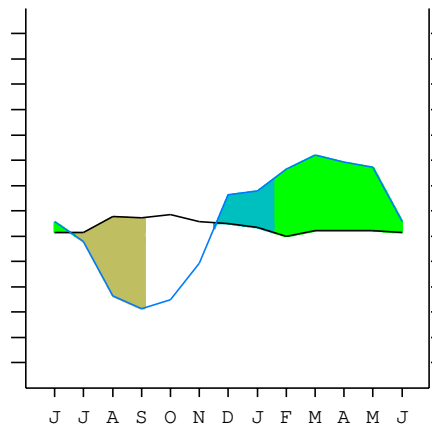
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

BELTERRA (BRAZIL)

2°38'S 54°57'W 176 m 24/24 y.

T= 25.1 Ic= 2.3 TROPICAL PLUVISEASONAL (PLUVISEROTIN)
 m= 21.1 Tp= 3015 UPPER INFRATROPICAL
 M= 29.9 Tn= 0 LOW HUMID
 M' = 36.0 Itc= 761
 m' = 14.0 Io= 6.4
 P= 1920 mm ————
 PE= 1396 mm ————

Imbibing	14 Nov.
Saturation	18 Jan.
Reserve Use	22 Jun.
Deficit	3 Sep.



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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continentality Index [A1b]
 + Type: A. Hyperoceanic
 + Subtype: 1. Ultrahyperoceanic
 + Variant: b. Low

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 .: 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

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 583
 Coldest semester of the year.....(Psw): 1337
 Warmest four months period of the year.....(Pcm1): 219
 Following warmest four months period.....(Pcm2): 933
 Positive precipitation dryest 3 months.....(Ppd): 142
 Positive precipitation dryest 2 months.....(Ppd2): 90
 Positive precipitation dryest 1 month.....(Ppd1): 42
 Positive precipitation warmest 3 months.....(Pps): 142
 Positive precipitation warmest 2 months.....(Pps2): 90
 Positive precipitation warmest 1 month.....(Pps1): 48
 Positive precipitation coldest 3 months.....(Ppw): 485
 Positive precipitation coldest 2 months.....(Ppw2): 220
 Positive precipitation coldest 1 month.....(Ppw1): 94

Seasons	Jun+Jul+Aug Ttr3-3	Sep+Oct+Nov Ttr4-4	Dec+Jan+Feb Ttr1-1	Mar+Apr+May Ttr2-2
Rainfall	272	167	622	859

Tropical rainfall rhythms: 2 > 1 > 3 > 4

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 26.5
 Average coldest month [T].....(Tmin): 24.2
 Maximum temp. warmest month [M].....(Tmmax): 31.9
 Minimum temp. coldest month [m].....(Tmmin): 20.5
 Absolute Max.temp. warmest month [M'].....(Tamax): 36.0
 Absolute Min.temp. coldest month [m'].....(Tamin): 14.0
 First warmest contrasted month [M].....(Tcmax): 31.9 (10)
 First coldest contrasted month [m].....(Tcmin): 20.9 (10)
 Dry station temperature.....(Td): 790
 Positive temperature dryest 3 months.....(Tpd): 790
 Positive temperature dryest 2 months.....(Tpd2): 528
 Positive temperature dryest 1 month.....(Tpd1): 263
 Positive temperature warmest 3 months.....(Tps): 790
 Positive temperature warmest 2 months.....(Tps2): 528
 Positive temperature warmest 1 month.....(Tps1): 265
 Positive temperature coldest 3 months.....(Tpw): 731
 Positive temperature coldest 2 months.....(Tpw2): 486
 Positive temperature coldest 1 month.....(Tpw1): 242

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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): 0.73
 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)	1800	1840	2580	3110	2830	2650	1260	940	520	420	480	770
Tp	253	247	245	245	247	245	244	242	262	263	265	257
Io (Iom)	7.11	7.45	10.5	12.7	11.5	10.8	5.16	3.88	1.98	1.60	1.81	3.00
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	6220 / 745			8590 / 737			2720 / 748			1670 / 785		
Io (Iot)	8.349			11.66			3.636			2.127		
Semesters	December-May						June-November					
Pp(x10)/Tp	14810 / 1482						4390 / 1533					
Io (Iosm)	9.993						2.864					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 19200/3015=6.37 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	1800	1840	2580	3110	2830	2650	1260	940	520	420	480	770
Tp [T*10]	253	247	245	245	247	245	244	242	262	263	265	257
Iom [Pp/Tp]	711	745	\$\$	\$\$	\$\$	\$\$	516	388	198	160	181	300
Avm [200-Iom]	***	***	***	***	***	***	***	***	2	40	19	***
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	6220 / 745			8590 / 737			2720 / 748			1670 / 785		
Iot [Pp/Tp]	835			1166			364			213		
Avs E[Avm<200]	***			***			***			***		
Strong upper semiarid [1]						Weak upper semiarid [2]						

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp):	2.30
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]		64.70
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]		3.88
+ Hyperoceanic (-20<CI<20)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)]		1.22
+ Subcontinental (1.1<CI<1.7)		
Rainfall Index of Lang (1925) [R=P/T]		76.42
+ Temperate warm (100>R>60)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)]		54.66
+ Humid (60>Ia>30)		
I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)]		321.41
+ Humid (Q>90)		
I of Dantin & Revenga (1940) [DR=100*T/P]		1.31
+ Humid (2>DR>0)		
Aridity Index of UNEP [I=P/PE]		1.37
+ Humid (I>0.65)		
Potential Erosion I of Fournier (1960) [K=Pi ² /P]		50.38
+ Very low (K<60)		

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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	0.73	1.07	1.32	1.18	1.10	0.48	0.35	0.17	0.14	0.16	0.27	0.70	
T-E ratio	11.12	11.02	11.02	11.12	11.02	10.98	10.89	11.79	11.83	11.92	11.57	11.38	
Precipitation-effectiveness:	76.79					Temperature-efficiency							135.68
Moisture Index [MI=100*(P-PE)/PE]												37.49	
+ B1.Humid low-humid (20<MI<40)													
Index of dryness [DI=100*d/PE]												15.96	
+ No deficit (0<DI<16.7)													
Index of humidity [HI=100*s/PE]												53.45	
+ Strong surplus (20<HI)													
Potential Evapotranspiration PE												1396.49	
+ Forth mesothermic (997<PE<1440)													

