Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 14/02/2020)

POSSE (BRAZIL) Altitude: 826 m.

Latitude: 14°6'S Longitude: 46°22'W
Temperature observation period.: 1976-1990 (15)
Rainfall observation period....: 1976-1990 (15)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPi
Jan.	24.00	27.50	19.80	36.10	16.80	271.0	113.98
Feb.	23.40	28.00	19.90	33.30	13.20	215.0	93.70
Mar.	23.80	28.90	20.10	33.60	17.60	230.0	105.31
Apr.	23.50	28.50	19.90	33.50	7.00	119.0	94.83
May.	23.00	28.40	20.40	33.30	12.30	20.0	90.16
Jun.	21.70	27.50	17.40	31.40	10.20	9.0	72.65
Jul.	21.90	28.00	16.90	33.30	11.90	5.0	77.73
Aug.	23.40	29.60	18.50	35.30	11.20	13.0	97.52
Sep.	24.70	30.60	20.20	35.20	15.80	30.0	111.36
Oct.	24.40	30.00	20.50	36.80	15.40	124.0	115.12
Nov.	23.50	28.10	20.10	35.30	15.60	223.0	102.58
Dec.	23.40	27.80	20.00	34.00	15.70	280.0	107.09
Year	23.39	28.57	19.48	34.26	13.56	1539	1182.0

BIOCLIMATIC INDICES AND DIAGNOSIS

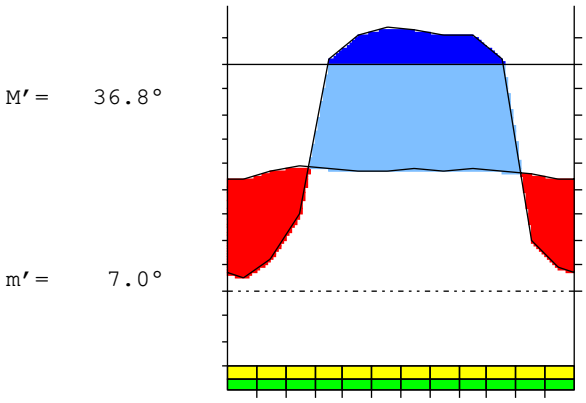
Thermicity index.....(It): 683
Compensated thermicity index.....(Itc): 683
Simple continentality index.....(Ic): 3.0
Diurnality index.....(Id): 11.1
Annual ombrothermic index.....(Io): 5.48
Monthly dry ombrothermic index.....(Iod1): 0.23
Bimonthly dry ombrothermic index.....(Iod2): 0.32
Threemonthly dry ombrothermic index.....(Iod3): 0.40
Fourmonthly dry ombrothermic index.....(Iod4): 0.52
Annual ombro-evaporation index.....(Ioe): 1.30
Annual positive temperature.....(Tp): 2807
Annual negative temperature.....(Tn): 0
Dry station temperature.....(Td): 670
Positive precipitation.....(Pp): 1539

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

Latitudinal Belt...: Eutropical
Continentality.....: Hyperoceanic - Low Ultrahyperoceanic
Bioclimate(Variant): TROPICAL PLUVISEASONAL (SUBXEROPHYTIC)
Bioclimatic Belt...: UPPER INFRATROPICAL UPPER SUBHUMID

POSSE (BRAZIL) 826 m

P= 1539 14° 6'S 46° 22'W 15/15 y.
T= 23.4 ° Ic= 3.0 Tp= 2807 Tn= 0
m= 17.4 ° M= 27.5 ° Itc= 683 Io= 5.5



TROPICAL PLUVISEASONAL (SUBXEROPHYTIC)
UPPER INFRATROPICAL UPPER SUBHUMID

WATER INDEX CARD POSSE (BRAZIL)
Altitude: 826 m. Latitude: 14° 6'S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	21.9	78	5	0	0	5	73	0	9	-0.9
Aug.	23.4	98	13	0	0	13	85	0	5	-0.8
Sep.	24.7	111	30	0	0	30	81	0	2	-0.7
Oct.	24.4	115	124	9	9	115	0	0	1	0.0
Nov.	23.5	103	223	91	100	103	0	29	15	1.1
Dec.	23.4	107	280	0	100	107	0	173	94	1.6
Jan.	24.0	114	271	0	100	114	0	157	126	1.3
Feb.	23.4	94	215	0	100	94	0	121	123	1.2
Mar.	23.8	105	230	0	100	105	0	125	124	1.1
Apr.	23.5	95	119	0	100	95	0	24	74	0.2
May.	23.0	90	20	-70	30	90	0	0	37	-0.7
Jun.	21.7	73	9	-30	0	39	34	0	19	-0.8
Year	23.4	1182	1539	*	*	910	272	629	629	*

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

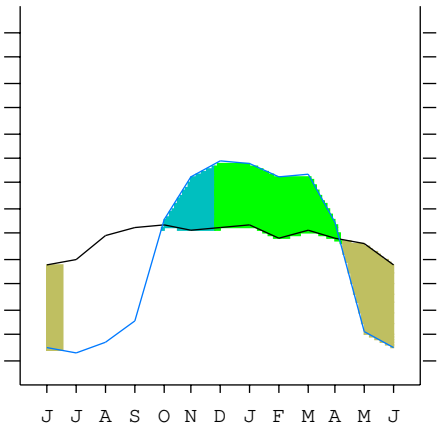
POSSE (BRAZIL)

14°6'S 46°22'W 826 m 15/15 y.

T= 23.4 Ic= 3.0
m= 17.4 Tp= 2807
M= 27.5 Tn= 0
M'= 36.8 Itc= 683
m'= 7.0 Io= 5.5
P= 1539 mm
PE= 1182 mm

TROPICAL PLUVISEASONAL (SUBXEROPHYTIC)
UPPER INFRATROPICAL
UPPER SUBHUMID

Imbibing	28 Sep.
Saturation	23 Nov.
Reserve Use	8 Apr.
Deficit	15 Jun.



POSSE (BRAZIL)

Latitude: 14°6'S Longitude: 46°22'W Altitude: 826 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

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

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

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

Bioclimatic Classification .....Trps(Sxe).Itr.Shu.Uho

POSSE (BRAZIL)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 941
Coldest semester of the year.....(Psw): 598
Warmest four months period of the year.....(Pcm1): 390
Following warmest four months period.....(Pcm2): 996
Positive precipitation dryest 3 months.....(Ppd): 27
Positive precipitation dryest 2 months.....(Ppd2): 14
Positive precipitation dryest 1 month.....(Ppd1): 5
Positive precipitation warmest 3 months.....(Pps): 377
Positive precipitation warmest 2 months.....(Pps2): 154
Positive precipitation warmest 1 month.....(Pps1): 30
Positive precipitation coldest 3 months.....(Ppw): 34
Positive precipitation coldest 2 months.....(Ppw2): 14
Positive precipitation coldest 1 month.....(Ppw1): 9

Seasons	Jun+Jul+Aug Ttr3-3	Sep+Oct+Nov Ttr4-4	Dec+Jan+Feb Ttr1-1	Mar+Apr+May Ttr2-2
Rainfall	27	377	766	369

Tropical rainfall rhythms: 1 > 4 > 2 > 3

POSSE (BRAZIL)

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 24.7
Average coldest month [T].....(Tmin): 21.7
Maximum temp. warmest month [M].....(Tmmax): 30.6
Minimum temp. coldest month [m].....(Tmmin): 16.9
Absolute Max.temp. warmest month [M'].....(Tamax): 36.8
Absolute Min.temp. coldest month [m'].....(Tamin): 7.0
First warmest contrasted month [M].....(Tcmax): 28.0 (7)
First coldest contrasted month [m].....(Tcmin): 16.9 (7)
Dry station temperature.....(Td): 670
Positive temperature dryest 3 months.....(Tpd): 670
Positive temperature dryest 2 months.....(Tpd2): 436
Positive temperature dryest 1 month.....(Tpd1): 219
Positive temperature warmest 3 months.....(Tps): 726
Positive temperature warmest 2 months.....(Tps2): 491
Positive temperature warmest 1 month.....(Tps1): 247
Positive temperature coldest 3 months.....(Tpw): 666
Positive temperature coldest 2 months.....(Tpw2): 436
Positive temperature coldest 1 month.....(Tpw1): 217

POSSE (BRAZIL)

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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

POSSE (BRAZIL)

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 0.77
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)	2800	2710	2150	2300	1190	200	90	50	130	300	1240	2230
Tp	234	240	234	238	235	230	217	219	234	247	244	235
Io (Iom)	12.0	11.3	9.19	9.66	5.06	0.87	0.41	0.23	0.56	1.21	5.08	9.49
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	7660 / 708			3690 / 703			270 / 670			3770 / 726		
Io (Iot)	10.82			5.249			0.403			5.193		
Semesters	December-May						June-November					
Pp(x10)/Tp	11350 / 1411						4040 / 1396					
Io (Iosm)	8.044						2.894					

POSSE (BRAZIL)

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 15390/2807=5.48 There is No Yearly Aridity

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	2800	2710	2150	2300	1190	200	90	50	130	300	1240	2230
Tp [T*10]	234	240	234	238	235	230	217	219	234	247	244	235
Iom [Pp/Tp]	$$	$$	919	966	506	87	41	23	56	121	508	949
Avm [200-Iom]	***	***	***	***	***	113	159	177	144	79	***	***
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	7660 / 708			3690 / 703			270 / 670			3770 / 726		
Iot [Pp/Tp]	1082			525			40			519		
Avs E[Avm<200]	***			***			480			***		

Lower hyperarid [1]	Upper hyperarid [1]
Strong lower arid [1]	Weak lower arid [1]
Weak upper arid [1]	Weak lower semiarid [1]

POSSE (BRAZIL)

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....(Sp): 3.00
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....: 0.53
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....: -1.51
  + Hyperoceanic (-20<CI<20)
CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....: 0.53
  + Hyperoceanic (0<CI<0.6)
Rainfall Index of Lang (1925) [R=P/T] .....: 65.79
  + Temperate warm (100>R>60)
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....: 46.09
  + Humid (60>Ia>30)
I of Emberger (1930) [Q=100*P/(Tmmax²-Tmmin²)] .....: 236.50
  + Humid (Q>90)
I of Dantin & Revenga (1940) [DR=100*T/P] .....: 1.52
  + Humid (2>DR>0)
Aridity Index of UNEP [I=P/PE] .....: 1.30
  + Humid (I>0.65)
Potencial Erosion I of Fournier (1960) [K=Pi²/P].....: 50.94
  + Very low (K<60)

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BIOCLIMATIC INDICES II

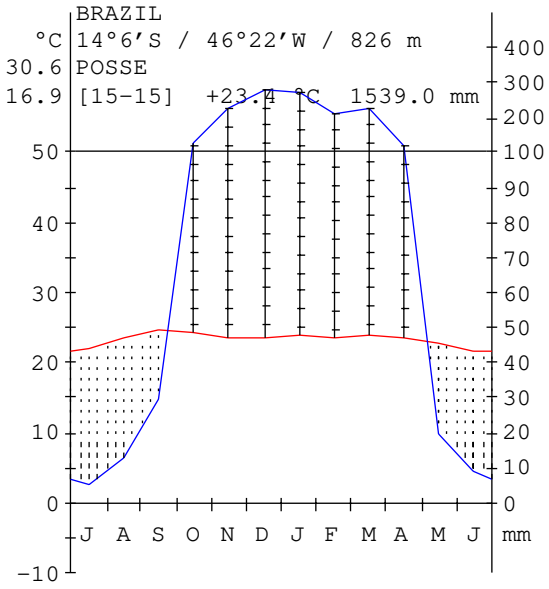
Bioclimatic classification of Gaussen & Bagnouls (1957)
  + Climate ....: A. Warm and temperate warm
  + Region .....: 3. Termoxeroteric (Mediterranean warm)
  + Thermic type: 2. Macrothermic

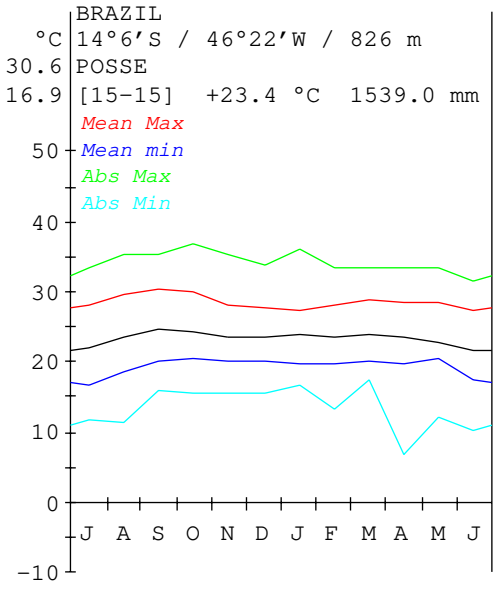
Thornthwaite (1948)

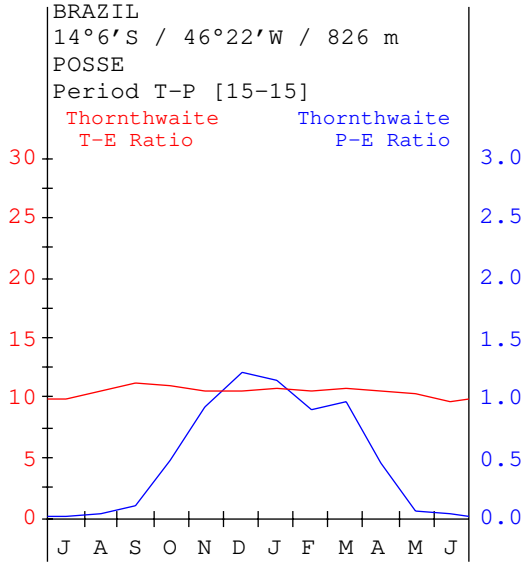
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	1.14	0.90	0.96	0.46	0.06	0.03	0.01	0.04	0.10	0.48	0.93	1.20
T-E ratio	10.80	10.53	10.71	10.57	10.35	9.77	9.85	10.53	11.12	10.98	10.57	10.53

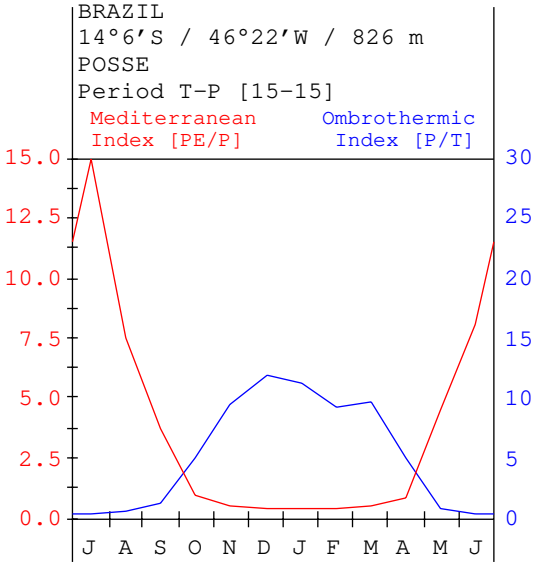
Precipitation-effectiveness: 63.13 Temperature-efficiency ....: 126.31

Moisture Index [MI=100*(P-PE)/PE] .....: 30.20
  + B1.Humid low-humid (20<MI<40)
Index of dryness [DI=100*d/PE] .....: 23.04
  + Moderate deficit (16.7<DI<33.3)
Index of humidity [HI=100*s/PE] .....: 53.24
  + Strong surplus (20<HI)
Potential Evapotranspiration PE .....: 1182.04
  + Forth mesothermic (997<PE<1440)




BRAZIL
°C 14°6'S / 46°22'W / 826 m
30.6 POSSE
16.9 [15-15] +23.4 °C 1539.0 mm
Mean Max
Mean min
Abs Max
Abs Min
50
40
30
20
10
0
-10
J A S O N D J F M A M J


BRAZIL
14°6'S / 46°22'W / 826 m
POSSE
Period T-P [15-15]
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


BRAZIL
14°6'S / 46°22'W / 826 m
POSSE
Period T-P [15-15]
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