

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

Prof.Dr. Salvador Rivas-Martinez

(Adapted to Synoptical Table 30/08/2017)

SANTAREM -TAPERINHA- (BRAZIL)

Altitude: 20 m.

Latitude: 2°25'S Longitude: 60°1'W

Temperature observation period.: 1931-1960 (30)

Rainfall observation period....: 1931-1960 (30)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	Epi
Jan.	25.80	30.80	22.70	0.00	19.40	179.0	126.82
Feb.	25.50	30.00	22.50	0.00	20.10	275.0	109.96
Mar.	25.50	30.00	22.60	0.00	19.00	358.0	121.66
Apr.	25.60	30.00	22.80	0.00	20.20	362.0	119.80
May.	25.60	30.30	22.70	0.00	20.90	293.0	122.17
Jun.	25.40	30.40	22.30	0.00	20.20	174.0	115.35
Jul.	25.40	31.00	21.90	0.00	19.30	112.0	119.97
Aug.	26.20	32.00	22.20	0.00	19.50	50.0	133.95
Sep.	26.70	32.70	22.80	0.00	20.80	39.0	138.47
Oct.	27.00	33.10	23.00	0.00	19.80	46.0	145.08
Nov.	26.90	32.60	23.10	0.00	19.60	85.0	141.48
Dec.	26.50	31.90	22.90	0.00	19.70	123.0	140.83
Year	26.01	31.23	22.63	0.00	19.88	2096	1535.5

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	787
Compensated thermicity index.....(Itc):	787
Simple continentality index.....(Ic):	1.6
Diurnality index.....(Id):	10.1
Annual ombrothermic index.....(Io):	6.72
Monthly dry ombrothermic index.....(Iod1):	1.46
Bimonthly dry ombrothermic index.....(Iod2):	1.58
Three monthly dry ombrothermic index.....(Iod3):	1.69
Four monthly dry ombrothermic index.....(Iod4):	2.35
Annual ombro-evaporation index.....(Ioe):	0.33
Annual positive temperature.....(Tp):	3121
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	799
Positive precipitation.....(Pp):	2096

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

Latitudinal Belt...: Equatorial

Continentality.....: Hyperoceanic - High Ultrahyperoceanic

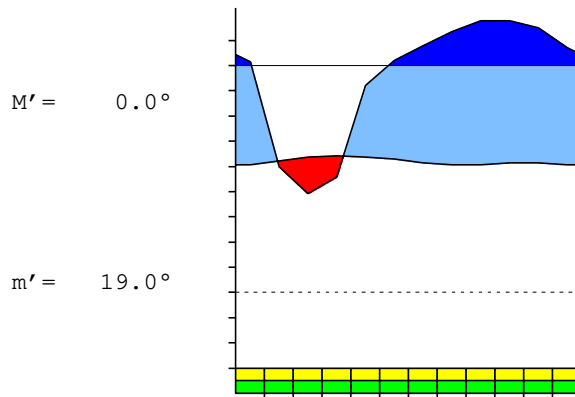
Bioclimate(Variant): TROPICAL PLUVISEASONAL (PLUVISEROTIN,MESOPHYTIC)

Bioclimatic Belt...: UPPER INFRATROPICAL LOW HUMID

SANTAREM -TAPERINHA- (BRAZIL)

20 m

P= 2096 2° 25'S 60° 1'W 30/30 y.
 T= 26.0° Ic= 1.6 Tp= 3121 Tn= 0
 m= 22.3° M= 30.4° Itc= 787 Io= 6.7



TROPICAL PLUVISEASONAL (PLUVISEROTIN)
 UPPER INFRATROPICAL LOW HUMID

WATER INDEX CARD

SANTAREM -TAPERINHA- (BRAZIL)

Altitude: 20 m.

Latitude: 2° 25'S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	25.4	120	112	-8	92	120	0	0	60	0.0
Aug.	26.2	134	50	-84	8	134	0	0	30	-0.6
Sep.	26.7	138	39	-8	0	47	91	0	15	-0.7
Oct.	27.0	145	46	0	0	46	99	0	8	-0.6
Nov.	26.9	141	85	0	0	85	56	0	4	-0.3
Dec.	26.5	141	123	0	0	123	18	0	2	-0.1
Jan.	25.8	127	179	52	52	127	0	0	1	0.4
Feb.	25.5	110	275	48	100	110	0	117	59	1.5
Mar.	25.5	122	358	0	100	122	0	236	148	1.9
Apr.	25.6	120	362	0	100	120	0	242	195	2.0
May.	25.6	122	293	0	100	122	0	171	183	1.3
Jun.	25.4	115	174	0	100	115	0	59	121	0.5
Year	26.0	1536	2096	*	*	1271	265	825	825	*

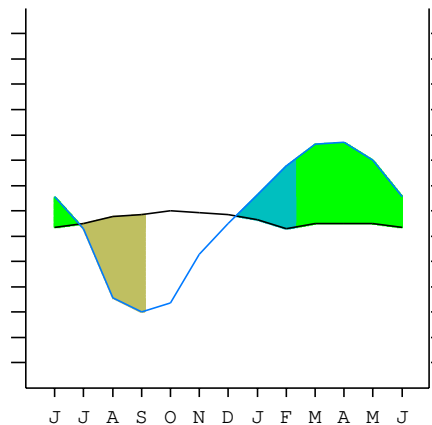
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

SANTAREM -TAPERINHA- (BRAZIL)

2°25'S 60°1'W 20 m 30/30 y.

T= 26.0 Ic= 1.6 TROPICAL PLUVISEASONAL (PLUVISEROTIN)
 m= 22.3 Tp= 3121 UPPER INFRATROPICAL
 M= 30.4 Tn= 0 LOW HUMID
 M' = 0.0 Itc= 787
 m' = 19.0 Io= 6.7
 P= 2096 mm ———
 PE= 1536 mm ———

Imbibing	8 Dec.
Saturation	9 Feb.
Reserve Use	27 Jun.
Deficit	3 Sep.



SANTAREM -TAPERINHA- (BRAZIL)

Latitude: 2°25'S Longitude: 60°1'W Altitude: 20 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental 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 .: 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

SANTAREM -TAPERINHA- (BRAZIL)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 522
 Coldest semester of the year.....(Psw): 1574
 Warmest four months period of the year.....(Pcm1): 293
 Following warmest four months period.....(Pcm2): 1174
 Positive precipitation dryest 3 months.....(Ppd): 135
 Positive precipitation dryest 2 months.....(Ppd2): 85
 Positive precipitation dryest 1 month.....(Ppd1): 39
 Positive precipitation warmest 3 months.....(Pps): 170
 Positive precipitation warmest 2 months.....(Pps2): 131
 Positive precipitation warmest 1 month.....(Pps1): 46
 Positive precipitation coldest 3 months.....(Ppw): 579
 Positive precipitation coldest 2 months.....(Ppw2): 286
 Positive precipitation coldest 1 month.....(Ppw1): 174

Seasons	Jun+Jul+Aug Ttr3-3	Sep+Oct+Nov Ttr4-4	Dec+Jan+Feb Ttr1-1	Mar+Apr+May Ttr2-2
Rainfall	336	170	577	1013

Tropical rainfall rhythms: 2 > 1 > 3 > 4

SANTAREM -TAPERINHA- (BRAZIL)

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 27.0
 Average coldest month [T].....(Tmin): 25.4
 Maximum temp. warmest month [M].....(Tmmax): 33.1
 Minimum temp. coldest month [m].....(Tmmin): 21.9
 Absolute Max.temp. warmest month [M'].....(Tamax): 0.0
 Absolute Min.temp. coldest month [m'].....(Tamin): 19.0
 First warmest contrasted month [M].....(Tcmax): 33.1 (10)
 First coldest contrasted month [m].....(Tcmin): 23.0 (10)
 Dry station temperature.....(Td): 799
 Positive temperature dryest 3 months.....(Tpd): 799
 Positive temperature dryest 2 months.....(Tpd2): 537
 Positive temperature dryest 1 month.....(Tpd1): 267
 Positive temperature warmest 3 months.....(Tps): 806
 Positive temperature warmest 2 months.....(Tps2): 539
 Positive temperature warmest 1 month.....(Tps1): 270
 Positive temperature coldest 3 months.....(Tpw): 764
 Positive temperature coldest 2 months.....(Tpw2): 508
 Positive temperature coldest 1 month.....(Tpw1): 254

SANTAREM -TAPERINHA- (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

SANTAREM -TAPERINHA- (BRAZIL)

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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)	1230	1790	2750	3580	3620	2930	1740	1120	500	390	460	850
Tp	265	258	255	255	256	256	254	254	262	267	270	269
Io (Iom)	4.64	6.94	10.8	14.0	14.1	11.4	6.85	4.41	1.91	1.46	1.70	3.16
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	5770 / 778			10130 / 767			3360 / 770			1700 / 806		
Io (Iot)	7.416			13.21			4.364			2.109		
Semesters	December-May						June-November					
Pp(x10)/Tp	15900 / 1545						5060 / 1576					
Io (Iosm)	10.29						3.211					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 20960/3121=6.72 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	1230	1790	2750	3580	3620	2930	1740	1120	500	390	460	850
Tp [T*10]	265	258	255	255	256	256	254	254	262	267	270	269
Iom [Pp/Tp]	464	694	\$\$	\$\$	\$\$	\$\$	685	441	191	146	170	316
Avm [200-Iom]	***	***	***	***	***	***	***	***	9	54	30	***
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	5770 / 778			10130 / 767			3360 / 770			1700 / 806		
Iot [Pp/Tp]	742			1321			436			211		
Avs E[Avm<200]	***			***			***			***		
Weak lower semiarid [1]							Weak upper semiarid [2]					

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp): 1.60
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]	44.11
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]	-1.35
+ Hyperoceanic (-20<CI<20)	
CI of Currey (1974) [CI=Sp/(1+Lat/3)]	0.89
+ Oceanic (0.6<CI<1.1)	
Rainfall Index of Lang (1925) [R=P/T]	80.59
+ Temperate warm (100>R>60)	
Aridity Index of Martonne (1926) [Ia=P/(T+10)]	58.21
+ Humid (60>Ia>30)	
I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)]	340.26
+ Humid (Q>90)	
I of Dantin & Revenga (1940) [DR=100*T/P]	1.24
+ Humid (2>DR>0)	
Aridity Index of UNEP [I=P/PE]	1.36
+ Humid (I>0.65)	
Potential Erosion I of Fournier (1960) [K=Pi ² /P]	62.52
+ 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	0.69	1.12	1.50	1.52	1.20	0.68	0.41	0.17	0.12	0.15	0.30	0.45	
T-E ratio	11.61	11.48	11.48	11.52	11.52	11.43	11.43	11.79	12.02	12.15	12.10	11.92	
Precipitation-effectiveness:	83.15					Temperature-efficiency							140.45
Moisture Index [MI=100*(P-PE)/PE]												36.50	
+ B1.Humid low-humid (20<MI<40)													
Index of dryness [DI=100*d/PE]												17.24	
+ Moderate deficit (16.7<DI<33.3)													
Index of humidity [HI=100*s/PE]												53.74	
+ Strong surplus (20<HI)													
Potential Evapotranspiration PE												1535.55	
+ Megathermic (PE>1440)													

