

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

SERRINHA (BRAZIL)

Altitude: 360 m.

Latitude: 15°57'S Longitude: 40°53'W

Temperature observation period.: 1961-1990 (30)

Rainfall observation period....: 1961-1990 (30)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	Epi
Jan.	25.40	31.60	21.00	43.10	17.40	82.0	134.61
Feb.	25.30	31.40	21.00	37.50	18.00	80.0	116.45
Mar.	25.10	30.90	21.10	37.70	18.70	103.0	121.95
Apr.	24.30	29.70	20.80	37.20	16.30	84.0	103.68
May.	23.10	27.60	19.80	34.90	15.90	109.0	89.61
Jun.	21.80	26.30	18.30	34.20	14.10	95.0	71.97
Jul.	21.00	25.80	17.80	31.40	13.90	80.0	67.40
Aug.	21.20	26.70	17.80	33.10	12.00	55.0	72.84
Sep.	22.30	28.20	18.40	33.80	14.40	38.0	82.61
Oct.	23.80	30.10	19.70	36.80	15.00	50.0	106.62
Nov.	24.80	30.90	20.60	37.00	14.40	65.0	120.04
Dec.	25.30	31.50	20.90	37.80	17.40	102.0	134.27
Year	23.62	29.23	19.77	36.21	15.62	943	1222.0

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	672
Compensated thermicity index.....(Itc):	672
Simple continentality index.....(Ic):	4.4
Diurnality index.....(Id):	10.6
Annual ombrothermic index.....(Io):	3.33
Monthly dry ombrothermic index.....(Iod1):	1.70
Bimonthly dry ombrothermic index.....(Iod2):	1.91
Three monthly dry ombrothermic index.....(Iod3):	2.12
Four monthly dry ombrothermic index.....(Iod4):	2.53
Annual ombro-evaporation index.....(Ioe):	1.21
Annual positive temperature.....(Tp):	2834
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	673
Positive precipitation.....(Pp):	943

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

Latitudinal Belt...: Eutropical

Continentality.....: Hyperoceanic - High Euhyperoceanic

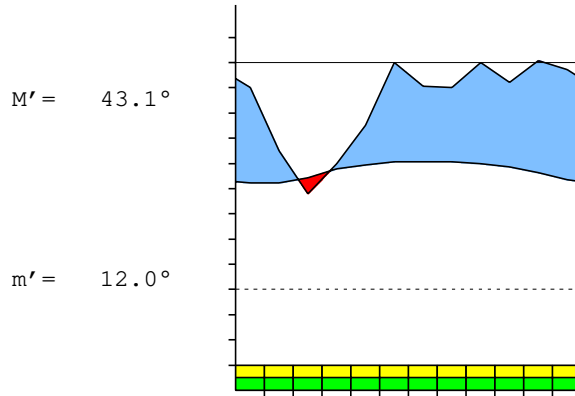
Bioclimate(Variant): TROPICAL XERIC (DRY)

Bioclimatic Belt...: UPPER INFRATROPICAL UPPER DRY

SERRINHA (BRAZIL)

360 m

P= 943 15° 57' S 40° 53' W 30/30 y.
 T= 23.6° Ic= 4.4 Tp= 2834 Tn= 0
 m= 17.8° M= 25.8° Itc= 672 Io= 3.3



TROPICAL XERIC (DRY)
 UPPER INFRATROPICAL UPPER DRY

WATER INDEX CARD SERRINHA (BRAZIL)
 Altitude: 360 m. Latitude: 15° 57' S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	21.0	67	80	13	55	67	0	0	0	0.1
Aug.	21.2	73	55	-18	37	73	0	0	0	-0.2
Sep.	22.3	83	38	-37	0	75	7	0	0	-0.5
Oct.	23.8	107	50	0	0	50	57	0	0	-0.5
Nov.	24.8	120	65	0	0	65	55	0	0	-0.4
Dec.	25.3	134	102	0	0	102	32	0	0	-0.2
Jan.	25.4	135	82	0	0	82	53	0	0	-0.3
Feb.	25.3	116	80	0	0	80	36	0	0	-0.3
Mar.	25.1	122	103	0	0	103	19	0	0	-0.1
Apr.	24.3	104	84	0	0	84	20	0	0	-0.1
May.	23.1	90	109	19	19	90	0	0	0	0.2
Jun.	21.8	72	95	23	42	72	0	0	0	0.3
Year	23.6	1222	943	*	*	943	279	0	0	*

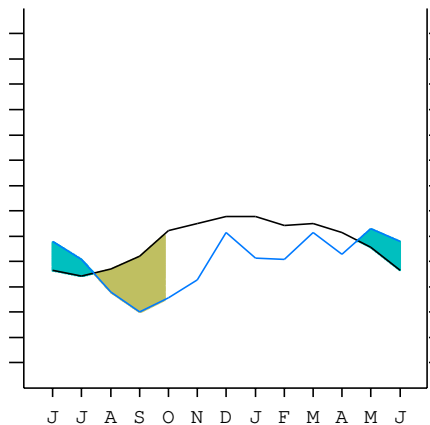
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

SERRINHA (BRAZIL)

15°57' S 40°53' W 360 m 30/30 y.

T= 23.6 Ic= 4.4 TROPICAL XERIC (DRY)
 m= 17.8 Tp= 2834 UPPER INFRATROPICAL
 M= 25.8 Tn= 0 UPPER DRY
 M' = 43.1 Itc= 672
 m' = 12.0 Io= 3.3
 P= 943 mm ———
 PE= 1222 mm ———

Imbibing	16 Apr.
Saturation	13 Jul.
Reserve Use	26 Sep.
Deficit	



SERRINHA (BRAZIL)

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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [A2a]
 + Type: A. Hyperoceanic
 + Subtype: 2. Euhyperoceanic
 + Variant: a. High

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

Bioclimatic types [A3.1a.5a]
 + Macrobioclimate: A. TROPICAL
 + Bioclimate: 3. XERIC
 + Bioclimatic variant ..:
 + Thermic type.....: 1. INFRATROPICAL
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 5. DRY
 + Ombrothermic subtype : a. UPPER
 Bioclimatic Classification: Trxe.Itr.Dry

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 516
 Coldest semester of the year.....(Psw): 427
 Warmest four months period of the year.....(Pcm1): 367
 Following warmest four months period.....(Pcm2): 368
 Positive precipitation dryest 3 months.....(Ppd): 143
 Positive precipitation dryest 2 months.....(Ppd2): 88
 Positive precipitation dryest 1 month.....(Ppd1): 38
 Positive precipitation warmest 3 months.....(Pps): 264
 Positive precipitation warmest 2 months.....(Pps2): 162
 Positive precipitation warmest 1 month.....(Pps1): 82
 Positive precipitation coldest 3 months.....(Ppw): 230
 Positive precipitation coldest 2 months.....(Ppw2): 135
 Positive precipitation coldest 1 month.....(Ppw1): 80

Seasons	Jun+Jul+Aug Ttr3-3	Sep+Oct+Nov Ttr4-4	Dec+Jan+Feb Ttr1-1	Mar+Apr+May Ttr2-2
Rainfall	230	153	264	296

Tropical rainfall rhythms: 2 > 1 > 3 > 4

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 25.4
 Average coldest month [T].....(Tmin): 21.0
 Maximum temp. warmest month [M].....(Tmmax): 31.6
 Minimum temp. coldest month [m].....(Tmmin): 17.8
 Absolute Max.temp. warmest month [M'].....(Tamax): 43.1
 Absolute Min.temp. coldest month [m'].....(Tamin): 12.0
 First warmest contrasted month [M].....(Tcmax): 31.6 (1)
 First coldest contrasted month [m].....(Tcmin): 21.0 (1)
 Dry station temperature.....(Td): 673
 Positive temperature dryest 3 months.....(Tpd): 673
 Positive temperature dryest 2 months.....(Tpd2): 461
 Positive temperature dryest 1 month.....(Tpd1): 223
 Positive temperature warmest 3 months.....(Tps): 760
 Positive temperature warmest 2 months.....(Tps2): 507
 Positive temperature warmest 1 month.....(Tps1): 254
 Positive temperature coldest 3 months.....(Tpw): 640
 Positive temperature coldest 2 months.....(Tpw2): 422
 Positive temperature coldest 1 month.....(Tpw1): 210

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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): 1.30
 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)	1020	820	800	1030	840	1090	950	800	550	380	500	650
Tp	253	254	253	251	243	231	218	210	212	223	238	248
Io (Iom)	4.03	3.23	3.16	4.10	3.46	4.72	4.36	3.81	2.59	1.70	2.10	2.62
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	2640 / 760			2960 / 725			2300 / 640			1530 / 709		
Io (Iot)	3.474			4.083			3.594			2.158		
Semesters	December-May						June-November					
Pp(x10)/Tp	5600 / 1485						3830 / 1349					
Io (Iosm)	3.771						2.839					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 9430/2834=3.33 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	1020	820	800	1030	840	1090	950	800	550	380	500	650
Tp [T*10]	253	254	253	251	243	231	218	210	212	223	238	248
Iom [Pp/Tp]	403	323	316	410	346	472	436	381	259	170	210	262
Avm [200-Iom]	***	***	***	***	***	***	***	***	***	30	***	***
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	2640 / 760			2960 / 725			2300 / 640			1530 / 709		
Iot [Pp/Tp]	347			408			359			216		
Avs E [Avm<200]	***			***			***			***		
Weak upper semiarid [1]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp):	4.40
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]		6.82
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]		3.09
+ Hyperoceanic (-20<CI<20)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)]		0.70
+ Oceanic (0.6<CI<1.1)		
Rainfall Index of Lang (1925) [R=P/T]		39.93
+ Steppic (40>R>0)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)]		28.05
+ Subhumid (30>Ia>20)		
I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)]		138.33
+ Humid (Q>90)		
I of Dantin & Revenga (1940) [DR=100*T/P]		2.50
+ Semiarid (3>DR>2)		
Aridity Index of UNEP [I=P/PE]		0.77
+ Humid (I>0.65)		
Potential Erosion I of Fournier (1960) [K=Pi ² /P]		12.60
+ Very low (K<60)		

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)
 + Climate

- + Climate
- + Region
- + Thermic type: 2. Macrothermic

Thornthwaite (1948)													
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	
P-E ratio	0.29	0.29	0.38	0.31	0.42	0.38	0.32	0.21	0.13	0.18	0.23	0.37	
T-E ratio	11.43	11.38	11.30	10.93	10.40	9.81	9.45	9.54	10.03	10.71	11.16	11.38	
Precipitation-effectiveness:	35.08					Temperature-efficiency							127.53
Moisture Index [MI=100*(P-PE)/PE]	-22.83												
+ C1.Subhumid dry (-33.3<MI<0)													
Index of dryness [DI=100*d/PE]	22.83												
+ Moderate deficit (16.7<DI<33.3)													
Index of humidity [HI=100*s/PE]	0.00												
+ No surplus (0<HI<10)													
Potential Evapotranspiration PE	1222.05												
+ Forth mesothermic (997<PE<1440)													

