

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

S.Rivas-Martinez(+) & S.Rivas-Saenz

(Adapted to Synoptical Table 14/02/2020)

ARAGARCAS (BRAZIL)

Altitude: 345 m.

Latitude: 15°54'S Longitude: 52°14'W

Temperature observation period.: 1963-1990 (28)

Rainfall observation period....: 1963-1990 (28)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	25.30	30.80	21.70	37.80	18.60	288.0	130.63
Feb.	25.40	31.10	21.70	36.20	18.80	221.0	115.76
Mar.	25.50	31.40	21.60	36.60	14.80	217.0	125.60
Apr.	25.30	31.60	20.80	35.30	13.30	74.0	114.30
May.	24.00	31.50	18.60	34.70	7.60	29.0	96.48
Jun.	22.40	31.10	15.90	34.90	4.40	6.0	73.35
Jul.	21.90	31.60	15.00	35.40	4.00	8.0	71.15
Aug.	24.40	33.60	16.90	38.00	8.00	21.0	105.89
Sep.	26.20	33.70	20.10	39.60	10.00	62.0	130.50
Oct.	26.70	33.20	21.70	39.80	15.70	142.0	146.70
Nov.	26.00	31.80	21.80	38.90	16.00	234.0	136.24
Dec.	25.40	31.00	21.70	36.60	18.10	275.0	133.48
Year	24.87	31.87	19.79	36.98	12.44	1577	1380.1

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	715
Compensated thermicity index.....(Itc):	715
Simple continentality index.....(Ic):	4.8
Diurnality index.....(Id):	16.7
Annual ombrothermic index.....(Io):	5.28
Monthly dry ombrothermic index.....(Iod1):	0.27
Bimonthly dry ombrothermic index.....(Iod2):	0.32
Threemonthly dry ombrothermic index.....(Iod3):	0.51
Fourmonthly dry ombrothermic index.....(Iod4):	0.69
Annual ombro-evaporation index.....(Ioe):	1.14
Annual positive temperature.....(Tp):	2985
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	687
Positive precipitation.....(Pp):	1577

N. of Months	P>4T	P:2T-4T	PT-2T	P<T	T<0
	6	2	1	3	0

Latitudinal Belt...: Eutropical

Continentalty.....: Hyperoceanic - High Euhyperoceanic

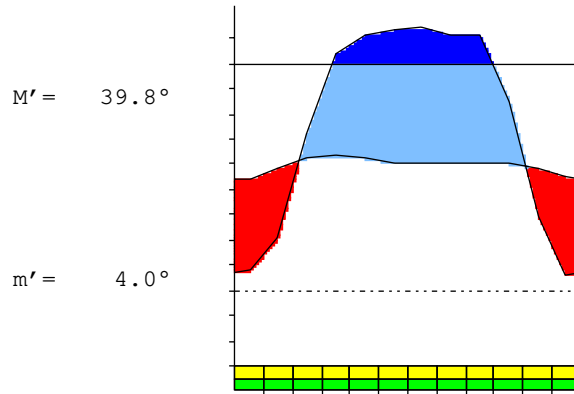
Bioclimate(Variant): TROPICAL PLUVISEASONAL (SUBXEROPHYTIC)

Bioclimatic Belt...: UPPER INFRATROPICAL UPPER SUBHUMID

ARAGARCAS (BRAZIL)

345 m

P= 1577 15° 54'S 52° 14'W 28/28 y.
 T= 24.9 ° Ic= 4.8 Tp= 2985 Tn= 0
 m= 15.0 ° M= 31.6 ° Itc= 715 Io= 5.3



TROPICAL PLUVISEASONAL (SUBXEROPHYTIC)
 UPPER INFRATROPICAL UPPER SUBHUMID

WATER INDEX CARD

ARAGARCAS (BRAZIL)

Altitude: 345 m.

Latitude: 15° 54'S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	21.9	71	8	0	0	8	63	0	6	-0.8
Aug.	24.4	106	21	0	0	21	85	0	3	-0.8
Sep.	26.2	130	62	0	0	62	68	0	2	-0.5
Oct.	26.7	147	142	0	0	142	5	0	1	0.0
Nov.	26.0	136	234	98	98	136	0	0	0	0.7
Dec.	25.4	133	275	2	100	133	0	139	70	1.0
Jan.	25.3	131	288	0	100	131	0	157	114	1.2
Feb.	25.4	116	221	0	100	116	0	105	109	0.9
Mar.	25.5	126	217	0	100	126	0	91	100	0.7
Apr.	25.3	114	74	-40	60	114	0	0	50	-0.3
May.	24.0	96	29	-60	0	89	8	0	25	-0.6
Jun.	22.4	73	6	0	0	6	67	0	13	-0.9
Year	24.9	1380	1577	*	*	1084	296	493	493	*

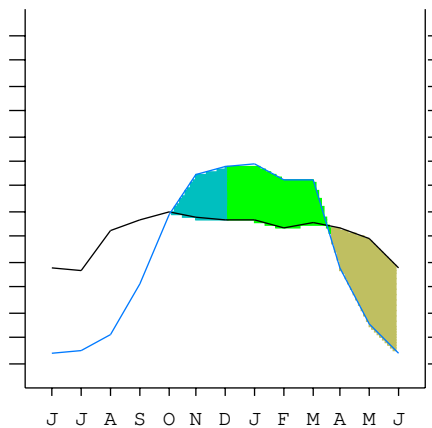
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

ARAGARCAS (BRAZIL)

15°54'S 52°14'W 345 m 28/28 y.

T= 24.9 Ic= 4.8 TROPICAL PLUVISEASONAL (SUBXEROPHYTIC)
 m= 15.0 Tp= 2985 UPPER INFRATROPICAL
 M= 31.6 Tn= 0 UPPER SUBHUMID
 M' = 39.8 Itc= 715
 m' = 4.0 Io= 5.3
 P= 1577 mm ———
 PE= 1380 mm ———

Imbibing	2 Oct.
Saturation	1 Dec.
Reserve Use	21 Mar.
Deficit	27 May.



ARAGARCAS (BRAZIL)

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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continentality Index [A2a]
 + Type: A. Hyperoceanic
 + Subtype: 2. Euhyperoceanic
 + Variant: a. High
 Thermic types [A2.A1]
 + Latitudinal zone: A. Warm
 + Latitudinal belt: 2. Eutropical
 + Thermic type: A. Warm
 + Thermic subtype: 1. Torrid
 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 ClassificationTrps (Sxe).Itr.Shu.Eho

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 1222
 Coldest semester of the year.....(Psw): 355
 Warmest four months period of the year.....(Pcm1): 713
 Following warmest four months period.....(Pcm2): 800
 Positive precipitation dryest 3 months.....(Ppd): 35
 Positive precipitation dryest 2 months.....(Ppd2): 14
 Positive precipitation dryest 1 month.....(Ppd1): 6
 Positive precipitation warmest 3 months.....(Pps): 438
 Positive precipitation warmest 2 months.....(Pps2): 204
 Positive precipitation warmest 1 month.....(Pps1): 142
 Positive precipitation coldest 3 months.....(Ppw): 43
 Positive precipitation coldest 2 months.....(Ppw2): 14
 Positive precipitation coldest 1 month.....(Ppw1): 8

Seasons	Jun+Jul+Aug Ttr3-3	Sep+Oct+Nov Ttr4-4	Dec+Jan+Feb Ttr1-1	Mar+Apr+May Ttr2-2
Rainfall	35	438	784	320

Tropical rainfall rhythms: 1 > 4 > 2 > 3

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 26.7
 Average coldest month [T].....(Tmin): 21.9
 Maximum temp. warmest month [M].....(Tmmax): 33.7
 Minimum temp. coldest month [m].....(Tmmin): 15.0
 Absolute Max.temp. warmest month [M'].....(Tamax): 39.8
 Absolute Min.temp. coldest month [m'].....(Tamin): 4.0
 First warmest contrasted month [M].....(Tcmax): 33.6 (8)
 First coldest contrasted month [m].....(Tcmin): 16.9 (8)
 Dry station temperature.....(Td): 687
 Positive temperature dryest 3 months.....(Tpd): 687
 Positive temperature dryest 2 months.....(Tpd2): 443
 Positive temperature dryest 1 month.....(Tpd1): 224
 Positive temperature warmest 3 months.....(Tps): 789
 Positive temperature warmest 2 months.....(Tps2): 529
 Positive temperature warmest 1 month.....(Tps1): 267
 Positive temperature coldest 3 months.....(Tpw): 683
 Positive temperature coldest 2 months.....(Tpw2): 443
 Positive temperature coldest 1 month.....(Tpw1): 219

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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): 0.88
 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)	2750	2880	2210	2170	740	290	60	80	210	620	1420	2340
Tp	254	253	254	255	253	240	224	219	244	262	267	260
Io (Iom)	10.8	11.4	8.70	8.51	2.92	1.21	0.27	0.37	0.86	2.37	5.32	9.00
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp (x10)/Tp	7840 / 761			3200 / 748			350 / 687			4380 / 789		
Io (Iot)	10.30			4.278			0.509			5.551		
Semesters	December-May						June-November					
Pp (x10)/Tp	11040 / 1509						4730 / 1476					
Io (Iosm)	7.316						3.205					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 15770/2985=5.28 There is No Yearly Aridity

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	2750	2880	2210	2170	740	290	60	80	210	620	1420	2340
Tp [T*10]	254	253	254	255	253	240	224	219	244	262	267	260
Iom [Pp/Tp]	\$\$	\$\$	870	851	292	121	27	37	86	237	532	900
Avm [200-Iom]	***	***	***	***	***	79	173	163	114	***	***	***
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	7840 / 761			3200 / 748			350 / 687			4380 / 789		
Iot [Pp/Tp]	1030			428			51			555		
Avs E [Avm < 200]	***			***			451			***		
Lower hyperarid [1]							Upper hyperarid [1]					
Strong lower arid [1]							Weak upper arid [1]					
Weak lower semiarid [1]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp):	4.80
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]		9.39
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]		4.68
+ Hyperoceanic (-20<CI<20)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)]		0.76
+ Oceanic (0.6<CI<1.1)		
Rainfall Index of Lang (1925) [R=P/T]		63.40
+ Temperate warm (100>R>60)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)]		45.22
+ Humid (60>Ia>30)		
I of Emberger (1930) [Q=100*P/(Tmmax ² -Tmmin ²)]		173.17
+ Humid (Q>90)		
I of Dantin & Revenga (1940) [DR=100*T/P]		1.58
+ Humid (2>DR>0)		
Aridity Index of UNEP [I=P/PE]		1.14
+ Humid (I>0.65)		
Potencial Erosion I of Fournier (1960) [K=Pi ² /P].....		52.60
+ 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: 1. Megathermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	1.19	0.88	0.86	0.26	0.10	0.02	0.02	0.07	0.21	0.52	0.93	1.12
T-E ratio	11.38	11.43	11.48	11.38	10.80	10.08	9.85	10.98	11.79	12.02	11.70	11.43
Precipitation-effectiveness: 61.85						Temperature-efficiency: 134.32						
Moisture Index [MI=100*(P-PE)/PE]												
+ C2.Subhumid humid (0<MI<20)												
Index of dryness [DI=100*d/PE]												
+ Moderate deficit (16.7<DI<33.3)												
Index of humidity [HI=100*s/PE]												
+ Strong surplus (20<HI)												
Potential Evapotranspiration PE												
+ Forth mesothermic (997<PE<1440)												

