

Phytosociological Research Center

www.globalbioclimatics.org

Worldwide Bioclimatic Classification System

Prof.Dr. Salvador Rivas-Martinez

(Adapted to Synoptical Table 30/08/2017)

CRUZETA (BRAZIL)

Altitude: 226 m.

Latitude: 6°26'S Longitude: 36°35'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.	28.20	34.60	22.90	38.30	19.20	42.0	158.05
Feb.	27.50	33.80	22.70	38.50	19.50	115.0	136.33
Mar.	27.10	34.10	22.40	39.70	18.40	162.0	145.92
Apr.	26.50	33.40	22.20	39.70	17.40	177.0	132.00
May.	26.10	31.60	21.50	36.10	17.80	69.0	126.88
Jun.	25.80	31.40	20.80	35.10	13.20	27.0	116.53
Jul.	25.60	31.30	20.60	34.90	15.20	28.0	117.67
Aug.	24.70	32.30	20.50	36.50	14.30	8.0	103.34
Sep.	26.90	33.60	21.40	36.90	17.80	14.0	138.70
Oct.	27.60	34.70	23.50	37.70	17.80	18.0	151.52
Nov.	28.10	35.00	22.80	37.50	19.50	12.0	152.76
Dec.	29.80	34.90	23.10	38.10	19.40	36.0	173.25
Year	26.99	33.39	22.03	37.42	17.46	708	1652.9

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	798
Compensated thermicity index.....(Itc):	798
Simple continentality index.....(Ic):	5.1
Diurnality index.....(Id):	12.2
Annual ombrothermic index.....(Io):	2.19
Monthly dry ombrothermic index.....(Iod1):	0.32
Bimonthly dry ombrothermic index.....(Iod2):	0.43
Three monthly dry ombrothermic index.....(Iod3):	0.51
Four monthly dry ombrothermic index.....(Iod4):	0.65
Annual ombro-evaporation index.....(Ioe):	1.19
Annual positive temperature.....(Tp):	3239
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	792
Positive precipitation.....(Pp):	708

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

Latitudinal Belt...: Equatorial

Continentality.....: Hyperoceanic - High Euhyperoceanic

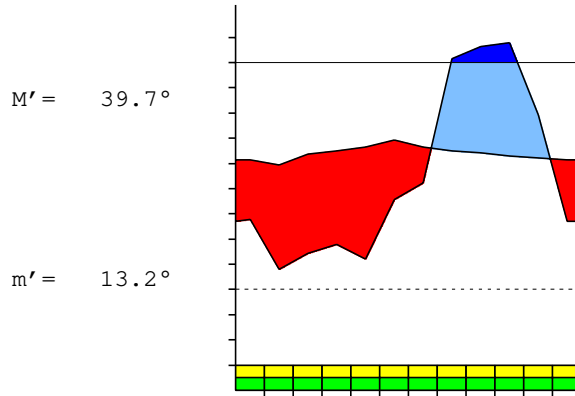
Bioclimate(Variant): TROPICAL XERIC (PLUVISEROTIN, DRY)

Bioclimatic Belt...: UPPER INFRATROPICAL LOW DRY

CRUZETA (BRAZIL)

226 m

P= 708 6° 26' S 36° 35' W 30/30 y.
 T= 27.0° Ic= 5.1 Tp= 3239 Tn= 0
 m= 20.5° M= 32.3° Itc= 798 Io= 2.2



TROPICAL XERIC (PLUVISEROTIN)
 UPPER INFRATROPICAL LOW DRY

WATER INDEX CARD
 Altitude: 226 m.

CRUZETA (BRAZIL)
 Latitude: 6° 26' S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	25.6	118	28	0	0	28	90	0	0	-0.7
Aug.	24.7	103	8	0	0	8	95	0	0	-0.9
Sep.	26.9	139	14	0	0	14	125	0	0	-0.8
Oct.	27.6	152	18	0	0	18	134	0	0	-0.8
Nov.	28.1	153	12	0	0	12	141	0	0	-0.9
Dec.	29.8	173	36	0	0	36	137	0	0	-0.7
Jan.	28.2	158	42	0	0	42	116	0	0	-0.7
Feb.	27.5	136	115	0	0	115	21	0	0	-0.1
Mar.	27.1	146	162	16	16	146	0	0	0	0.1
Apr.	26.5	132	177	45	61	132	0	0	0	0.3
May.	26.1	127	69	-58	3	127	0	0	0	-0.4
Jun.	25.8	117	27	-3	0	30	86	0	0	-0.7
Year	27.0	1653	708	*	*	708	945	0	0	*

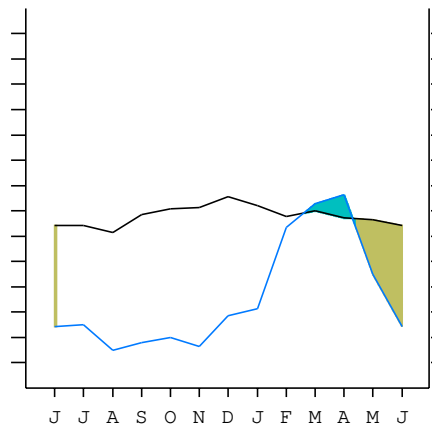
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

CRUZETA (BRAZIL)

6°26' S 36°35' W 226 m 30/30 y.

T= 27.0 Ic= 5.1 TROPICAL XERIC (PLUVISEROTIN)
 m= 20.5 Tp= 3239 UPPER INFRATROPICAL
 M= 32.3 Tn= 0 LOW DRY
 M' = 39.7 Itc= 798
 m' = 13.2 Io= 2.2
 P= 708 mm ———
 PE= 1653 mm ———

Imbibing	18 Feb.
Saturation	14 Apr.
Reserve Use	2 Jun.
Deficit	



CRUZETA (BRAZIL)

Latitude: 6°26'S Longitude: 36°35'W Altitude: 226 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [A2a]
 + Type: A. Hyperoceanic
 + Subtype: 2. Euhyperoceanic
 + 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 [A3e.1a.5b]
 + Macrobioclimate: A. TROPICAL
 + Bioclimate: 3. XERIC
 + Bioclimatic variant .: e. PLUVISEROTIN, DRY
 + Thermic type.....: 1. INFRATROPICAL
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 5. DRY
 + Ombrothermic subtype : b. LOW
 Bioclimatic Classification: Trxe (Pse).Itr.Dry

CRUZETA (BRAZIL)

Latitude: 6°26'S Longitude: 36°35'W Altitude: 226 m

PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 385
 Coldest semester of the year.....(Psw): 323
 Warmest four months period of the year.....(Pcm1): 108
 Following warmest four months period.....(Pcm2): 523
 Positive precipitation dryest 3 months.....(Ppd): 40
 Positive precipitation dryest 2 months.....(Ppd2): 22
 Positive precipitation dryest 1 month.....(Ppd1): 8
 Positive precipitation warmest 3 months.....(Pps): 90
 Positive precipitation warmest 2 months.....(Pps2): 78
 Positive precipitation warmest 1 month.....(Pps1): 36
 Positive precipitation coldest 3 months.....(Ppw): 63
 Positive precipitation coldest 2 months.....(Ppw2): 36
 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	63	44	193	408

Tropical rainfall rhythms: 2 > 1 > 3 > 4

CRUZETA (BRAZIL)

Latitude: 6°26'S Longitude: 36°35'W Altitude: 226 m

TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 29.8
 Average coldest month [T].....(Tmin): 24.7
 Maximum temp. warmest month [M].....(Tmmax): 35.0
 Minimum temp. coldest month [m].....(Tmmin): 20.5
 Absolute Max.temp. warmest month [M'].....(Tamax): 39.7
 Absolute Min.temp. coldest month [m'].....(Tamin): 13.2
 First warmest contrasted month [M].....(Tcmax): 33.6 (9)
 First coldest contrasted month [m].....(Tcmin): 21.4 (9)
 Dry station temperature.....(Td): 792
 Positive temperature dryest 3 months.....(Tpd): 792
 Positive temperature dryest 2 months.....(Tpd2): 516
 Positive temperature dryest 1 month.....(Tpd1): 247
 Positive temperature warmest 3 months.....(Tps): 861
 Positive temperature warmest 2 months.....(Tps2): 580
 Positive temperature warmest 1 month.....(Tps1): 298
 Positive temperature coldest 3 months.....(Tpw): 761
 Positive temperature coldest 2 months.....(Tpw2): 503
 Positive temperature coldest 1 month.....(Tpw1): 247

CRUZETA (BRAZIL)

Latitude: 6°26'S Longitude: 36°35'W Altitude: 226 m

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

CRUZETA (BRAZIL)

Latitude: 6°26'S Longitude: 36°35'W Altitude: 226 m

OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 2.33
 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)	360	420	1150	1620	1770	690	270	280	80	140	180	120
Tp	298	282	275	271	265	261	258	256	247	269	276	281
Io (Iom)	1.21	1.49	4.18	5.98	6.68	2.64	1.05	1.09	0.32	0.52	0.65	0.43
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	1930 / 855			4080 / 797			630 / 761			440 / 826		
Io (Iot)	2.257			5.119			0.828			0.533		
Semesters	December-May						June-November					
Pp(x10)/Tp	6010 / 1652						1070 / 1587					
Io (Iosm)	3.638						0.674					

CRUZETA (BRAZIL)

Latitude: 6°26'S Longitude: 36°35'W Altitude: 226 m

Aridity Value Index (AVI)

[10xPP/TP=IO]: 7080/3239=2.19 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	360	420	1150	1620	1770	690	270	280	80	140	180	120
Tp [T*10]	298	282	275	271	265	261	258	256	247	269	276	281
Iom [Pp/Tp]	121	149	418	598	668	264	105	109	32	52	65	43
Avm [200-Iom]	79	51	***	***	***	***	95	91	168	148	135	157
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	1930 / 855			4080 / 797			630 / 761			440 / 826		
Iot [Pp/Tp]	226			512			83			53		
Avs E[Avm<200]	***			***			354			440		
Upper hyperarid [1]							Strong lower arid [1]					
Weak lower arid [3]							Weak upper arid [1]					
Strong lower semiarid [2]							Weak lower semiarid [2]					

CRUZETA (BRAZIL)

Latitude: 6°26'S Longitude: 36°35'W Altitude: 226 m

BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp):	5.10
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]		56.98
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]		16.65
+ Hyperoceanic (-20<CI<20)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)]		1.62
+ Subcontinental (1.1<CI<1.7)		
Rainfall Index of Lang (1925) [R=P/T]		26.23
+ Steppic (40>R>0)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)]		19.14
+ Semiarid -mediterranean- (20>Ia>15)		
I of Emberger (1930) [Q=100*P/(Tmmax ² -Tmmin ²)]		87.98
+ Subhumid (90>Q>50)		
I of Dantin & Revenga (1940) [DR=100*T/P]		3.81
+ Arid (6>DR>3)		
Aridity Index of UNEP [I=P/PE]		0.43
+ Semiarid (0.5>Im>0.2)		
Potential Erosion I of Fournier (1960) [K=Pi ² /P]		44.25
+ Very low (K<60)		

CRUZETA (BRAZIL)

Latitude: 6°26'S Longitude: 36°35'W Altitude: 226 m

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	0.13	0.41	0.60	0.67	0.24	0.08	0.09	0.02	0.04	0.05	0.03	0.11
T-E ratio	12.69	12.38	12.20	11.92	11.75	11.61	11.52	11.12	12.10	12.42	12.65	13.41
Precipitation-effectiveness: 24.77						Temperature-efficiency						145.76
Moisture Index [MI=100*(P-PE)/PE]												-57.17
+ D.Semiarid (-66.7<MI<-33.3)												
Index of dryness [DI=100*d/PE]												57.16
+ Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE]												0.00
+ No surplus (0<HI<10)												
Potential Evapotranspiration PE												1652.95
+ Megathermic (PE>1440)												

