

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

VILLA MERCEDES (ARGENTINA)

Altitude: 514 m.

Latitude: 33°41'S Longitude: 65°29'W

Temperature observation period.: 1987-1994 (8)

Rainfall observation period....: 1987-1994 (8)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	24.73	32.78	16.67	42.22	7.22	69.9	144.88
Feb.	23.34	31.11	15.56	40.00	6.11	85.9	112.29
Mar.	20.28	27.78	12.78	37.78	0.00	56.9	87.89
Apr.	17.22	24.44	10.00	36.11	-2.22	42.9	57.95
May.	14.17	21.11	7.22	32.22	-3.89	12.7	38.98
Jun.	10.56	17.22	3.89	28.89	-7.78	22.6	21.10
Jul.	10.56	17.78	3.33	30.00	-8.89	32.3	22.38
Aug.	11.94	19.44	4.44	31.11	-6.11	11.7	30.17
Sep.	14.72	22.22	7.22	37.22	-3.89	35.8	46.40
Oct.	17.50	25.00	10.00	37.22	1.11	60.7	71.73
Nov.	20.56	28.33	12.78	37.78	2.78	56.6	98.59
Dec.	23.34	31.11	15.56	41.11	7.22	80.5	132.61
Year	17.41	24.86	9.95	35.97	-0.69	569	864.99

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	385
Compensated thermicity index.....(Itc):	385
Simple continentality index.....(Ic):	14.2
Diurnality index.....(Id):	16.1
Annual ombrothermic index.....(Io):	2.72
Monthly estival ombrothermic index.....(Ios1):	2.83
Bimonthly estival ombrothermic index.....(Ios2):	3.24
Threemonthly estival ombrothermic index.....(Ios3):	3.31
Fourmonthly estival ombrothermic index.....(Ios4):	3.18
Annual ombro-evaporation index.....(Ioe):	2.60
Annual positive temperature.....(Tp):	2089
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	714
Positive precipitation.....(Pp):	569

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	0	10	0	2	0

Latitudinal Belt...: Subtropical

Continentality.....: Oceanic - High Euoceanic

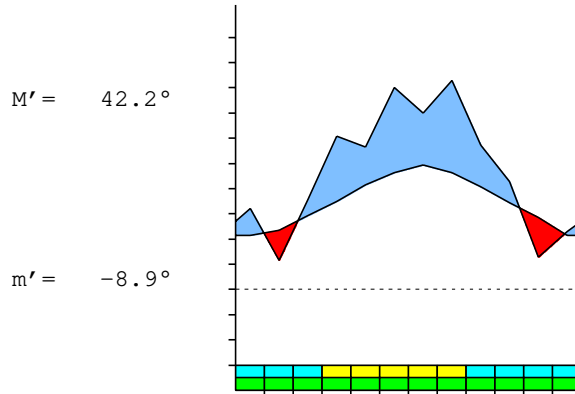
Bioclimate.....: TEMPERATE XERIC

Bioclimatic Belt...: LOW THERMOTEMPERATE LOW DRY

VILLA MERCEDES (ARGENTINA)

514 m

P= 569 33° 41'S 65° 29'W 8/8 y.
 T= 17.4° Ic= 14.2 Tp= 2089 Tn= 0
 m= 3.9° M= 17.2° Itc= 385 Io= 2.7



TEMPERATE XERIC
 LOW THERMOTEMPERATE LOW DRY

WATER INDEX CARD VILLA MERCEDES (ARGENTINA)
 Altitude: 514 m. Latitude: 33° 41'S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	10.6	22	32	10	11	22	0	0	0	0.4
Aug.	11.9	30	12	-11	0	23	7	0	0	-0.6
Sep.	14.7	46	36	0	0	36	11	0	0	-0.2
Oct.	17.5	72	61	0	0	61	11	0	0	-0.1
Nov.	20.6	99	57	0	0	57	42	0	0	-0.4
Dec.	23.3	133	81	0	0	81	52	0	0	-0.3
Jan.	24.7	145	70	0	0	70	75	0	0	-0.5
Feb.	23.3	112	86	0	0	86	26	0	0	-0.2
Mar.	20.3	88	57	0	0	57	31	0	0	-0.3
Apr.	17.2	58	43	0	0	43	15	0	0	-0.2
May.	14.2	39	13	0	0	13	26	0	0	-0.6
Jun.	10.6	21	23	1	1	21	0	0	0	0.0
Year	17.4	865	569	*	*	569	296	0	0	*

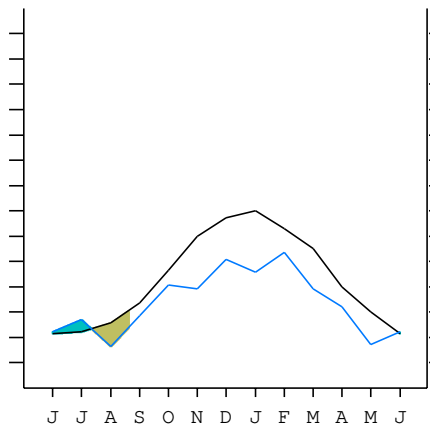
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

VILLA MERCEDES (ARGENTINA)

33°41'S 65°29'W 514 m 8/8 y.

T= 17.4 Ic= 14.2 TEMPERATE XERIC
 m= 3.9 Tp= 2089 LOW THERMOTEMPERATE
 M= 17.2 Tn= 0 LOW DRY
 M' = 42.2 Itc= 385
 m' = -8.9 Io= 2.7
 P= 569 mm
 PE= 865 mm

Imbibing	29 May.
Saturation	11 Jul.
Reserve Use	19 Aug.
Deficit	



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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [B2a]
 + Type: B. Oceanic
 + Subtype: 2. Euoceanic
 + Variant: a. High
 Thermic types [A3.A3]
 + Latitudinal zone: A. Warm
 + Latitudinal belt: 3. Subtropical
 + Thermic type: A. Warm
 + Thermic subtype: 3. Subwarm
 Bioclimatic types [C1.2b.5b]
 + Macrobioclimate: C. TEMPERATE
 + Bioclimate: 1. XERIC
 + Bioclimatic variant ..:
 + Thermic type.....: 2. THERMOTEMPERATE
 + Thermic subtype.....: b. LOW
 + Ombrothermic type ...: 5. DRY
 + Ombrothermic subtype : b. LOW
 Bioclimatic Classification: Teho.Tte.Dry

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 411
 Coldest semester of the year.....(Psw): 158
 Warmest four months period of the year.....(Pcm1): 293
 Following warmest four months period.....(Pcm2): 135
 Positive precipitation dryest 3 months.....(Ppd): 67
 Positive precipitation dryest 2 months.....(Ppd2): 35
 Positive precipitation dryest 1 month.....(Ppd1): 12
 Positive precipitation warmest 3 months.....(Pps): 236
 Positive precipitation warmest 2 months.....(Pps2): 156
 Positive precipitation warmest 1 month.....(Pps1): 70
 Positive precipitation coldest 3 months.....(Ppw): 67
 Positive precipitation coldest 2 months.....(Ppw2): 55
 Positive precipitation coldest 1 month.....(Ppw1): 23

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	66	153	236	112

Seasonal rainfall rhythms: S > P > F > W

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 24.7
 Average coldest month [T].....(Tmin): 10.6
 Maximum temp. warmest month [M].....(Tmmax): 32.8
 Minimum temp. coldest month [m].....(Tmmin): 3.3
 Absolute Max.temp. warmest month [M'].....(Tamax): 42.2
 Absolute Min.temp. coldest month [m'].....(Tamin): -8.9
 First warmest contrasted month [M].....(Tcmax): 32.8 (1)
 First coldest contrasted month [m].....(Tcmin): 16.7 (1)
 Estival temperature.....(Ts): 714
 Positive temperature dryest 3 months.....(Tpd): 331
 Positive temperature dryest 2 months.....(Tpd2): 247
 Positive temperature dryest 1 month.....(Tpd1): 119
 Positive temperature warmest 3 months.....(Tps): 714
 Positive temperature warmest 2 months.....(Tps2): 481
 Positive temperature warmest 1 month.....(Tps1): 247
 Positive temperature coldest 3 months.....(Tpw): 331
 Positive temperature coldest 2 months.....(Tpw2): 211
 Positive temperature coldest 1 month.....(Tpw1): 106

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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)			o	o	o	o	o	o	o			
Agelid.....[m' > 0] (Pf)	o	o								o	o	o
HiperAgelid..[all>0] (Pf)	o	o								o	o	o

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 1.52
 Mediterranean index of January.....(Im1): 2.07
 Mediterranean index of January & February.....(Im2): 1.65
 Mediterranean index of December to February...(Im3): 1.65

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	805	699	859	569	429	127	226	323	117	358	607	566
Tp	233	247	233	203	172	142	106	106	119	147	175	206
Io (Iom)	3.45	2.83	3.68	2.81	2.49	0.90	2.14	3.06	0.98	2.43	3.47	2.75
Seasons	Summer			Autumn			Winter			Spring		
Pp(x10)/Tp	2363 / 714			1125 / 517			666 / 331			1531 / 528		
Io (Iot)	3.309			2.177			2.015			2.901		
Semesters	December-May						June-November					
Pp(x10)/Tp	3488 / 1231						2197 / 858					
Io (Iosm)	2.834						2.559					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 5685/2089=2.72 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	805	699	859	569	429	127	226	323	117	358	607	566
Tp [T*10]	233	247	233	203	172	142	106	106	119	147	175	206
Iom [Pp/Tp]	345	283	368	281	249	90	214	306	98	243	347	275
Avm [200-Iom]	***	***	***	***	***	110	***	***	102	***	***	***
Seasons	Summer			Autumn			Winter			Spring		
Pp / Tp	2363 / 714			1125 / 517			666 / 331			1531 / 528		
Iot [Pp/Tp]	331			218			201			290		
Avs E[Avm<200]	***			***			***			***		
Weak upper arid [2]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp): 14.17
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]	23.03
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]	20.88
+ Oceanic (20<CI<40)	
CI of Currey (1974) [CI=Sp/(1+Lat/3)]	1.16
+ Subcontinental (1.1<CI<1.7)	
Rainfall Index of Lang (1925) [R=P/T]	32.65
+ Steppic (40>R>0)	
Aridity Index of Martonne (1926) [Ia=P/(T+10)]	20.74
+ Subhumid (30>Ia>20)	
I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)]	53.46
+ Subhumid (90>Q>50)	
I of Dantin & Revenga (1940) [DR=100*T/P]	3.06
+ Arid (6>DR>3)	
Aridity Index of UNEP [I=P/PE]	0.66
+ Humid (I>0.65)	
Potential Erosion I of Fournier (1960) [K=Pi ² /P]	12.98
+ Very low (K<60)	

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)
 + Climate

- + Climate
- + Region
- + Thermic type: 3. Macro-mesothermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.25	0.32	0.22	0.18	0.05	0.10	0.16	0.05	0.15	0.26	0.22	0.30
T-E ratio	11.13	10.50	9.13	7.75	6.38	4.75	4.75	5.37	6.62	7.88	9.25	10.50
Precipitation-effectiveness: 22.57						Temperature-efficiency						94.01
Moisture Index [MI=100*(P-PE)/PE]												-34.28
+ D.Semiarid (-66.7<MI<-33.3)												
Index of dryness [DI=100*d/PE]												34.27
+ Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE]												0.00
+ No surplus (0<HI<10)												
Potential Evapotranspiration PE												864.99
+ Third mesothermic (855<PE<997)												

