Phytosociological Research Center

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Worldwide Bioclimatic Classification System

Prof.Dr. Salvador Rivas-Martinez

VILLA ANGELA (ARGENTINA) Altitude: 74 m.

Latitude: 27° 34'S Longitude: 60° 44'W
Temperature observation period.: 1941-1950 (10)
Rainfall observation period....: 1941-1950 (10)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPi
Jan.	27.20	36.30	19.90	43.80	8.80	116.0	166.50
Feb.	26.40	35.10	19.80	44.40	9.00	143.0	136.78
Mar.	23.30	31.50	17.60	42.30	7.00	126.0	105.90
Apr.	20.20	28.30	14.70	36.90	2.60	99.0	67.79
May.	17.40	24.30	11.60	34.10	-1.60	44.0	46.69
Jun.	14.50	21.60	9.10	33.40	-4.00	33.0	28.42
Jul.	13.60	21.40	7.70	33.40	-5.60	32.0	25.56
Aug.	16.60	25.70	9.20	40.90	-4.10	15.0	43.58
Sep.	19.20	28.10	12.40	42.60	-0.30	48.0	63.31
Oct.	22.00	30.60	14.30	44.40	1.10	73.0	96.86
Nov.	24.30	32.70	16.50	44.10	8.40	98.0	124.64
Dec.	26.90	35.60	18.50	44.20	8.90	75.0	166.44
Year	20.97	29.27	14.27	40.38	2.52	902	1072.5

BIOCLIMATIC INDICES AND DIAGNOSIS

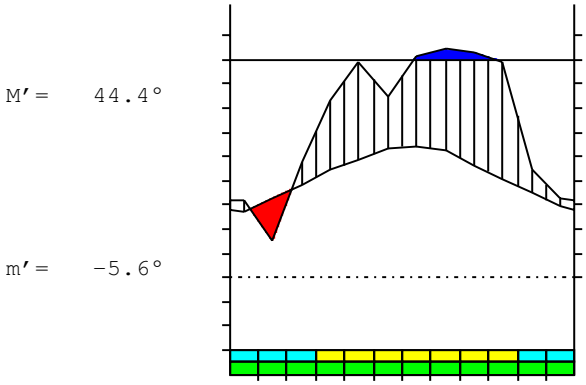
Thermicity index.....(It): 501
Compensated thermicity index.....(Itc): 501
Simple continentality index.....(Ic): 13.6
Diurnality index.....(Id): 17.1
Annual ombrothermic index.....(Io): 3.59
Monthly dry ombrothermic index.....(Iod1): 0.90
Bimonthly dry ombrothermic index.....(Iod2): 1.56
Threemonthly dry ombrothermic index.....(Iod3): 1.79
Fourmonthly dry ombrothermic index.....(Iod4): 2.00
Annual ombro-evaporation index.....(Ioe): 0.84
Annual positive temperature.....(Tp): 2516
Annual negative temperature.....(Tn): -0
Dry station temperature.....(Td): 447
Positive precipitation.....(Pp): 902

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0°
Months	5	6	0	1	0

Latitudinal Belt...: Subtropical
Continentality.....: Oceanic - Low Semihyperoceanic
Bioclimate(Variant): TROPICAL XERIC (PLUVISEROTIN,DRY)
Bioclimatic belt...: UPPER THERMOTROPICAL UPPER DRY

VILLA ANGELA (ARGENTINA) 74 m

P= 902 27° 34'S 60° 44'W 10/10 y.
T= 21.0 ° Ic= 13.6 Tp= 2516 Tn= -0
m= 7.7 ° M= 21.4 ° Itc= 501 Io= 3.6



TROPICAL XERIC (PLUVISEROTIN)
UPPER THERMOTROPICAL UPPER DRY

WATER INDEX CARD **VILLA ANGELA (ARGENTINA)**
Altitude: 74 m. Latitude: 27° 34'S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	13.6	26	32	6	66	26	0	0	0	0.2
Aug.	16.6	44	15	-28	37	44	0	0	0	-0.6
Sep.	19.2	63	48	-15	22	63	0	0	0	-0.2
Oct.	22.0	97	73	-22	0	95	2	0	0	-0.2
Nov.	24.3	125	98	0	0	98	27	0	0	-0.2
Dec.	26.9	166	75	0	0	75	91	0	0	-0.5
Jan.	27.2	167	116	0	0	116	50	0	0	-0.3
Feb.	26.4	137	143	6	6	137	0	0	0	0.0
Mar.	23.3	106	126	20	26	106	0	0	0	0.1
Apr.	20.2	68	99	31	58	68	0	0	0	0.4
May.	17.4	47	44	-3	55	47	0	0	0	0.0
Jun.	14.5	28	33	4	59	28	0	0	0	0.1
Year	21.0	1072	902	*	*	902	170	0	0	*

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

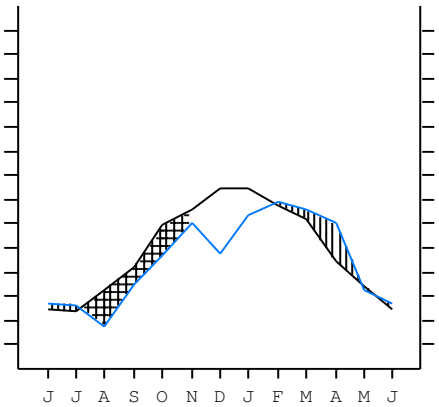
VILLA ANGELA (ARGENTINA)

27°34'S 60°44'W 74 m 10/10 y.

T= 21.0 Ic= 13.6
m= 7.7 Tp= 2516
M= 21.4 Tn= -0
M'= 44.4 Itc= 501
m'= -5.6 Io= 3.6
P= 902 mm
PE= 1072 mm

TROPICAL XERIC (PLUVISEROTIN)
UPPER THERMOTROPICAL
UPPER DRY

Imbibing	12 May.
Saturation	
Reserve Use	28 Apr.
Deficit	28 Oct.



VILLA ANGELA (ARGENTINA)

Latitude: 27°34'S Longitude: 60°44'W Altitude: 74 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continentality Index [B1b]
- + Type .....: B. Oceanic
- + Subtype .....: 1. Semihyperoceanic
- + Variant .....: b. Low

Thermic types [A3.A2]
- + Latitudinal zone ....: A. Warm
- + Latitudinal belt ....: 3. Subtropical
- + Thermic type .....: A. Warm
- + Thermic subtype .....: 2. Warm

Bioclimatic types [A3e.2a.5a]
- + Macrobioclimate .....: A. TROPICAL
- + Bioclimate .....: 3. XERIC
- + Bioclimatic variant .: e. PLUVISEROTIN,DRY
- + Thermic type.....: 2. THERMOTROPICAL
- + Thermic subtype.....: a. UPPER
- + Ombrothermic type ...: 5. DRY
- + Ombrothermic subtype : a. UPPER

Bioclimatic Classification .....: Trxe(Pse).Ttr.Dry

VILLA ANGELA (ARGENTINA)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 631
Coldest semester of the year.....(Psw): 271
Warmest four months period of the year.....(Pcm1): 432
Following warmest four months period.....(Pcm2): 302
Positive precipitation dryest 3 months.....(Ppd): 80
Positive precipitation dryest 2 months.....(Ppd2): 47
Positive precipitation dryest 1 month.....(Ppd1): 15
Positive precipitation warmest 3 months.....(Pps): 334
Positive precipitation warmest 2 months.....(Pps2): 191
Positive precipitation warmest 1 month.....(Pps1): 116
Positive precipitation coldest 3 months.....(Ppw): 80
Positive precipitation coldest 2 months.....(Ppw2): 65
Positive precipitation coldest 1 month.....(Ppw1): 32

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	80	219	334	269

Seasonal rainfall rhythms: S > F > P > W

VILLA ANGELA (ARGENTINA)

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 27.2
Average coldest month [T].....(Tmin): 13.6
Maximum temp. warmest month [M].....(Tmmax): 36.3
Minimum temp. coldest month [m].....(Tmmin): 7.7
Absolute Max.temp. warmest month [M'].....(Tamax): 44.4
Absolute Min.temp. coldest month [m'].....(Tamin): -5.6
First warmest contrasted month [M].....(Tcmax): 35.6 (12)
First coldest contrasted month [m].....(Tcmin): 18.5 (12)
Dry station temperature.....(Td): 447
Positive temperature dryest 3 months.....(Tpd): 447
Positive temperature dryest 2 months.....(Tpd2): 302
Positive temperature dryest 1 month.....(Tpd1): 166
Positive temperature warmest 3 months.....(Tps): 805
Positive temperature warmest 2 months.....(Tps2): 541
Positive temperature warmest 1 month.....(Tps1): 272
Positive temperature coldest 3 months.....(Tpw): 447
Positive temperature coldest 2 months.....(Tpw2): 281
Positive temperature coldest 1 month.....(Tpw1): 136

VILLA ANGELA (ARGENTINA)

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

VILLA ANGELA (ARGENTINA)

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 1.19
Mediterranean index of January.....(Im1): 1.44
Mediterranean index of January & February.....(Im2): 1.17
Mediterranean index of December to February...(Im3): 1.41

Months	**Dec.**	**Jan.**	**Feb.**	**Mar.**	**Apr.**	**May.**	**Jun.**	**Jul.**	**Aug.**	**Sep.**	**Oct.**	**Nov.**
Pp(x10)	750	1160	1430	1260	990	440	330	320	150	480	730	980
Tp	269	272	264	233	202	174	145	136	166	192	220	243
Io (Iom)	2.79	4.26	5.42	5.41	4.90	2.53	2.28	2.35	0.90	2.50	3.32	4.03

Seasons	**Summer**	**Automn**	**Winter**	**Spring**
Pp(x10)/Tp	3340 / 805	2690 / 609	800 / 447	2190 / 655
Io (Iot)	4.149	4.417	1.790	3.344

Semesters	**December-May**	**June-November**
Pp(x10)/Tp	6030 / 1414	2990 / 1102
Io (Iosm)	4.264	2.713

VILLA ANGELA (ARGENTINA)

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....(Sp): 13.60
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....: 29.56
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....: 23.92
  + Oceanic (20<CI<40)
CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....: 1.33
  + Subcontinental (1.1<CI<1.7)
Rainfall Index of Lang (1925) [R=P/T] .....: 43.02
  + Semiarid (60>R>40)
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....: 29.13
  + Subhumid (30>Ia>20)
I of Emberger (1930) [Q=100*P/(Tmmax²-Tmmin²)] .....: 71.68
  + Subhumid (90>Q>50)
I of Dantin & Revenga (1940) [DR=100*T/P] .....: 2.32
  + Semiarid (3>DR>2)
Aridity Index of UNEP [I=P/PE] .....: 0.84
  + Humid (I>0.65)
Potencial Erosion I of Fournier (1960) [K=Pi²/P].....: 22.67
  + Very low (K<60)

VILLA ANGELA (ARGENTINA)

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BIOCLIMATIC INDICES II

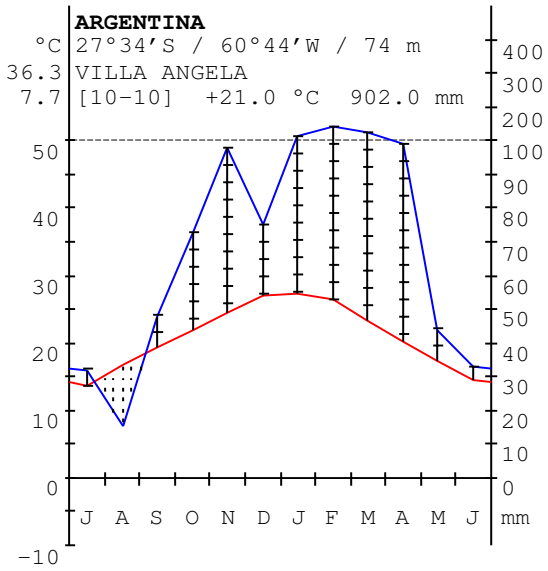
Bioclimatic classification of Gaussen & Bagnouls (1957)
+ Climate ....: A. Warm and temperate warm
+ Region .....: 3. Termoxeroteric (Mediterranean warm)
+ Thermic type: 2. Macrothermic

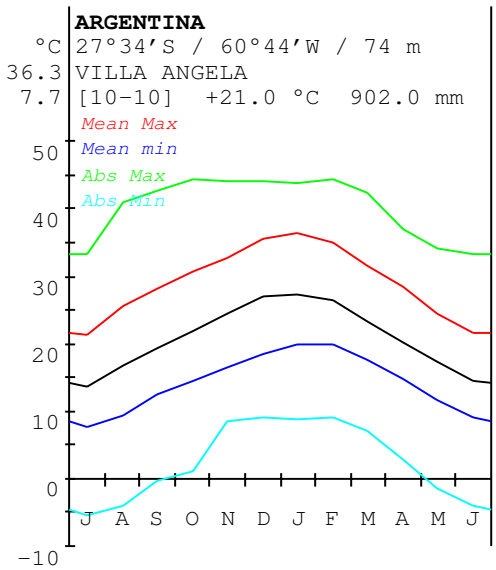
Thornthwaite (1948)

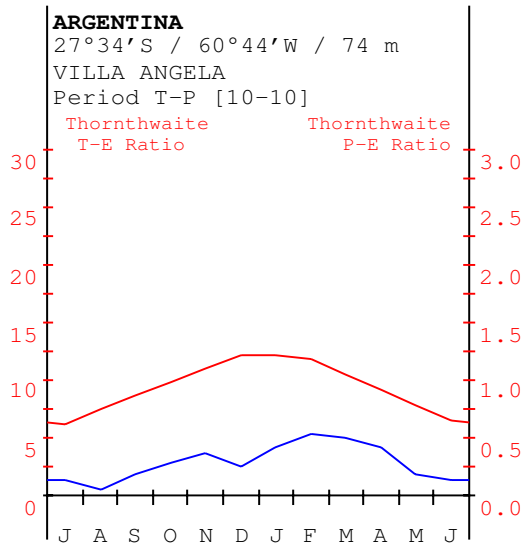
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.41	0.53	0.50	0.41	0.18	0.14	0.14	0.06	0.19	0.28	0.37	0.26
T-E ratio	12.24	11.88	10.48	9.09	7.83	6.52	6.12	7.47	8.64	9.90	10.93	12.10

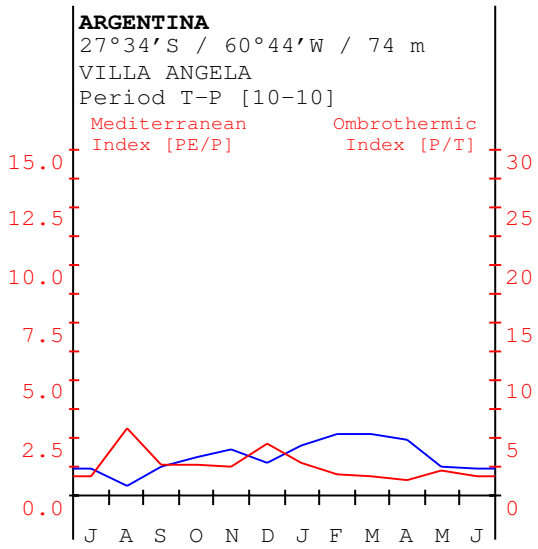
Precipitation-effectiveness: 34.59 Temperature-efficiency ....: 113.22

Moisture Index [MI=100*(P-PE)/PE] .....: -15.90
+ C1.Subhumid dry (-33.3<MI<0)
Index of dryness [DI=100*d/PE] .....: 15.89
+ No deficit (0<DI<16.7)
Index of humidity [HI=100*s/PE] .....: 0.00
+ No surplus (0<HI<10)
Potential Evapotranspiration PE .....: 1072.48
+ Forth mesothermic (997<PE<1440)






ARGENTINA
27°34'S / 60°44'W / 74 m
VILLA ANGELA
Period T-P [10-10]
Thornthwaite T-E Ratio
Thornthwaite P-E Ratio
30
25
20
15
10
5
0
3.0
2.5
2.0
1.5
1.0
0.5
0.0
J A S O N D J F M A M J


ARGENTINA
27°34'S / 60°44'W / 74 m
VILLA ANGELA
Period T-P [10-10]
Mediterranean Index [PE/P]
Ombrothermic Index [P/T]
15.0
12.5
10.0
7.5
5.0
2.5
0.0
30
25
20
15
10
5
0
J A S O N D J F M A M J