

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

SARMIENTO (ARGENTINA)

Altitude: 268 m.

Latitude: 45°35'S Longitude: 69°4'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.	17.80	25.30	11.60	37.60	1.50	12.0	112.37
Feb.	16.80	24.40	10.80	36.70	1.50	11.0	87.55
Mar.	14.20	21.50	8.80	33.40	-2.00	19.0	70.02
Apr.	11.00	17.30	5.90	26.80	-5.80	15.0	44.23
May.	7.30	12.00	3.20	22.00	-12.40	28.0	24.72
Jun.	4.70	9.00	1.00	20.00	-17.00	14.0	13.00
Jul.	4.10	8.80	0.20	16.50	-18.60	24.0	12.17
Aug.	5.00	10.40	0.60	19.70	-10.70	14.0	17.27
Sep.	8.10	14.20	3.10	23.30	-6.90	14.0	33.69
Oct.	12.00	18.80	6.40	29.00	-3.80	5.0	62.93
Nov.	14.10	21.20	8.40	32.00	-1.00	18.0	81.12
Dec.	16.40	23.80	10.50	35.80	2.20	9.0	103.70
Year	10.96	17.23	5.88	27.73	-6.08	183	662.77

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	200
Compensated thermicity index.....(Itc):	200
Simple continentality index.....(Ic):	13.7
Diurnality index.....(Id):	13.7
Annual ombrothermic index.....(Io):	1.39
Monthly estival ombrothermic index.....(Ios1):	0.55
Bimonthly estival ombrothermic index.....(Ios2):	0.66
Threemonthly estival ombrothermic index.....(Ios3):	0.63
Fourmonthly estival ombrothermic index.....(Ios4):	0.77
Annual ombro-evaporation index.....(Ioe):	0.68
Annual positive temperature.....(Tp):	1315
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	510
Positive precipitation.....(Pp):	183

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

Latitudinal Belt...: High eutemperate

Continentalty.....: Oceanic - Low Semihyperoceanic

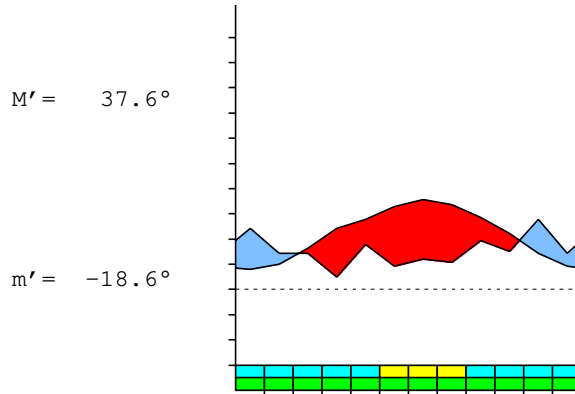
Bioclimate.....: MEDITERRANEAN XERIC-OCEANIC

Bioclimatic Belt...: LOW SUPRAMEDITERRANEAN LOW SEMIARID

SARMIENTO (ARGENTINA)

268 m

P= 183 45° 35' S 69° 4' W 10/10 y.
 T= 11.0° Ic= 13.7 Tp= 1315 Tn= 0
 m= 0.2° M= 8.8° Itc= 200 Io= 1.4



MEDITERRANEAN XERIC-OCEANIC
 LOW SUPRAMEDITERRANEAN LOW SEMIARID

WATER INDEX CARD SARMIENTO (ARGENTINA)
 Altitude: 268 m. Latitude: 45° 35' S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	4.1	12	24	12	16	12	0	0	0	0.9
Aug.	5.0	17	14	-3	13	17	0	0	0	-0.1
Sep.	8.1	34	14	-13	0	27	7	0	0	-0.5
Oct.	12.0	63	5	0	0	5	58	0	0	-0.9
Nov.	14.1	81	18	0	0	18	63	0	0	-0.7
Dec.	16.4	104	9	0	0	9	95	0	0	-0.9
Jan.	17.8	112	12	0	0	12	100	0	0	-0.8
Feb.	16.8	88	11	0	0	11	77	0	0	-0.8
Mar.	14.2	70	19	0	0	19	51	0	0	-0.7
Apr.	11.0	44	15	0	0	15	29	0	0	-0.6
May.	7.3	25	28	3	3	25	0	0	0	0.1
Jun.	4.7	13	14	1	4	13	0	0	0	0.0
Year	11.0	663	183	*	*	183	480	0	0	*

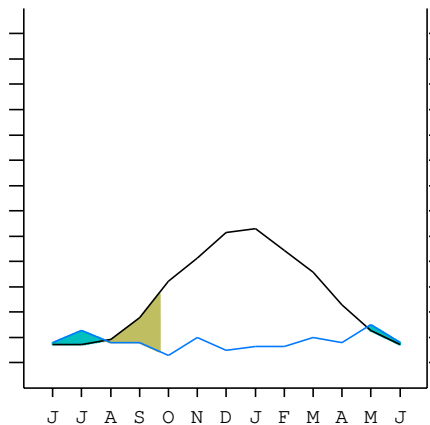
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

SARMIENTO (ARGENTINA)

45°35' S 69°4' W 268 m 10/10 y.

T= 11.0 Ic= 13.7 MEDITERRANEAN XERIC-OCEANIC
 m= 0.2 Tp= 1315 LOW SUPRAMEDITERRANEAN
 M= 8.8 Tn= 0 LOW SEMIARID
 M' = 37.6 Itc= 200
 m' = -18.6 Io= 1.4
 P= 183 mm ———
 PE= 663 mm ———

Imbibing	27 Apr.
Saturation	24 Jul.
Reserve Use	20 Sep.
Deficit	



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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [B1b]
 + Type: B. Oceanic
 + Subtype: 1. Semihyperoceanic
 + Variant: b. Low
 Thermic types [B1.B5]
 + Latitudinal zone: B. Temperate
 + Latitudinal belt: 1. High eutemperate
 + Thermic type: B. Temperate
 + Thermic subtype: 5. Subtemperate
 Bioclimatic types [B6.4b.4b]
 + Macrobioclimate: B. MEDITERRANEAN
 + Bioclimate: 6. XERIC-OCEANIC
 + Bioclimatic variant ..:
 + Thermic type.....: 4. SUPRAMEDITERRANEAN
 + Thermic subtype.....: b. LOW
 + Ombrothermic type ...: 4. SEMIARID
 + Ombrothermic subtype : b. LOW
 Bioclimatic Classification: MepDC.Sme.Sar

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 74
 Coldest semester of the year.....(Psw): 109
 Warmest four months period of the year.....(Pcm1): 51
 Following warmest four months period.....(Pcm2): 81
 Positive precipitation dryest 3 months.....(Ppd): 32
 Positive precipitation dryest 2 months.....(Ppd2): 19
 Positive precipitation dryest 1 month.....(Ppd1): 5
 Positive precipitation warmest 3 months.....(Pps): 32
 Positive precipitation warmest 2 months.....(Pps2): 23
 Positive precipitation warmest 1 month.....(Pps1): 12
 Positive precipitation coldest 3 months.....(Ppw): 52
 Positive precipitation coldest 2 months.....(Ppw2): 38
 Positive precipitation coldest 1 month.....(Ppw1): 24

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	52	37	32	62

Seasonal rainfall rhythms: F > W > P > S

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 17.8
 Average coldest month [T].....(Tmin): 4.1
 Maximum temp. warmest month [M].....(Tmmax): 25.3
 Minimum temp. coldest month [m].....(Tmmin): 0.2
 Absolute Max.temp. warmest month [M'].....(Tamax): 37.6
 Absolute Min.temp. coldest month [m'].....(Tamin): -18.6
 First warmest contrasted month [M].....(Tcmax): 25.3 (1)
 First coldest contrasted month [m].....(Tcmin): 11.6 (1)
 Estival temperature.....(Ts): 510
 Positive temperature dryest 3 months.....(Tpd): 425
 Positive temperature dryest 2 months.....(Tpd2): 201
 Positive temperature dryest 1 month.....(Tpd1): 120
 Positive temperature warmest 3 months.....(Tps): 510
 Positive temperature warmest 2 months.....(Tps2): 346
 Positive temperature warmest 1 month.....(Tps1): 178
 Positive temperature coldest 3 months.....(Tpw): 138
 Positive temperature coldest 2 months.....(Tpw2): 88
 Positive temperature coldest 1 month.....(Tpw1): 41

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

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 3.62
 Mediterranean index of January.....(Im1): 9.36
 Mediterranean index of January & February.....(Im2): 8.69
 Mediterranean index of December to February...(Im3): 9.49

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	90	120	110	190	150	280	140	240	140	140	50	180
Tp	164	178	168	142	110	73	47	41	50	81	120	141
Io (Iom)	0.55	0.67	0.65	1.34	1.36	3.84	2.98	5.85	2.80	1.73	0.42	1.28
Seasons	Summer			Autumn			Winter			Spring		
Pp(x10)/Tp	320 / 510			620 / 325			520 / 138			370 / 342		
Io (Iot)	0.627			1.908			3.768			1.082		
Semesters	December-May						June-November					
Pp(x10)/Tp	940 / 835						890 / 480					
Io (Iosm)	1.126						1.854					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 1830/1315=1.39 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	90	120	110	190	150	280	140	240	140	140	50	180
Tp [T*10]	164	178	168	142	110	73	47	41	50	81	120	141
Iom [Pp/Tp]	55	67	65	134	136	384	298	585	280	173	42	128
Avm [200-Iom]	145	133	135	66	64	***	***	***	***	27	158	72
Seasons	Summer			Autumn			Winter			Spring		
Pp / Tp	320 / 510			620 / 325			520 / 138			370 / 342		
Iot [Pp/Tp]	63			191			377			108		
Avs E[Avm<200]	412			***			***			258		
Strong lower arid [1]						Weak lower arid [4]						
Strong lower semiarid [1]						Weak lower semiarid [3]						
Weak upper semiarid [1]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp):	13.70
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]		12.21
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]		14.23
+ Hyperoceanic (-20<CI<20)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)]		0.85
+ Oceanic (0.6<CI<1.1)		
Rainfall Index of Lang (1925) [R=P/T]		16.70
+ Steppic (40>R>0)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)]		8.73
+ Arid -steppic- (15>Ia>5)		
I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)]		28.59
+ Arid (30>Q>0)		
I of Dantin & Revenga (1940) [DR=100*T/P]		5.99
+ Arid (6>DR>3)		
Aridity Index of UNEP [I=P/PE]		0.28
+ Semiarid (0.5>Im>0.2)		
Potential Erosion I of Fournier (1960) [K=Pi ² /P]		4.28
+ Very low (K<60)		

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)
 + Climate

- + Climate
- + Region
- + Thermic type: 5. Meso-microthermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.04	0.04	0.08	0.07	0.15	0.08	0.14	0.08	0.07	0.02	0.07	0.03
T-E ratio	8.01	7.56	6.39	4.95	3.29	2.11	1.84	2.25	3.65	5.40	6.35	7.38
Precipitation-effectiveness: 8.56						Temperature-efficiency						59.17
Moisture Index [MI=100*(P-PE)/PE]												-72.39
+ E.Dry (-110<MI<-66.7)												
Index of dryness [DI=100*d/PE]												72.38
+ Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE]												0.00
+ No surplus (0<HI<10)												
Potential Evapotranspiration PE												662.77
+ First mesothermic (570<PE<712)												

