

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

TRENQUE LAUQUEN (ARGENTINA)

Altitude: 96 m.

Latitude: 35°58'S Longitude: 62°43'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.	24.00	32.40	16.20	42.00	7.00	60.0	141.69
Feb.	22.70	31.10	15.70	42.00	5.60	80.0	109.40
Mar.	18.80	26.10	13.00	36.00	3.40	130.0	80.80
Apr.	15.80	23.30	9.70	34.40	0.40	51.0	53.71
May.	11.90	19.80	6.80	28.00	-4.00	45.0	31.79
Jun.	8.80	15.30	4.00	26.00	-8.60	34.0	17.54
Jul.	8.20	14.70	3.00	27.70	-9.40	30.0	16.76
Aug.	9.70	17.00	3.70	29.60	-6.30	27.0	23.92
Sep.	12.80	20.00	6.30	36.70	-4.20	44.0	40.30
Oct.	16.30	24.00	9.20	34.00	-1.00	81.0	68.59
Nov.	20.10	28.00	12.20	38.70	2.00	80.0	99.64
Dec.	23.30	31.60	15.00	41.30	3.40	82.0	135.99
Year	16.03	23.61	9.57	34.70	-0.98	744	820.14

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	337
Compensated thermicity index.....(Itc):	337
Simple continentality index.....(Ic):	15.8
Diurnality index.....(Id):	16.6
Annual ombrothermic index.....(Io):	3.87
Monthly estival ombrothermic index.....(Ios1):	2.50
Bimonthly estival ombrothermic index.....(Ios2):	3.00
Threemonthly estival ombrothermic index.....(Ios3):	3.17
Fourmonthly estival ombrothermic index.....(Ios4):	3.35
Annual ombro-evaporation index.....(Ioe):	2.22
Annual positive temperature.....(Tp):	1924
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	700
Positive precipitation.....(Pp):	744

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

Latitudinal Belt...: Subtropical

Continentalty.....: Oceanic - Low Euoceanic

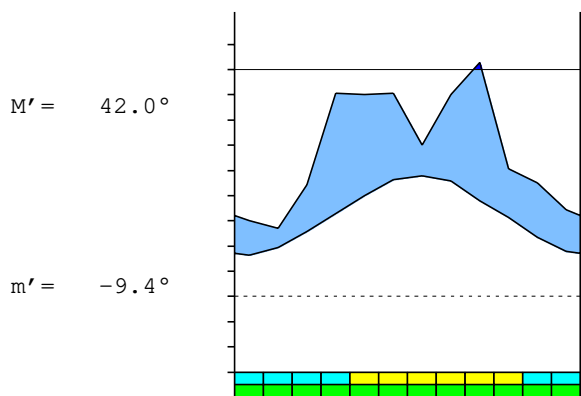
Bioclimate(Variant): TEMPERATE OCEANIC (SUBMEDITERRANEAN)

Bioclimatic Belt...: UPPER THERMOTEMPERATE LOW SUBHUMID

TRENQUE LAUQUEN (ARGENTINA)

96 m

P= 744 35° 58'S 62° 43'W 10/10 y.
 T= 16.0° Ic= 15.8 Tp= 1924 Tn= 0
 m= 3.0° M= 14.7° Itc= 337 Io= 3.9



TEMPERATE OCEANIC (SUBMEDITERRANEAN)
 UPPER THERMOTEMPERATE LOW SUBHUMID

WATER INDEX CARD TRENQUE LAUQUEN (ARGENTINA)
 Altitude: 96 m. Latitude: 35° 58'S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	8.2	17	30	13	89	17	0	0	0	0.7
Aug.	9.7	24	27	3	92	24	0	0	0	0.1
Sep.	12.8	40	44	4	96	40	0	0	0	0.0
Oct.	16.3	69	81	4	100	69	0	9	4	0.1
Nov.	20.1	100	80	-20	80	100	0	0	2	-0.1
Dec.	23.3	136	82	-54	26	136	0	0	1	-0.3
Jan.	24.0	142	60	-26	0	86	55	0	1	-0.5
Feb.	22.7	109	80	0	0	80	29	0	0	-0.2
Mar.	18.8	81	130	49	49	81	0	0	0	0.6
Apr.	15.8	54	51	-3	46	54	0	0	0	0.0
May.	11.9	32	45	13	60	32	0	0	0	0.4
Jun.	8.8	18	34	16	76	18	0	0	0	0.9
Year	16.0	820	744	*	*	735	85	9	9	*

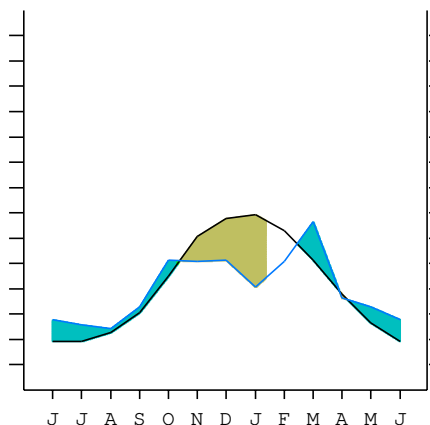
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

TRENQUE LAUQUEN (ARGENTINA)

35°58'S 62°43'W 96 m 10/10 y.

T= 16.0 Ic= 15.8 TEMPERATE OCEANIC (SUBMEDITERRANEAN)
 m= 3.0 Tp= 1924 UPPER THERMOTEMPERATE
 M= 14.7 Tn= 0 LOW SUBHUMID
 M' = 42.0 Itc= 337
 m' = -9.4 Io= 3.9
 P= 744 mm ———
 PE= 820 mm ———

Imbibing	6 Apr.
Saturation	10 Oct.
Reserve Use	29 Mar.
Deficit	10 Jan.



TRENQUE LAUQUEN (ARGENTINA)

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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [B2b]
 + Type: B. Oceanic
 + Subtype: 2. Euoceanic
 + Variant: b. Low
 Thermic types [B1.A3]
 + Latitudinal zone: B. Temperate
 + Latitudinal belt: 1. Subtropical
 + Thermic type: A. Warm
 + Thermic subtype: 3. Subwarm
 Bioclimatic types [C3b.2a.6b]
 + Macroclimate: C. TEMPERATE
 + Bioclimate: 3. OCEANIC
 + Bioclimatic variant .: b. SUBMEDITERRANEAN
 + Thermic type.....: 2. THERMOTEMPERATE
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 6. SUBHUMID
 + Ombrothermic subtype : b. LOW
 Bioclimatic Classification: Teco (Sbm).Tte.Shu

TRENQUE LAUQUEN (ARGENTINA)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 513
 Coldest semester of the year.....(Psw): 231
 Warmest four months period of the year.....(Pcm1): 302
 Following warmest four months period.....(Pcm2): 260
 Positive precipitation dryest 3 months.....(Ppd): 91
 Positive precipitation dryest 2 months.....(Ppd2): 57
 Positive precipitation dryest 1 month.....(Ppd1): 27
 Positive precipitation warmest 3 months.....(Pps): 222
 Positive precipitation warmest 2 months.....(Pps2): 142
 Positive precipitation warmest 1 month.....(Pps1): 60
 Positive precipitation coldest 3 months.....(Ppw): 91
 Positive precipitation coldest 2 months.....(Ppw2): 64
 Positive precipitation coldest 1 month.....(Ppw1): 30

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	91	205	222	226

Seasonal rainfall rhythms: F > S > P > W

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 24.0
 Average coldest month [T].....(Tmin): 8.2
 Maximum temp. warmest month [M].....(Tmmax): 32.4
 Minimum temp. coldest month [m].....(Tmmin): 3.0
 Absolute Max.temp. warmest month [M'].....(Tamax): 42.0
 Absolute Min.temp. coldest month [m'].....(Tamin): -9.4
 First warmest contrasted month [M].....(Tcmax): 31.6 (12)
 First coldest contrasted month [m].....(Tcmin): 15.0 (12)
 Estival temperature.....(Ts): 700
 Positive temperature dryest 3 months.....(Tpd): 267
 Positive temperature dryest 2 months.....(Tpd2): 179
 Positive temperature dryest 1 month.....(Tpd1): 97
 Positive temperature warmest 3 months.....(Tps): 700
 Positive temperature warmest 2 months.....(Tps2): 473
 Positive temperature warmest 1 month.....(Tps1): 240
 Positive temperature coldest 3 months.....(Tpw): 267
 Positive temperature coldest 2 months.....(Tpw2): 170
 Positive temperature coldest 1 month.....(Tpw1): 82

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

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 1.10
 Mediterranean index of January.....(Im1): 2.36
 Mediterranean index of January & February.....(Im2): 1.79
 Mediterranean index of December to February...(Im3): 1.74

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	820	600	800	1300	510	450	340	300	270	440	810	800
Tp	233	240	227	188	158	119	88	82	97	128	163	201
Io (Iom)	3.52	2.50	3.52	6.91	3.23	3.78	3.86	3.66	2.78	3.44	4.97	3.98
Seasons	Summer			Autumn			Winter			Spring		
Pp(x10)/Tp	2220 / 700			2260 / 465			910 / 267			2050 / 492		
Io (Iot)	3.171			4.860			3.408			4.167		
Semesters	December-May						June-November					
Pp(x10)/Tp	4480 / 1165						2960 / 759					
Io (Iosm)	3.845						3.900					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 7440/1924=3.87 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	820	600	800	1300	510	450	340	300	270	440	810	800
Tp [T*10]	233	240	227	188	158	119	88	82	97	128	163	201
Iom [Pp/Tp]	352	250	352	691	323	378	386	366	278	344	497	398
Avm [200-Iom]	***	***	***	***	***	***	***	***	***	***	***	***
Seasons	Summer			Autumn			Winter			Spring		
Pp / Tp	2220 / 700			2260 / 465			910 / 267			2050 / 492		
Iot [Pp/Tp]	317			486			341			417		
Avs E [Avm<200]	***			***			***			***		

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp):	15.80
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]		25.33
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]		23.36
+ Oceanic (20<CI<40)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)]		1.22
+ Subcontinental (1.1<CI<1.7)		
Rainfall Index of Lang (1925) [R=P/T]		46.40
+ Semiarid (60>R>40)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)]		28.58
+ Subhumid (30>Ia>20)		
I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)]		71.49
+ Subhumid (90>Q>50)		
I of Dantin & Revenga (1940) [DR=100*T/P]		2.16
+ Semiarid (3>DR>2)		
Aridity Index of UNEP [I=P/PE]		0.91
+ Humid (I>0.65)		
Potential Erosion I of Fournier (1960) [K=Pi ² /P]		22.72
+ 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	0.21	0.30	0.58	0.22	0.22	0.18	0.16	0.13	0.20	0.36	0.32	0.31
T-E ratio	10.80	10.22	8.46	7.11	5.35	3.96	3.69	4.36	5.76	7.33	9.05	10.48
Precipitation-effectiveness: 31.93						Temperature-efficiency						86.58
Moisture Index [MI=100*(P-PE)/PE]												-9.28
+ C1.Subhumid dry (-33.3<MI<0)												
Index of dryness [DI=100*d/PE]												10.33
+ No deficit (0<DI<16.7)												
Index of humidity [HI=100*s/PE]												1.04
+ No surplus (0<HI<10)												
Potential Evapotranspiration PE												820.14
+ Second mesothermic (712<PE<855)												

