

# Phytosociological Research Center

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## Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

CHARLEVILLE (AUSTRALIA)

Altitude: 306 m.

Latitude: 26°25'S Longitude: 146°16'E

Temperature observation period.: 1961-1994 (34)

Rainfall observation period....: 1929-1994 (66)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	Epi
Jan.	28.89	36.11	21.67	46.67	11.11	63.5	180.92
Feb.	28.34	35.56	21.11	46.11	10.00	66.0	151.73
Mar.	25.56	32.78	18.33	43.33	5.00	58.4	130.24
Apr.	21.11	28.89	13.33	38.89	1.11	33.0	74.78
May.	16.39	24.44	8.33	33.33	-2.78	30.5	39.57
Jun.	13.06	20.56	5.56	31.11	-5.00	33.0	21.32
Jul.	12.22	20.00	4.44	30.56	-5.00	30.5	18.96
Aug.	14.17	22.78	5.56	34.44	-4.44	17.8	28.66
Sep.	18.06	26.67	9.44	38.89	-1.67	20.3	53.29
Oct.	22.78	31.11	14.44	43.33	1.11	30.5	104.05
Nov.	25.84	33.89	17.78	47.22	4.44	43.2	142.65
Dec.	27.78	35.56	20.00	47.78	6.67	61.0	173.44
Year	21.18	29.03	13.33	40.14	1.71	488	1119.6

### BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	456
Compensated thermicity index.....(Itc):	456
Simple continentality index.....(Ic):	16.7
Diurnality index.....(Id):	17.2
Annual ombrothermic index.....(Io):	1.92
Monthly dry ombrothermic index.....(Iod1):	1.26
Bimonthly dry ombrothermic index.....(Iod2):	1.18
Three monthly dry ombrothermic index.....(Iod3):	1.54
Four monthly dry ombrothermic index.....(Iod4):	1.77
Annual ombro-evaporation index.....(Ioe):	1.95
Annual positive temperature.....(Tp):	2542
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	445
Positive precipitation.....(Pp):	488

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

Latitudinal Belt...: Subtropical

Continentalty.....: Oceanic - Low Euoceanic

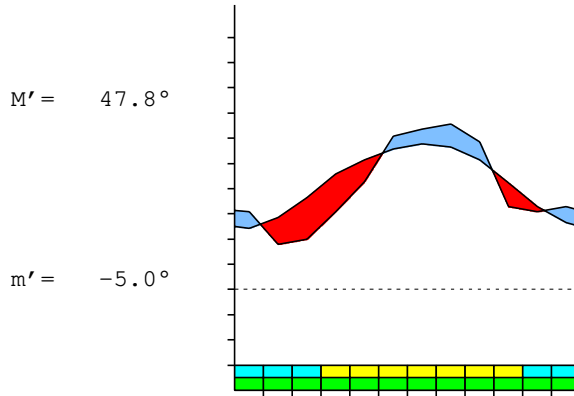
Bioclimate(Variant): TROPICAL XERIC (SEMIARID)

Bioclimatic Belt...: LOW MESOTROPICAL UPPER SEMIARID

CHARLEVILLE (AUSTRALIA)

306 m

P= 488      26° 25' S      146° 16' E      34/66 y.  
 T= 21.2°    Ic= 16.7      Tp= 2542      Tn= 0  
 m= 4.4°      M= 20.0°      Itc= 456      Io= 1.9



TROPICAL XERIC (SEMIARID)  
 LOW MESOTROPICAL UPPER SEMIARID

WATER INDEX CARD      CHARLEVILLE (AUSTRALIA)  
 Altitude: 306 m.      Latitude: 26° 25' S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	12.2	19	31	12	23	19	0	0	0	0.6
Aug.	14.2	29	18	-11	12	29	0	0	0	-0.3
Sep.	18.1	53	20	-12	0	33	21	0	0	-0.6
Oct.	22.8	104	31	0	0	31	74	0	0	-0.7
Nov.	25.8	143	43	0	0	43	99	0	0	-0.6
Dec.	27.8	173	61	0	0	61	112	0	0	-0.6
Jan.	28.9	181	64	0	0	64	117	0	0	-0.6
Feb.	28.3	152	66	0	0	66	86	0	0	-0.5
Mar.	25.6	130	58	0	0	58	72	0	0	-0.5
Apr.	21.1	75	33	0	0	33	42	0	0	-0.5
May.	16.4	40	31	0	0	31	9	0	0	-0.2
Jun.	13.1	21	33	12	12	21	0	0	0	0.5
Year	21.2	1120	488	*	*	488	632	0	0	*

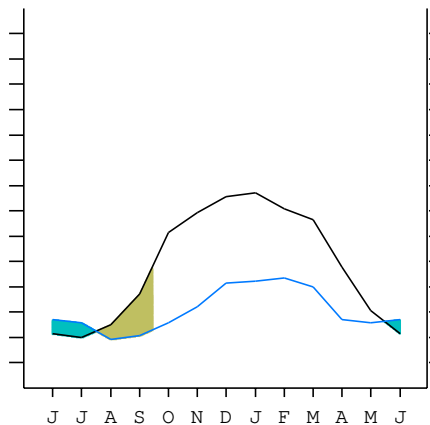
R = Reserve    VR = Variation of the reserve    RE = Real evapotranspiration  
 DR = Drainage    HC = Humidity coefficient    DF = Deficit    SP = Superavit

CHARLEVILLE (AUSTRALIA)

26°25' S 146°16' E      306 m 34/66 y.

T= 21.2      Ic= 16.7      TROPICAL XERIC (SEMIARID)  
 m= 4.4      Tp= 2542      LOW MESOTROPICAL  
 M= 20.0      Tn= 0      UPPER SEMIARID  
 M' = 47.8    Itc= 456  
 m' = -5.0    Io= 1.9  
 P= 488      mm      ———  
 PE= 1120    mm      ———

Imbibing	14 May.
Saturation	16 Jul.
Reserve Use	12 Sep.
Deficit	



CHARLEVILLE (AUSTRALIA)

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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [B2b]  
 + Type .....: B. Oceanic  
 + Subtype .....: 2. Euoceanic  
 + 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 [A3.3b.4a]  
 + Macrobioclimate .....: A. TROPICAL  
 + Bioclimate .....: 3. XERIC  
 + Bioclimatic variant ..:  
 + Thermic type.....: 3. MESOTROPICAL  
 + Thermic subtype.....: b. LOW  
 + Ombrothermic type ...: 4. SEMIARID  
 + Ombrothermic subtype : a. UPPER  
 Bioclimatic Classification .....: Trxe.Mtr.Sar

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 323  
 Coldest semester of the year.....(Psw): 165  
 Warmest four months period of the year.....(Pcm1): 234  
 Following warmest four months period.....(Pcm2): 155  
 Positive precipitation dryest 3 months.....(Ppd): 69  
 Positive precipitation dryest 2 months.....(Ppd2): 38  
 Positive precipitation dryest 1 month.....(Ppd1): 18  
 Positive precipitation warmest 3 months.....(Pps): 191  
 Positive precipitation warmest 2 months.....(Pps2): 130  
 Positive precipitation warmest 1 month.....(Pps1): 64  
 Positive precipitation coldest 3 months.....(Ppw): 81  
 Positive precipitation coldest 2 months.....(Ppw2): 64  
 Positive precipitation coldest 1 month.....(Ppw1): 31

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	81	94	190	121

Seasonal rainfall rhythms: S > F > P > W

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 28.9  
 Average coldest month [T].....(Tmin): 12.2  
 Maximum temp. warmest month [M].....(Tmmax): 36.1  
 Minimum temp. coldest month [m].....(Tmmin): 4.4  
 Absolute Max.temp. warmest month [M'].....(Tamax): 47.8  
 Absolute Min.temp. coldest month [m'].....(Tamin): -5.0  
 First warmest contrasted month [M].....(Tcmax): 26.7 (9)  
 First coldest contrasted month [m].....(Tcmin): 9.4 (9)  
 Dry station temperature.....(Td): 445  
 Positive temperature dryest 3 months.....(Tpd): 445  
 Positive temperature dryest 2 months.....(Tpd2): 322  
 Positive temperature dryest 1 month.....(Tpd1): 142  
 Positive temperature warmest 3 months.....(Tps): 850  
 Positive temperature warmest 2 months.....(Tps2): 572  
 Positive temperature warmest 1 month.....(Tps1): 289  
 Positive temperature coldest 3 months.....(Tpw): 395  
 Positive temperature coldest 2 months.....(Tpw2): 253  
 Positive temperature coldest 1 month.....(Tpw1): 122

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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

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 2.30  
 Mediterranean index of January.....(Im1): 2.85  
 Mediterranean index of January & February.....(Im2): 2.57  
 Mediterranean index of December to February...(Im3): 2.66

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	610	635	660	584	330	305	330	305	178	203	305	432
Tp	278	289	283	256	211	164	131	122	142	181	228	258
Io (Iom)	2.20	2.20	2.33	2.28	1.56	1.86	2.53	2.50	1.26	1.12	1.34	1.67
Seasons	Summer			Autumn			Winter			Spring		
Pp(x10)/Tp	1905 / 850			1219 / 631			813 / 395			940 / 667		
Io (Iot)	2.241			1.933			2.061			1.410		
Semesters	December-May						June-November					
Pp(x10)/Tp	3124 / 1481						1753 / 1061					
Io (Iosm)	2.110						1.652					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 4877/2542=1.92 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	610	635	660	584	330	305	330	305	178	203	305	432
Tp [T*10]	278	289	283	256	211	164	131	122	142	181	228	258
Iom [Pp/Tp]	220	220	233	228	156	186	253	250	126	112	134	167
Avm [200-Iom]	***	***	***	***	44	14	***	***	74	88	66	33
Seasons	Summer			Autumn			Winter			Spring		
Pp / Tp	1905 / 850			1219 / 631			813 / 395			940 / 667		
Iot [Pp/Tp]	224			193			206			141		
Avs E[Avm<200]	***			***			***			187		
Strong lower semiarid [1]						Weak lower semiarid [3]						
Strong upper semiarid [2]						Weak upper semiarid [1]						

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....	(Sp):	16.67
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....		43.30
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....		33.74
+ Oceanic (20<CI<40)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....		1.70
+ Continental (1.7<CI<2.3)		
Rainfall Index of Lang (1925) [R=P/T] .....		23.02
+ Steppic (40>R>0)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....		15.64
+ Semiarid -mediterranean- (20>Ia>15)		
I of Emberger (1930) [Q=100*P/(Tmmax <sup>2</sup> -Tmmin <sup>2</sup> )] .....		37.98
+ Semiarid (50>Q>30)		
I of Dantin & Revenga (1940) [DR=100*T/P] .....		4.34
+ Arid (6>DR>3)		
Aridity Index of UNEP [I=P/PE] .....		0.44
+ Semiarid (0.5>Im>0.2)		
Potential Erosion I of Fournier (1960) [K=Pi <sup>2</sup> /P] .....		8.93
+ Very low (K<60)		

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)

- + Climate .....
- + Region .....
- + Thermic type: 2. Macrothermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.20	0.22	0.20	0.12	0.12	0.15	0.14	0.07	0.07	0.10	0.14	0.20
T-E ratio	13.00	12.75	11.50	9.50	7.38	5.88	5.50	6.38	8.13	10.25	11.63	12.50
Precipitation-effectiveness: 17.41						Temperature-efficiency .....						114.39
Moisture Index [MI=100*(P-PE)/PE] .....												-56.44
+ D.Semiarid (-66.7<MI<-33.3)												
Index of dryness [DI=100*d/PE] .....												56.44
+ Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE] .....												0.00
+ No surplus (0<HI<10)												
Potential Evapotranspiration PE .....												1119.60
+ Forth mesothermic (997<PE<1440)												

