

# Phytosociological Research Center

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## Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

CHARLOTTE WATERS (AUSTRALIA)

Altitude: 197 m.

Latitude: 25°56'S Longitude: 134°55'E

Temperature observation period.: 1952-1994 (43)

Rainfall observation period....: 1937-1994 (58)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPi
Jan.	29.72	37.22	22.22	48.33	11.11	20.3	188.69
Feb.	29.45	36.67	22.22	45.00	12.78	15.2	160.70
Mar.	26.11	33.33	18.89	43.89	9.44	15.2	137.11
Apr.	21.11	28.33	13.89	40.56	2.78	12.7	73.23
May.	16.11	23.33	8.89	33.89	-1.67	10.2	36.20
Jun.	13.06	20.00	6.11	32.78	-5.56	10.2	19.93
Jul.	12.22	19.44	5.00	33.33	-3.89	5.1	17.62
Aug.	14.73	22.78	6.67	35.00	-2.22	5.1	29.79
Sep.	18.62	26.67	10.56	40.00	-0.56	5.1	55.54
Oct.	23.06	31.11	15.00	47.22	4.44	7.6	105.87
Nov.	26.39	34.44	18.33	46.67	6.67	12.7	150.25
Dec.	28.89	36.11	21.67	47.22	10.56	15.2	184.01
Year	21.62	29.12	14.12	41.16	3.66	135	1159.0

### BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	461
Compensated thermicity index.....(Itc):	461
Simple continentality index.....(Ic):	17.5
Diurnality index.....(Id):	16.1
Annual ombrothermic index.....(Io):	0.52
Monthly dry ombrothermic index.....(Iod1):	0.42
Bimonthly dry ombrothermic index.....(Iod2):	0.38
Three monthly dry ombrothermic index.....(Iod3):	0.34
Four monthly dry ombrothermic index.....(Iod4):	0.43
Annual ombro-evaporation index.....(Ioe):	1.78
Annual positive temperature.....(Tp):	2595
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	456
Positive precipitation.....(Pp):	135

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	0	0	0	12	0

Latitudinal Belt...: Subtropical

Continentalty.....: Oceanic - Low Semicontinental

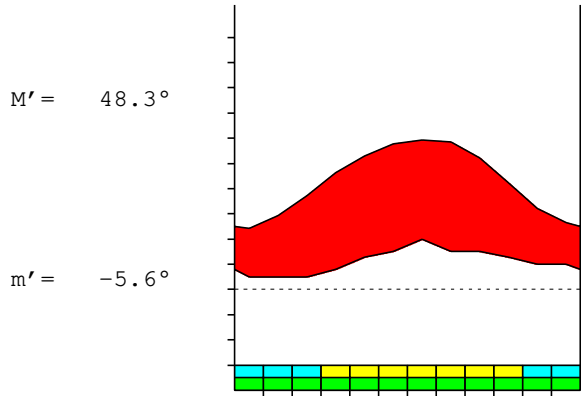
Bioclimate(Variant): TROPICAL DESERTIC (ARID)

Bioclimatic Belt...: LOW MESOTROPICAL LOW ARID

CHARLOTTE WATERS (AUSTRALIA)

197 m

P= 135      25° 56'S      134° 55'E      43/58 y.  
 T= 21.6°    Ic= 17.5      Tp= 2595      Tn= 0  
 m= 5.0°      M= 19.4°      Itc= 461      Io= 0.5



TROPICAL DESERTIC (ARID)  
 LOW MESOTROPICAL LOW ARID

WATER INDEX CARD      CHARLOTTE WATERS (AUSTRALIA)  
 Altitude: 197 m.      Latitude: 25° 56'S

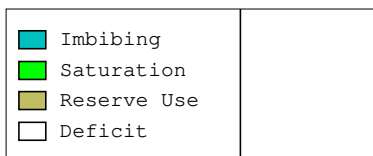
(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	12.2	18	5	0	0	5	13	0	0	-0.7
Aug.	14.7	30	5	0	0	5	25	0	0	-0.8
Sep.	18.6	56	5	0	0	5	50	0	0	-0.9
Oct.	23.1	106	8	0	0	8	98	0	0	-0.9
Nov.	26.4	150	13	0	0	13	138	0	0	-0.9
Dec.	28.9	184	15	0	0	15	169	0	0	-0.9
Jan.	29.7	189	20	0	0	20	168	0	0	-0.8
Feb.	29.5	161	15	0	0	15	146	0	0	-0.9
Mar.	26.1	137	15	0	0	15	122	0	0	-0.8
Apr.	21.1	73	13	0	0	13	61	0	0	-0.8
May.	16.1	36	10	0	0	10	26	0	0	-0.7
Jun.	13.1	20	10	0	0	10	10	0	0	-0.4
Year	21.6	1159	135	*	*	135	1024	0	0	*

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

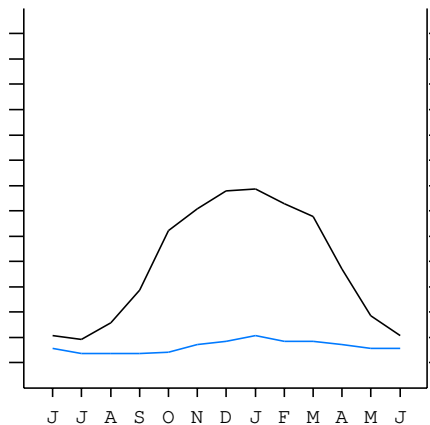
CHARLOTTE WATERS (AUSTRALIA)

25°56'S 134°55'E      197 m 43/58 y.

T= 21.6      Ic= 17.5      TROPICAL DESERTIC (ARID)  
 m= 5.0      Tp= 2595      LOW MESOTROPICAL  
 M= 19.4      Tn= 0      LOW ARID  
 M' = 48.3    Itc= 461  
 m' = -5.6    Io= 0.5  
 P= 135      mm      ———  
 PE= 1159    mm      ———



All over the year,  
 there is hydric deficit



CHARLOTTE WATERS (AUSTRALIA)

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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [B1a]  
 + Type .....: B. Oceanic  
 + Subtype .....: 1. Semicontinental  
 + Variant .....: a. Low  
 Thermic types [A3.A2]  
 + Latitudinal zone .....: A. Warm  
 + Latitudinal belt .....: 3. Subtropical  
 + Thermic type .....: A. Warm  
 + Thermic subtype .....: 2. Warm  
 Bioclimatic types [A2.3b.3b]  
 + Macrobioclimate .....: A. TROPICAL  
 + Bioclimate .....: 2. DESERTIC  
 + Bioclimatic variant ..:  
 + Thermic type.....: 3. MESOTROPICAL  
 + Thermic subtype.....: b. LOW  
 + Ombrothermic type ...: 3. ARID  
 + Ombrothermic subtype : b. LOW  
 Bioclimatic Classification .....: Trps.Mtr.Ari

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 86  
 Coldest semester of the year.....(Psw): 48  
 Warmest four months period of the year.....(Pcm1): 63  
 Following warmest four months period.....(Pcm2): 48  
 Positive precipitation dryest 3 months.....(Ppd): 15  
 Positive precipitation dryest 2 months.....(Ppd2): 10  
 Positive precipitation dryest 1 month.....(Ppd1): 5  
 Positive precipitation warmest 3 months.....(Pps): 51  
 Positive precipitation warmest 2 months.....(Pps2): 36  
 Positive precipitation warmest 1 month.....(Pps1): 20  
 Positive precipitation coldest 3 months.....(Ppw): 20  
 Positive precipitation coldest 2 months.....(Ppw2): 15  
 Positive precipitation coldest 1 month.....(Ppw1): 5

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	20	25	50	38

Seasonal rainfall rhythms: S > F > P > W

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 29.7  
 Average coldest month [T].....(Tmin): 12.2  
 Maximum temp. warmest month [M].....(Tmmax): 37.2  
 Minimum temp. coldest month [m].....(Tmmin): 5.0  
 Absolute Max.temp. warmest month [M'].....(Tamax): 48.3  
 Absolute Min.temp. coldest month [m'].....(Tamin): -5.6  
 First warmest contrasted month [M].....(Tcmax): 22.8 (8)  
 First coldest contrasted month [m].....(Tcmin): 6.7 (8)  
 Dry station temperature.....(Td): 456  
 Positive temperature dryest 3 months.....(Tpd): 456  
 Positive temperature dryest 2 months.....(Tpd2): 270  
 Positive temperature dryest 1 month.....(Tpd1): 122  
 Positive temperature warmest 3 months.....(Tps): 881  
 Positive temperature warmest 2 months.....(Tps2): 592  
 Positive temperature warmest 1 month.....(Tps1): 297  
 Positive temperature coldest 3 months.....(Tpw): 400  
 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): 8.61  
 Mediterranean index of January.....(Im1): 9.30  
 Mediterranean index of January & February.....(Im2): 9.84  
 Mediterranean index of December to February...(Im3): 10.52

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	152	203	152	152	127	102	102	51	51	51	76	127
Tp	289	297	295	261	211	161	131	122	147	186	231	264
Io (Iom)	0.53	0.68	0.52	0.58	0.60	0.63	0.78	0.42	0.35	0.27	0.33	0.48
Seasons	Summer			Autumn			Winter			Spring		
Pp(x10)/Tp	507 / 881			381 / 633			204 / 400			254 / 681		
Io (Iot)	0.576			0.602			0.510			0.373		
Semesters	December-May						June-November					
Pp(x10)/Tp	888 / 1514						458 / 1081					
Io (Iosm)	0.587						0.424					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 1346/2595=0.52 Weak lower arid (6) [1783]

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	152	203	152	152	127	102	102	51	51	51	76	127
Tp [T*10]	289	297	295	261	211	161	131	122	147	186	231	264
Iom [Pp/Tp]	53	68	52	58	60	63	78	42	35	27	33	48
Avm [200-Iom]	147	132	148	142	140	137	122	158	165	173	167	152
Seasons	Summer			Autumn			Winter			Spring		
Pp / Tp	507 / 881			381 / 633			204 / 400			254 / 681		
Iot [Pp/Tp]	58			60			51			37		
Avs E[Avm<200]	427			418			446			492		
Lower hyperarid [1]						Upper hyperarid [3]						
Strong lower arid [2]						Weak lower arid [9]						
Strong upper arid [1]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....(Sp): 17.50  
 CI of Gorezinski (1920) [1.7\*Sp/sin(Lat)-20.4] .....: 47.63  
 CI of Conrad (1946) [1.7\*Sp/sin(Lat+10)-14] .....: 36.69  
 + Oceanic (20<CI<40)  
 CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....: 1.81  
 + Continental (1.7<CI<2.3)  
 Rainfall Index of Lang (1925) [R=P/T] .....: 6.22  
 + Steppic (40>R>0)  
 Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....: 4.26  
 + Extremely arid -desert- (5>Ia>0)  
 I of Emberger (1930) [Q=100\*P/(Tmax<sup>2</sup>-Tmin<sup>2</sup>)] .....: 9.89  
 + Arid (30>Q>0)  
 I of Dantin & Revenga (1940) [DR=100\*T/P] .....: 16.06  
 + Extremely arid (DR>6)  
 Aridity Index of UNEP [I=P/PE] .....: 0.12  
 + Arid (0.2>Im>0.05)  
 Potential Erosion I of Fournier (1960) [K=Pi<sup>2</sup>/P].....: 3.06  
 + Very low (K<60)

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)

- + Climate .....: A. Warm and temperate warm
- + Region .....: 1. Termoeremic (Desertic warm)
- + Thermic type: 2. Macrothermic

Thornthwaite (1948)

	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.06	0.04	0.04	0.04	0.04	0.04	0.02	0.02	0.02	0.02	0.04	0.04
T-E ratio	13.37	13.25	11.75	9.50	7.25	5.88	5.50	6.63	8.38	10.38	11.88	13.00
Precipitation-effectiveness:	4.12						Temperature-efficiency .....: 116.76					
Moisture Index [MI=100*(P-PE)/PE] .....: -88.39 + E.Dry (-110<MI<-66.7)												
Index of dryness [DI=100*d/PE] .....: 88.38 + Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE] .....: 0.00 + No surplus (0<HI<10)												
Potential Evapotranspiration PE .....: 1158.95 + Forth mesothermic (997<PE<1440)												

