

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

MARREE (AUSTRALIA)

Altitude: 50 m.

Latitude: 29°39'S Longitude: 138°3'E

Temperature observation period.: 1941-1990 (50)

Rainfall observation period....: 1885-1990 (106)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPi
Jan.	29.16	35.05	23.35	0.00	0.00	17.7	188.15
Feb.	28.60	35.38	21.73	0.00	0.00	20.5	156.88
Mar.	25.73	32.10	19.10	0.00	0.00	13.6	133.81
Apr.	20.56	26.55	14.85	0.00	0.00	11.6	70.82
May.	15.81	22.30	9.30	0.00	0.00	14.4	37.01
Jun.	12.48	17.23	7.48	0.00	0.00	13.7	19.62
Jul.	11.77	15.88	7.43	0.00	0.00	9.3	18.11
Aug.	13.62	18.43	8.68	0.00	0.00	9.3	27.21
Sep.	17.29	21.85	12.75	0.00	0.00	10.5	49.63
Oct.	21.11	26.48	15.43	0.00	0.00	12.5	88.83
Nov.	24.71	28.88	20.43	0.00	0.00	11.1	130.87
Dec.	27.63	34.30	21.30	0.00	0.00	16.5	174.90
Year	20.71	26.20	15.15	0.00	0.00	161	1095.8

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	440
Compensated thermicity index.....(Itc):	440
Simple continentality index.....(Ic):	17.4
Diurnality index.....(Id):	13.7
Annual ombrothermic index.....(Io):	0.65
Monthly estival ombrothermic index.....(Ios1):	0.60
Bimonthly estival ombrothermic index.....(Ios2):	0.66
Three monthly estival ombrothermic index.....(Ios3):	0.64
Four monthly estival ombrothermic index.....(Ios4):	0.60
Annual ombro-evaporation index.....(Ioe):	1.34
Annual positive temperature.....(Tp):	2485
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	854
Positive precipitation.....(Pp):	161

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	0	0	1	11	0

Latitudinal Belt...: Subtropical

Continentality.....: Oceanic - Low Semicontinental

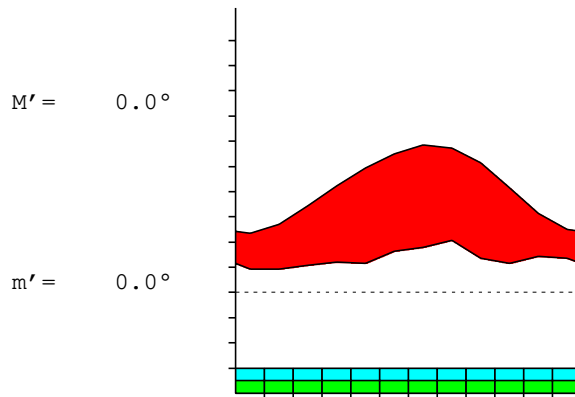
Bioclimate(Variant): MEDITERRANEAN DESERTIC-OCEANIC (STEPPIIC)

Bioclimatic Belt...: LOW THERMOMEDITERRANEAN LOW ARID

MARREE (AUSTRALIA)

50 m

P= 161 29° 39'S 138° 3'E 50/106 y.
 T= 20.7° Ic= 17.4 Tp= 2485 Tn= 0
 m= 7.4° M= 15.9° Itc= 440 Io= 0.6



MEDITERRANEAN DESERTIC-OCEANIC (STEPPIC)
 LOW THERMOMEDITERRANEAN LOW ARID

WATER INDEX CARD

MARREE (AUSTRALIA)

Altitude: 50 m.

Latitude: 29° 39'S

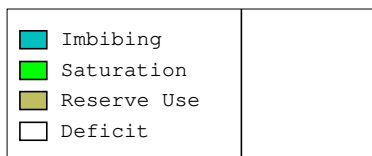
(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	11.8	18	9	0	0	9	9	0	0	-0.4
Aug.	13.6	27	9	0	0	9	18	0	0	-0.6
Sep.	17.3	50	11	0	0	11	39	0	0	-0.7
Oct.	21.1	89	13	0	0	13	76	0	0	-0.8
Nov.	24.7	131	11	0	0	11	120	0	0	-0.9
Dec.	27.6	175	17	0	0	17	158	0	0	-0.9
Jan.	29.2	188	18	0	0	18	170	0	0	-0.9
Feb.	28.6	157	21	0	0	21	136	0	0	-0.8
Mar.	25.7	134	14	0	0	14	120	0	0	-0.8
Apr.	20.6	71	12	0	0	12	59	0	0	-0.8
May.	15.8	37	14	0	0	14	23	0	0	-0.6
Jun.	12.5	20	14	0	0	14	6	0	0	-0.2
Year	20.7	1096	161	*	*	161	935	0	0	*

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

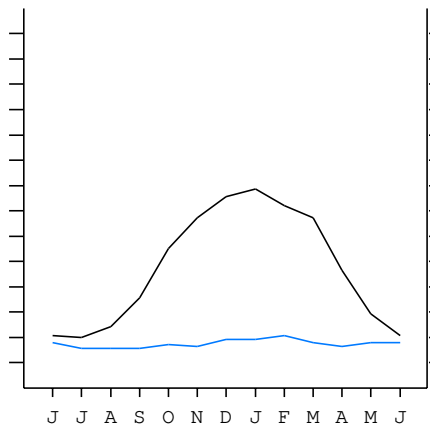
MARREE (AUSTRALIA)

29°39'S 138°3'E 50 m 50/106 y.

T= 20.7 Ic= 17.4 MEDITERRANEAN DESERTIC-OCEANIC (STEPPIC)
 m= 7.4 Tp= 2485 LOW THERMOMEDITERRANEAN
 M= 15.9 Tn= 0 LOW ARID
 M' = 0.0 Itc= 440
 m' = 0.0 Io= 0.6
 P= 161 mm ———
 PE= 1096 mm ———



All over the year,
 there is hydric deficit



MARREE (AUSTRALIA)

Latitude: 29°39'S Longitude: 138°3'E Altitude: 50 m

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 [B4a.2b.3b]
 + Macrobioclimate: B. MEDITERRANEAN
 + Bioclimate: 4. DESERTIC-OCEANIC
 + Bioclimatic variant ..: a. STEPPIC
 + Thermic type.....: 2. THERMOMEDITERRANEAN
 + Thermic subtype.....: b. LOW
 + Ombrothermic type ...: 3. ARID
 + Ombrothermic subtype : b. LOW
 Bioclimatic Classification: Mexc(Stp).Tme.Ari

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 92
 Coldest semester of the year.....(Psw): 69
 Warmest four months period of the year.....(Pcm1): 68
 Following warmest four months period.....(Pcm2): 49
 Positive precipitation dryest 3 months.....(Ppd): 29
 Positive precipitation dryest 2 months.....(Ppd2): 19
 Positive precipitation dryest 1 month.....(Ppd1): 9
 Positive precipitation warmest 3 months.....(Pps): 55
 Positive precipitation warmest 2 months.....(Pps2): 38
 Positive precipitation warmest 1 month.....(Pps1): 18
 Positive precipitation coldest 3 months.....(Ppw): 32
 Positive precipitation coldest 2 months.....(Ppw2): 23
 Positive precipitation coldest 1 month.....(Ppw1): 9

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	32	34	54	39

Seasonal rainfall rhythms: S > F > P > W

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 29.2
 Average coldest month [T].....(Tmin): 11.8
 Maximum temp. warmest month [M].....(Tmmax): 35.4
 Minimum temp. coldest month [m].....(Tmmin): 7.4
 Absolute Max.temp. warmest month [M'].....(Tamax): 0.0
 Absolute Min.temp. coldest month [m'].....(Tamin): 0.0
 First warmest contrasted month [M].....(Tcmax): 35.4 (2)
 First coldest contrasted month [m].....(Tcmin): 21.7 (2)
 Estival temperature.....(Ts): 854
 Positive temperature dryest 3 months.....(Tpd): 427
 Positive temperature dryest 2 months.....(Tpd2): 254
 Positive temperature dryest 1 month.....(Tpd1): 136
 Positive temperature warmest 3 months.....(Tps): 854
 Positive temperature warmest 2 months.....(Tps2): 578
 Positive temperature warmest 1 month.....(Tps1): 292
 Positive temperature coldest 3 months.....(Tpw): 379
 Positive temperature coldest 2 months.....(Tpw2): 243
 Positive temperature coldest 1 month.....(Tpw1): 118

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

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 6.81
 Mediterranean index of January.....(Im1): 10.62
 Mediterranean index of January & February.....(Im2): 9.02
 Mediterranean index of December to February...(Im3): 9.50

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	165	177	205	136	116	144	137	93	93	105	125	112
Tp	276	292	286	257	206	158	125	118	136	173	211	247
Io (Iom)	0.60	0.61	0.72	0.53	0.57	0.91	1.10	0.79	0.68	0.61	0.59	0.45
Seasons	Summer			Autumn			Winter			Spring		
Pp(x10)/Tp	548 / 854			397 / 621			324 / 379			342 / 631		
Io (Iot)	0.641			0.639			0.854			0.542		
Semesters	December-May						June-November					
Pp(x10)/Tp	944 / 1475						665 / 1010					
Io (Iosm)	0.640						0.659					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 1609/2485=0.65 Weak lower arid (6) [1584]

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	165	177	205	136	116	144	137	93	93	105	125	112
Tp [T*10]	276	292	286	257	206	158	125	118	136	173	211	247
Iom [Pp/Tp]	60	61	72	53	57	91	110	79	68	61	59	45
Avm [200-Iom]	140	139	128	147	143	109	90	121	132	139	141	155
Seasons	Summer			Autumn			Winter			Spring		
Pp / Tp	548 / 854			397 / 621			324 / 379			342 / 631		
Iot [Pp/Tp]	64			64			85			54		
Avs E[Avm<200]	408			399			343			435		
Strong lower arid [1]						Weak lower arid [10]						
Strong upper arid [2]						Weak upper arid [2]						
Strong lower semiarid [1]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp):	17.39
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]		39.36
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]		32.33
+ Oceanic (20<CI<40)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)]		1.60
+ Subcontinental (1.1<CI<1.7)		
Rainfall Index of Lang (1925) [R=P/T]		7.77
+ Steppic (40>R>0)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)]		5.24
+ Arid -steppic- (15>Ia>5)		
I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)]		13.45
+ Arid (30>Q>0)		
I of Dantin & Revenga (1940) [DR=100*T/P]		12.86
+ Extremely arid (DR>6)		
Aridity Index of UNEP [I=P/PE]		0.15
+ Arid (0.2>Im>0.05)		
Potential Erosion I of Fournier (1960) [K=Pi ² /P]		2.62
+ 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	0.05	0.06	0.04	0.04	0.05	0.06	0.04	0.04	0.04	0.04	0.03	0.05
T-E ratio	13.12	12.87	11.58	9.25	7.11	5.62	5.30	6.13	7.78	9.50	11.12	12.43
Precipitation-effectiveness: 5.25						Temperature-efficiency						111.81
Moisture Index [MI=100*(P-PE)/PE]												-85.31
+ E.Dry (-110<MI<-66.7)												
Index of dryness [DI=100*d/PE]												85.30
+ Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE]												0.00
+ No surplus (0<HI<10)												
Potential Evapotranspiration PE												1095.83
+ Forth mesothermic (997<PE<1440)												

