

# Phytosociological Research Center

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## Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

WARBURTON RANGES (AUSTRALIA)

Altitude: 366 m.

Latitude: 26°5'S Longitude: 126°36'E

Temperature observation period.: 1984-1994 (11)

Rainfall observation period....: 1985-1994 (10)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPi
Jan.	28.89	36.11	21.67	45.00	10.00	25.4	180.92
Feb.	28.06	35.00	21.11	46.11	12.22	30.5	149.47
Mar.	25.83	32.22	19.44	43.33	11.11	45.7	133.60
Apr.	21.39	28.33	14.44	39.44	5.00	33.0	77.15
May.	16.67	23.89	9.44	33.33	-0.56	25.4	41.15
Jun.	13.34	20.56	6.11	31.67	-2.78	17.8	22.38
Jul.	13.06	20.56	5.56	31.67	-4.44	7.6	22.22
Aug.	15.00	22.78	7.22	33.89	-1.67	10.2	32.83
Sep.	18.34	26.67	10.00	38.33	1.11	2.5	55.24
Oct.	21.67	29.44	13.89	40.00	3.89	15.2	92.07
Nov.	24.72	32.22	17.22	43.89	7.22	25.4	128.04
Dec.	28.06	35.56	20.56	43.89	9.44	30.5	176.10
Year	21.25	28.61	13.89	39.21	4.21	269	1111.2

### BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	474
Compensated thermicity index.....(Itc):	474
Simple continentality index.....(Ic):	15.8
Diurnality index.....(Id):	16.7
Annual ombrothermic index.....(Io):	1.06
Monthly dry ombrothermic index.....(Iod1):	0.14
Bimonthly dry ombrothermic index.....(Iod2):	0.38
Three monthly dry ombrothermic index.....(Iod3):	0.44
Four monthly dry ombrothermic index.....(Iod4):	0.64
Annual ombro-evaporation index.....(Ioe):	1.79
Annual positive temperature.....(Tp):	2550
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	464
Positive precipitation.....(Pp):	269

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	0	0	7	5	0

Latitudinal Belt...: Subtropical

Continentalty.....: Oceanic - Low Euoceanic

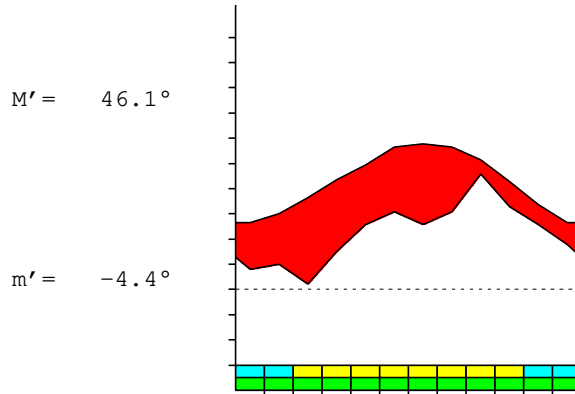
Bioclimate(Variant): TROPICAL XERIC (PLUVISEROTIN, SEMIARID)

Bioclimatic Belt...: LOW MESOTROPICAL LOW SEMIARID

WARBURTON RANGES (AUSTRALIA)

366 m

P= 269      26° 5'S      126° 36'E      11/10 y.  
 T= 21.3°    Ic= 15.8      Tp= 2550      Tn= 0  
 m= 5.6°      M= 20.6°      Itc= 474      Io= 1.1



TROPICAL XERIC (PLUVISEROTIN)  
 LOW MESOTROPICAL LOW SEMIARID

WATER INDEX CARD  
 Altitude: 366 m.

WARBURTON RANGES (AUSTRALIA)  
 Latitude: 26° 5'S

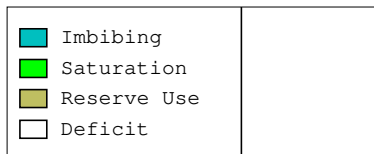
(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	13.1	22	8	0	0	8	15	0	0	-0.6
Aug.	15.0	33	10	0	0	10	23	0	0	-0.6
Sep.	18.3	55	3	0	0	3	53	0	0	-0.9
Oct.	21.7	92	15	0	0	15	77	0	0	-0.8
Nov.	24.7	128	25	0	0	25	103	0	0	-0.8
Dec.	28.1	176	31	0	0	31	146	0	0	-0.8
Jan.	28.9	181	25	0	0	25	156	0	0	-0.8
Feb.	28.1	149	31	0	0	31	119	0	0	-0.7
Mar.	25.8	134	46	0	0	46	88	0	0	-0.6
Apr.	21.4	77	33	0	0	33	44	0	0	-0.5
May.	16.7	41	25	0	0	25	16	0	0	-0.3
Jun.	13.3	22	18	0	0	18	5	0	0	-0.2
Year	21.3	1111	269	*	*	269	842	0	0	*

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

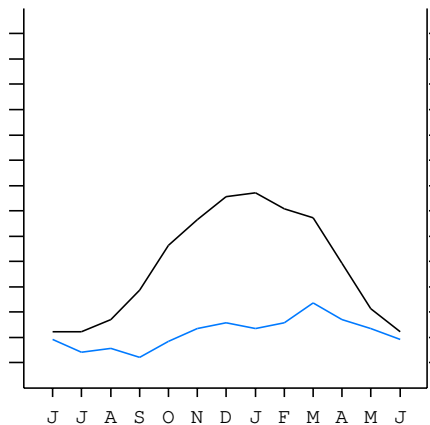
WARBURTON RANGES (AUSTRALIA)

26°5'S 126°36'E      366 m 11/10 y.

T= 21.3    Ic= 15.8    TROPICAL XERIC (PLUVISEROTIN)  
 m= 5.6    Tp= 2550    LOW MESOTROPICAL  
 M= 20.6    Tn= 0    LOW SEMIARID  
 M' = 46.1    Itc= 474  
 m' = -4.4    Io= 1.1  
 P= 269    mm    ———  
 PE= 1111    mm    ———



All over the year,  
 there is hydric deficit



WARBURTON RANGES (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 [A3e.3b.4b]  
 + Macrobioclimate .....: A. TROPICAL  
 + Bioclimate .....: 3. XERIC  
 + Bioclimatic variant .: e. PLUVISEROTIN, SEMIARID  
 + Thermic type.....: 3. MESOTROPICAL  
 + Thermic subtype.....: b. LOW  
 + Ombrothermic type ...: 4. SEMIARID  
 + Ombrothermic subtype : b. LOW  
 Bioclimatic Classification .....: Trxe (Pse) .Mtr.Sar

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 173  
 Coldest semester of the year.....(Psw): 97  
 Warmest four months period of the year.....(Pcm1): 132  
 Following warmest four months period.....(Pcm2): 84  
 Positive precipitation dryest 3 months.....(Ppd): 20  
 Positive precipitation dryest 2 months.....(Ppd2): 13  
 Positive precipitation dryest 1 month.....(Ppd1): 3  
 Positive precipitation warmest 3 months.....(Pps): 86  
 Positive precipitation warmest 2 months.....(Pps2): 56  
 Positive precipitation warmest 1 month.....(Pps1): 25  
 Positive precipitation coldest 3 months.....(Ppw): 36  
 Positive precipitation coldest 2 months.....(Ppw2): 25  
 Positive precipitation coldest 1 month.....(Ppw1): 8

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	35	43	86	104

Seasonal rainfall rhythms: F > S > P > W

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 28.9  
 Average coldest month [T].....(Tmin): 13.1  
 Maximum temp. warmest month [M].....(Tmmax): 36.1  
 Minimum temp. coldest month [m].....(Tmmin): 5.6  
 Absolute Max.temp. warmest month [M'].....(Tamax): 46.1  
 Absolute Min.temp. coldest month [m'].....(Tamin): -4.4  
 First warmest contrasted month [M].....(Tcmax): 26.7 (9)  
 First coldest contrasted month [m].....(Tcmin): 10.0 (9)  
 Dry station temperature.....(Td): 464  
 Positive temperature dryest 3 months.....(Tpd): 464  
 Positive temperature dryest 2 months.....(Tpd2): 333  
 Positive temperature dryest 1 month.....(Tpd1): 183  
 Positive temperature warmest 3 months.....(Tps): 850  
 Positive temperature warmest 2 months.....(Tps2): 570  
 Positive temperature warmest 1 month.....(Tps1): 289  
 Positive temperature coldest 3 months.....(Tpw): 414  
 Positive temperature coldest 2 months.....(Tpw2): 264  
 Positive temperature coldest 1 month.....(Tpw1): 131

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

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 4.13  
 Mediterranean index of January.....(Im1): 7.12  
 Mediterranean index of January & February.....(Im2): 5.91  
 Mediterranean index of December to February...(Im3): 5.86

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	305	254	305	457	330	254	178	76	102	25	152	254
Tp	281	289	281	258	214	167	133	131	150	183	217	247
Io (Iom)	1.09	0.88	1.09	1.77	1.54	1.52	1.33	0.58	0.68	0.14	0.70	1.03
Seasons	Summer			Autumn			Winter			Spring		
Pp(x10)/Tp	864 / 850			1041 / 639			356 / 414			431 / 647		
Io (Iot)	1.016			1.629			0.860			0.666		
Semesters	December-May						June-November					
Pp(x10)/Tp	1905 / 1489						787 / 1061					
Io (Iosm)	1.279						0.742					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 2692/2550=1.06 [Strong lower semiarid \(9\) \[1165\]](#)

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	305	254	305	457	330	254	178	76	102	25	152	254
Tp [T*10]	281	289	281	258	214	167	133	131	150	183	217	247
Iom [Pp/Tp]	109	88	109	177	154	152	133	58	68	14	70	103
Avm [200-Iom]	91	112	91	23	46	48	67	142	132	186	130	97
Seasons	Summer			Autumn			Winter			Spring		
Pp / Tp	864 / 850			1041 / 639			356 / 414			431 / 647		
Iot [Pp/Tp]	102			163			86			67		
Avs E[Avm<200]	295			116			340			413		
Upper ultrahyperarid [1]						Weak lower arid [3]						
Strong upper arid [1]						Weak upper arid [2]						
Strong lower semiarid [4]						Weak lower semiarid [1]						
Strong upper semiarid [3]						Weak upper semiarid [1]						

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....	(Sp):	15.83
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....		40.81
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....		31.69
+ Oceanic (20<CI<40)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....		1.63
+ Subcontinental (1.1<CI<1.7)		
Rainfall Index of Lang (1925) [R=P/T] .....		12.67
+ Steppic (40>R>0)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....		8.61
+ Arid -steppic- (15>Ia>5)		
I of Emberger (1930) [Q=100*P/(Tmax <sup>2</sup> -Tmin <sup>2</sup> )] .....		21.15
+ Arid (30>Q>0)		
I of Dantin & Revenga (1940) [DR=100*T/P] .....		7.89
+ Extremely arid (DR>6)		
Aridity Index of UNEP [I=P/PE] .....		0.24
+ Semiarid (0.5>Im>0.2)		
Potential Erosion I of Fournier (1960) [K=Pi <sup>2</sup> /P] .....		7.76
+ 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	0.07	0.09	0.15	0.12	0.10	0.07	0.03	0.04	0.01	0.05	0.08	0.09
T-E ratio	13.00	12.63	11.62	9.63	7.50	6.00	5.88	6.75	8.25	9.75	11.12	12.63
Precipitation-effectiveness: 9.04						Temperature-efficiency .....						114.76
Moisture Index [MI=100*(P-PE)/PE] .....												-75.77
+ E.Dry (-110<MI<-66.7)												
Index of dryness [DI=100*d/PE] .....												75.77
+ Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE] .....												0.00
+ No surplus (0<HI<10)												
Potential Evapotranspiration PE .....												1111.18
+ Forth mesothermic (997<PE<1440)												

