

# Phytosociological Research Center

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## Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

DALY WATERS (AUSTRALIA)

Altitude: 213 m.

Latitude: 16°16'S Longitude: 133°22'E

Temperature observation period.: 1939-1994 (56)

Rainfall observation period....: 1923-1994 (72)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	Epi
Jan.	30.28	36.67	23.89	45.00	16.11	165.1	185.65
Feb.	29.72	36.11	23.33	43.89	11.67	152.4	158.05
Mar.	28.61	35.00	22.22	43.33	12.78	121.9	160.01
Apr.	26.67	33.89	19.44	41.11	9.44	22.9	134.12
May.	23.61	31.11	16.11	38.33	6.11	5.1	82.30
Jun.	21.39	28.89	13.89	36.67	1.67	7.6	53.08
Jul.	20.56	28.89	12.22	36.67	-1.11	2.5	47.43
Aug.	22.50	31.67	13.33	38.89	3.89	2.5	70.96
Sep.	26.67	35.56	17.78	42.22	5.00	5.1	136.86
Oct.	30.00	38.33	21.67	44.44	8.89	20.3	174.96
Nov.	31.39	38.89	23.89	45.00	13.33	55.9	186.86
Dec.	31.39	38.33	24.44	46.67	14.44	101.6	197.34
Year	26.90	34.45	19.35	41.85	8.52	663	1587.6

### BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	680
Compensated thermicity index.....(Itc):	680
Simple continentality index.....(Ic):	10.8
Diurnality index.....(Id):	18.3
Annual ombrothermic index.....(Io):	2.05
Monthly dry ombrothermic index.....(Iod1):	0.12
Bimonthly dry ombrothermic index.....(Iod2):	0.12
Three monthly dry ombrothermic index.....(Iod3):	0.14
Four monthly dry ombrothermic index.....(Iod4):	0.19
Annual ombro-evaporation index.....(Ioe):	13.51
Annual positive temperature.....(Tp):	3228
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	697
Positive precipitation.....(Pp):	663

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	3	1	1	7	0

Latitudinal Belt...: Eutropical

Continentality.....: Hyperoceanic - Low Subhyperoceanic

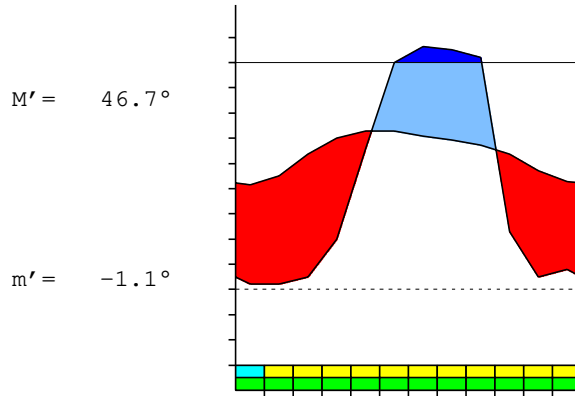
Bioclimate(Variant): TROPICAL XERIC (DRY)

Bioclimatic Belt...: UPPER INFRATROPICAL LOW DRY

DALY WATERS (AUSTRALIA)

213 m

P= 663 16° 16' S 133° 22' E 56/72 y.  
 T= 26.9° Ic= 10.8 Tp= 3228 Tn= 0  
 m= 12.2° M= 28.9° Itc= 680 Io= 2.1



TROPICAL XERIC (DRY)  
 UPPER INFRATROPICAL LOW DRY

WATER INDEX CARD DALY WATERS (AUSTRALIA)  
 Altitude: 213 m. Latitude: 16° 16' S

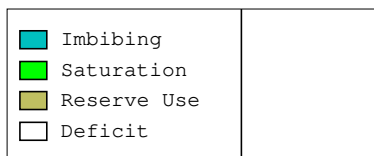
(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	20.6	47	3	0	0	3	45	0	0	-0.9
Aug.	22.5	71	3	0	0	3	68	0	0	-0.9
Sep.	26.7	137	5	0	0	5	132	0	0	-0.9
Oct.	30.0	175	20	0	0	20	155	0	0	-0.8
Nov.	31.4	187	56	0	0	56	131	0	0	-0.7
Dec.	31.4	197	102	0	0	102	96	0	0	-0.4
Jan.	30.3	186	165	0	0	165	21	0	0	-0.1
Feb.	29.7	158	152	0	0	152	6	0	0	0.0
Mar.	28.6	160	122	0	0	122	38	0	0	-0.2
Apr.	26.7	134	23	0	0	23	111	0	0	-0.8
May.	23.6	82	5	0	0	5	77	0	0	-0.9
Jun.	21.4	53	8	0	0	8	45	0	0	-0.8
Year	26.9	1588	663	*	*	663	925	0	0	*

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

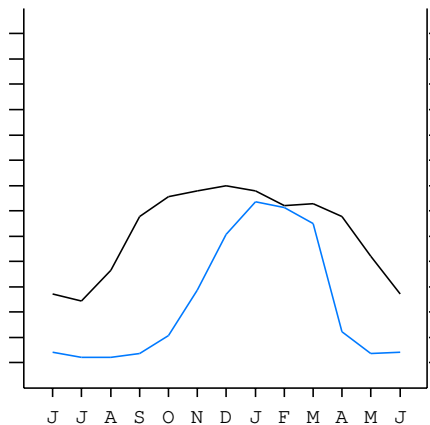
DALY WATERS (AUSTRALIA)

16°16' S 133°22' E 213 m 56/72 y.

T= 26.9 Ic= 10.8 TROPICAL XERIC (DRY)  
 m= 12.2 Tp= 3228 UPPER INFRATROPICAL  
 M= 28.9 Tn= 0 LOW DRY  
 M' = 46.7 Itc= 680  
 m' = -1.1 Io= 2.1  
 P= 663 mm ———  
 PE= 1588 mm ———



All over the year,  
 there is hydric deficit



DALY WATERS (AUSTRALIA)

Latitude: 16°16'S Longitude: 133°22'E Altitude: 213 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [A3b]  
 + Type .....: A. Hyperoceanic  
 + Subtype .....: 3. Subhyperoceanic  
 + Variant .....: b. Low  
 Thermic types [A2.A1]  
 + Latitudinal zone .....: A. Warm  
 + Latitudinal belt .....: 2. Eutropical  
 + Thermic type .....: A. Warm  
 + Thermic subtype .....: 1. Torrid  
 Bioclimatic types [A3.1a.5b]  
 + Macrobioclimate .....: A. TROPICAL  
 + Bioclimate .....: 3. XERIC  
 + Bioclimatic variant ..:  
 + Thermic type.....: 1. INFRATROPICAL  
 + Thermic subtype.....: a. UPPER  
 + Ombrothermic type ...: 5. DRY  
 + Ombrothermic subtype : b. LOW  
 Bioclimatic Classification .....: Trxe.Itr.Dry

DALY WATERS (AUSTRALIA)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 617  
 Coldest semester of the year.....(Psw): 46  
 Warmest four months period of the year.....(Pcm1): 343  
 Following warmest four months period.....(Pcm2): 302  
 Positive precipitation dryest 3 months.....(Ppd): 10  
 Positive precipitation dryest 2 months.....(Ppd2): 5  
 Positive precipitation dryest 1 month.....(Ppd1): 3  
 Positive precipitation warmest 3 months.....(Pps): 323  
 Positive precipitation warmest 2 months.....(Pps2): 158  
 Positive precipitation warmest 1 month.....(Pps1): 56  
 Positive precipitation coldest 3 months.....(Ppw): 13  
 Positive precipitation coldest 2 months.....(Ppw2): 10  
 Positive precipitation coldest 1 month.....(Ppw1): 3

Seasons	Jun+Jul+Aug Ttr3-3	Sep+Oct+Nov Ttr4-4	Dec+Jan+Feb Ttr1-1	Mar+Apr+May Ttr2-2
Rainfall	12	81	419	149

Tropical rainfall rhythms: 1 > 2 > 4 > 3

DALY WATERS (AUSTRALIA)

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 31.4  
 Average coldest month [T].....(Tmin): 20.6  
 Maximum temp. warmest month [M].....(Tmmax): 38.9  
 Minimum temp. coldest month [m].....(Tmmin): 12.2  
 Absolute Max.temp. warmest month [M'].....(Tamax): 46.7  
 Absolute Min.temp. coldest month [m'].....(Tamin): -1.1  
 First warmest contrasted month [M].....(Tcmax): 31.7 (8)  
 First coldest contrasted month [m].....(Tcmin): 13.3 (8)  
 Dry station temperature.....(Td): 697  
 Positive temperature dryest 3 months.....(Tpd): 697  
 Positive temperature dryest 2 months.....(Tpd2): 431  
 Positive temperature dryest 1 month.....(Tpd1): 206  
 Positive temperature warmest 3 months.....(Tps): 931  
 Positive temperature warmest 2 months.....(Tps2): 628  
 Positive temperature warmest 1 month.....(Tps1): 314  
 Positive temperature coldest 3 months.....(Tpw): 645  
 Positive temperature coldest 2 months.....(Tpw2): 420  
 Positive temperature coldest 1 month.....(Tpw1): 206

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

DALY WATERS (AUSTRALIA)

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 2.39  
 Mediterranean index of January.....(Im1): No  
 Mediterranean index of January & February.....(Im2): No  
 Mediterranean index of December to February...(Im3): No

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	1016	1651	1524	1219	229	51	76	25	25	51	203	559
Tp	314	303	297	286	267	236	214	206	225	267	300	314
Io (Iom)	3.24	5.45	5.13	4.26	0.86	0.22	0.36	0.12	0.11	0.19	0.68	1.78
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	4191 / 914			1499 / 789			126 / 644			813 / 881		
Io (Iot)	4.586			1.900			0.196			0.923		
Semesters	December-May						June-November					
Pp(x10)/Tp	5690 / 1703						939 / 1525					
Io (Iosm)	3.342						0.616					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 6629/3228=2.05 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	1016	1651	1524	1219	229	51	76	25	25	51	203	559
Tp [T*10]	314	303	297	286	267	236	214	206	225	267	300	314
Iom [Pp/Tp]	324	545	513	426	86	22	36	12	11	19	68	178
Avm [200-Iom]	***	***	***	***	114	178	164	188	189	181	132	22
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	4191 / 914			1499 / 789			126 / 644			813 / 881		
Iot [Pp/Tp]	459			190			20			92		
Avs E[Avm<200]	***			***			541			335		
Upper ultrahyperarid [4]						Lower hyperarid [1]						
Upper hyperarid [1]						Weak lower arid [1]						
Weak upper arid [2]						Weak upper semiarid [1]						

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....	(Sp):	10.83
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....		45.33
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....		27.60
+ Oceanic (20<CI<40)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....		1.69
+ Subcontinental (1.1<CI<1.7)		
Rainfall Index of Lang (1925) [R=P/T] .....		24.64
+ Steppic (40>R>0)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....		17.97
+ Semiarid -mediterranean- (20>Ia>15)		
I of Emberger (1930) [Q=100*P/(Tmmax <sup>2</sup> -Tmmin <sup>2</sup> )] .....		48.63
+ Semiarid (50>Q>30)		
I of Dantin & Revenga (1940) [DR=100*T/P] .....		4.06
+ Arid (6>DR>3)		
Aridity Index of UNEP [I=P/PE] .....		0.42
+ Semiarid (0.5>Im>0.2)		
Potential Erosion I of Fournier (1960) [K=Pi <sup>2</sup> /P] .....		41.12
+ Very low (K<60)		

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)  
 + Climate .....

- + Climate .....
- + Region .....
- + Thermic type: 1. Megathermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.57	0.53	0.42	0.07	0.01	0.02	0.01	0.01	0.01	0.06	0.17	0.33
T-E ratio	13.63	13.37	12.87	12.00	10.62	9.63	9.25	10.13	12.00	13.50	14.13	14.13
Precipitation-effectiveness: 22.14						Temperature-efficiency .....						145.26
Moisture Index [MI=100*(P-PE)/PE] .....												-58.25
+ D.Semiarid (-66.7<MI<-33.3)												
Index of dryness [DI=100*d/PE] .....												58.24
+ Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE] .....												0.00
+ No surplus (0<HI<10)												
Potential Evapotranspiration PE .....												1587.63
+ Megathermic (PE>1440)												

