

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

BOULIA (AUSTRALIA)

Altitude: 146 m.

Latitude: 22°55'S Longitude: 139°47'E

Temperature observation period.: 1947-1994 (48)

Rainfall observation period....: 1943-1994 (52)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	Epi
Jan.	31.11	38.33	23.89	47.78	11.11	40.6	199.98
Feb.	30.84	37.78	23.89	48.33	12.78	48.3	171.94
Mar.	28.62	35.56	21.67	46.67	11.11	38.1	160.09
Apr.	23.89	31.11	16.67	40.00	4.44	15.2	94.54
May.	19.17	26.67	11.67	38.33	0.00	10.2	47.43
Jun.	15.84	22.78	8.89	33.89	-1.67	12.7	24.66
Jul.	15.28	22.78	7.78	33.89	-3.33	7.6	23.06
Aug.	17.50	25.56	9.44	37.22	-2.22	7.6	37.31
Sep.	21.67	30.00	13.33	41.67	1.11	7.6	72.88
Oct.	25.56	33.89	17.22	44.44	4.44	12.7	133.44
Nov.	28.89	36.67	21.11	46.67	8.89	2.5	170.09
Dec.	30.56	38.33	22.78	47.78	10.00	35.6	196.56
Year	24.08	31.62	16.53	42.22	4.72	239	1332.0

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	546
Compensated thermicity index.....(Itc):	546
Simple continentality index.....(Ic):	15.8
Diurnality index.....(Id):	16.7
Annual ombrothermic index.....(Io):	0.83
Monthly dry ombrothermic index.....(Iod1):	0.50
Bimonthly dry ombrothermic index.....(Iod2):	0.46
Three monthly dry ombrothermic index.....(Iod3):	0.42
Four monthly dry ombrothermic index.....(Iod4):	0.51
Annual ombro-evaporation index.....(Ioe):	2.92
Annual positive temperature.....(Tp):	2889
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	545
Positive precipitation.....(Pp):	239

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	0	0	4	8	0

Latitudinal Belt...: Eutropical

Continentality.....: Oceanic - Low Euoceanic

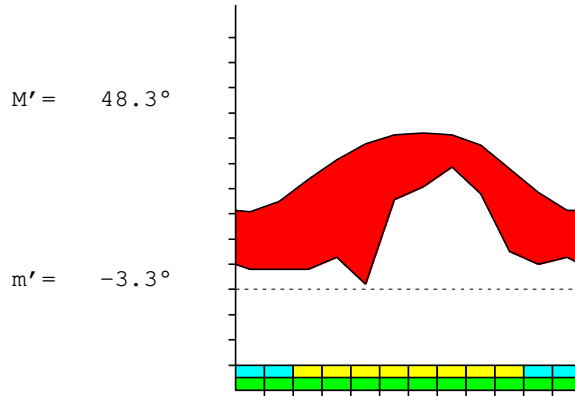
Bioclimate(Variant): TROPICAL DESERTIC (ARID)

Bioclimatic Belt...: UPPER THERMOTROPICAL UPPER ARID

BOULIA (AUSTRALIA)

146 m

P= 239 22° 55' S 139° 47' E 48/52 y.
 T= 24.1° Ic= 15.8 Tp= 2889 Tn= 0
 m= 7.8° M= 22.8° Itc= 546 Io= 0.8



TROPICAL DESERTIC (ARID)
 UPPER THERMOTROPICAL UPPER ARID

WATER INDEX CARD

BOULIA (AUSTRALIA)

Altitude: 146 m.

Latitude: 22° 55' S

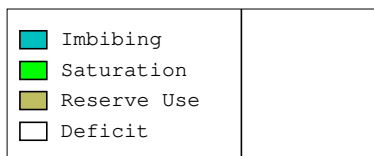
(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	15.3	23	8	0	0	8	15	0	0	-0.6
Aug.	17.5	37	8	0	0	8	30	0	0	-0.7
Sep.	21.7	73	8	0	0	8	65	0	0	-0.8
Oct.	25.6	133	13	0	0	13	121	0	0	-0.9
Nov.	28.9	170	3	0	0	3	168	0	0	-0.9
Dec.	30.6	197	36	0	0	36	161	0	0	-0.8
Jan.	31.1	200	41	0	0	41	159	0	0	-0.7
Feb.	30.8	172	48	0	0	48	124	0	0	-0.7
Mar.	28.6	160	38	0	0	38	122	0	0	-0.7
Apr.	23.9	95	15	0	0	15	79	0	0	-0.8
May.	19.2	47	10	0	0	10	37	0	0	-0.7
Jun.	15.8	25	13	0	0	13	12	0	0	-0.4
Year	24.1	1332	239	*	*	239	1093	0	0	*

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

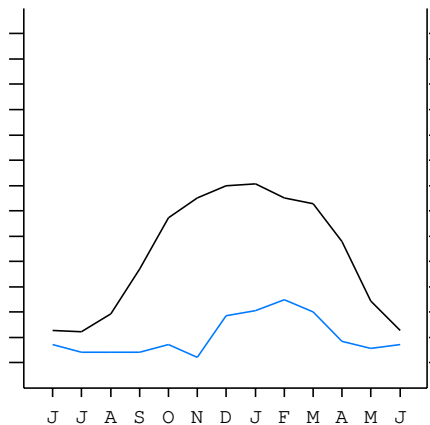
BOULIA (AUSTRALIA)

22°55' S 139°47' E 146 m 48/52 y.

T= 24.1 Ic= 15.8 TROPICAL DESERTIC (ARID)
 m= 7.8 Tp= 2889 UPPER THERMOTROPICAL
 M= 22.8 Tn= 0 UPPER ARID
 M' = 48.3 Itc= 546
 m' = -3.3 Io= 0.8
 P= 239 mm ———
 PE= 1332 mm ———



All over the year,
 there is hydric deficit



BOULIA (AUSTRALIA)

Latitude: 22°55'S Longitude: 139°47'E Altitude: 146 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [B2b]
 + Type: B. Oceanic
 + Subtype: 2. Euoceanic
 + 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 [A2.2a.3a]
 + Macrobioclimate: A. TROPICAL
 + Bioclimate: 2. DESERTIC
 + Bioclimatic variant ..:
 + Thermic type.....: 2. THERMOTROPICAL
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 3. ARID
 + Ombrothermic subtype : a. UPPER
 Bioclimatic Classification: Trps.Ttr.Ari

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 178
 Coldest semester of the year.....(Psw): 61
 Warmest four months period of the year.....(Pcm1): 127
 Following warmest four months period.....(Pcm2): 76
 Positive precipitation dryest 3 months.....(Ppd): 23
 Positive precipitation dryest 2 months.....(Ppd2): 15
 Positive precipitation dryest 1 month.....(Ppd1): 3
 Positive precipitation warmest 3 months.....(Pps): 125
 Positive precipitation warmest 2 months.....(Pps2): 89
 Positive precipitation warmest 1 month.....(Pps1): 41
 Positive precipitation coldest 3 months.....(Ppw): 28
 Positive precipitation coldest 2 months.....(Ppw2): 20
 Positive precipitation coldest 1 month.....(Ppw1): 8

Seasons	Jun+Jul+Aug Ttr3-3	Sep+Oct+Nov Ttr4-4	Dec+Jan+Feb Ttr1-1	Mar+Apr+May Ttr2-2
Rainfall	27	22	124	63

Tropical rainfall rhythms: 1 > 2 > 3 > 4

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 31.1
 Average coldest month [T].....(Tmin): 15.3
 Maximum temp. warmest month [M].....(Tmmax): 38.3
 Minimum temp. coldest month [m].....(Tmmin): 7.8
 Absolute Max.temp. warmest month [M'].....(Tamax): 48.3
 Absolute Min.temp. coldest month [m'].....(Tamin): -3.3
 First warmest contrasted month [M].....(Tcmax): 30.0 (9)
 First coldest contrasted month [m].....(Tcmin): 13.3 (9)
 Dry station temperature.....(Td): 545
 Positive temperature dryest 3 months.....(Tpd): 545
 Positive temperature dryest 2 months.....(Tpd2): 328
 Positive temperature dryest 1 month.....(Tpd1): 289
 Positive temperature warmest 3 months.....(Tps): 925
 Positive temperature warmest 2 months.....(Tps2): 620
 Positive temperature warmest 1 month.....(Tps1): 311
 Positive temperature coldest 3 months.....(Tpw): 486
 Positive temperature coldest 2 months.....(Tpw2): 311
 Positive temperature coldest 1 month.....(Tpw1): 153

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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): 5.58
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)	356	406	483	381	152	102	127	76	76	76	127	25
Tp	306	311	308	286	239	192	158	153	175	217	256	289
Io (Iom)	1.16	1.31	1.57	1.33	0.64	0.53	0.80	0.50	0.43	0.35	0.50	0.09
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	1245 / 925			635 / 717			279 / 486			228 / 761		
Io (Iot)	1.346			0.886			0.574			0.300		
Semesters	December-May						June-November					
Pp(x10)/Tp	1880 / 1642						507 / 1247					
Io (Iosm)	1.145						0.406					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 2387/2889=0.83 [Strong upper arid \(7\) \[1480\]](#)

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	356	406	483	381	152	102	127	76	76	76	127	25
Tp [T*10]	306	311	308	286	239	192	158	153	175	217	256	289
Iom [Pp/Tp]	116	131	157	133	64	53	80	50	43	35	50	9
Avm [200-Iom]	84	69	43	67	136	147	120	150	157	165	150	191
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	1245 / 925			635 / 717			279 / 486			228 / 761		
Iot [Pp/Tp]	135			89			57			30		
Avs E[Avm<200]	196			350			427			507		
Lower ultrahyperarid [1]							Upper hyperarid [2]					
Strong lower arid [3]							Weak lower arid [3]					
Weak upper arid [2]							Strong lower semiarid [1]					
Weak lower semiarid [3]							Strong 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]: 48.71
 CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]: 35.52
 + Oceanic (20<CI<40)
 CI of Currey (1974) [CI=Sp/(1+Lat/3)]: 1.83
 + Continental (1.7<CI<2.3)
 Rainfall Index of Lang (1925) [R=P/T]: 9.91
 + Steppic (40>R>0)
 Aridity Index of Martonne (1926) [Ia=P/(T+10)]: 7.00
 + Arid -steppic- (15>Ia>5)
 I of Emberger (1930) [Q=100*P/(Tmax²-Tmin²)]: 16.95
 + Arid (30>Q>0)
 I of Dantin & Revenga (1940) [DR=100*T/P]: 10.09
 + Extremely arid (DR>6)
 Aridity Index of UNEP [I=P/PE]: 0.18
 + Arid (0.2>Im>0.05)
 Potential Erosion I of Fournier (1960) [K=Pi²/P].....: 9.77
 + 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: 1. Megathermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.12	0.14	0.12	0.05	0.03	0.05	0.03	0.03	0.02	0.04	0.01	0.10
T-E ratio	14.00	13.88	12.88	10.75	8.63	7.13	6.88	7.88	9.75	11.50	13.00	13.75
Precipitation-effectiveness: 7.29						Temperature-efficiency: 130.02						
Moisture Index [MI=100*(P-PE)/PE]: -82.08 + E.Dry (-110<MI<-66.7)												
Index of dryness [DI=100*d/PE]: 82.07 + Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE]: 0.00 + No surplus (0<HI<10)												
Potential Evapotranspiration PE: 1331.97 + Forth mesothermic (997<PE<1440)												

