Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

DERBY AT (AUSTRALIA) Altitude: 7 m.

Latitude: 17°22'S Longitude: 123°39'E
Temperature observation period.: 1977-1994 (18)
Rainfall observation period....: 1949-1994 (46)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPi
Jan.	30.56	35.00	26.11	0.00	0.00	180.6	189.84
Feb.	30.00	34.44	25.56	0.00	0.00	151.4	160.24
Mar.	30.00	35.00	25.00	0.00	0.00	108.7	171.69
Apr.	28.61	35.00	22.22	0.00	0.00	40.6	147.82
May.	25.56	32.22	18.89	0.00	0.00	16.0	108.69
Jun.	22.78	29.44	16.11	0.00	0.00	11.9	64.76
Jul.	21.94	29.44	14.44	0.00	0.00	4.1	57.23
Aug.	23.61	31.11	16.11	0.00	0.00	2.3	82.34
Sep.	26.39	33.89	18.89	0.00	0.00	0.3	127.86
Oct.	29.17	35.56	22.78	0.00	0.00	1.8	170.99
Nov.	30.84	36.11	25.56	0.00	0.00	24.9	183.86
Dec.	30.84	35.56	26.11	0.00	0.00	113.0	192.37
Year	27.52	33.56	21.48	0.00	0.00	656	1657.7

BIOCLIMATIC INDICES AND DIAGNOSIS

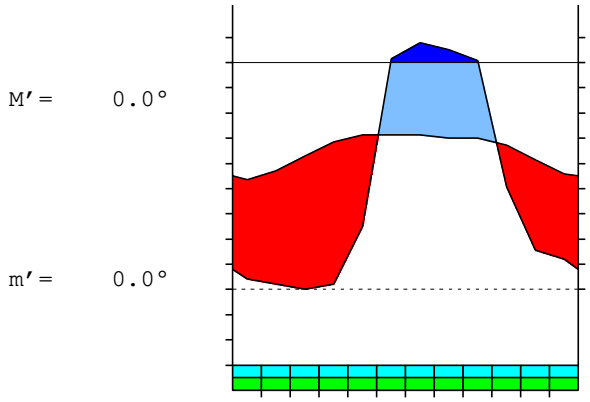
Thermicity index.....(It): 714
Compensated thermicity index.....(Itc): 714
Simple continentality index.....(Ic): 8.9
Diurnality index.....(Id): 15.0
Annual ombrothermic index.....(Io): 1.98
Monthly dry ombrothermic index.....(Iod1): 0.01
Bimonthly dry ombrothermic index.....(Iod2): 0.04
Threemonthly dry ombrothermic index.....(Iod3): 0.06
Fourmonthly dry ombrothermic index.....(Iod4): 0.08
Annual ombro-evaporation index.....(Ioe): 7.72
Annual positive temperature.....(Tp): 3303
Annual negative temperature.....(Tn): 0
Dry station temperature.....(Td): 792
Positive precipitation.....(Pp): 656

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

Latitudinal Belt...: Eutropical
Continentality.....: Hyperoceanic - High Subhyperoceanic
Bioclimate(Variant): TROPICAL XERIC (SEMIARID)
Bioclimatic Belt...: UPPER INFRATROPICAL UPPER SEMIARID

DERBY AT (AUSTRALIA) 7 m

P= 656 17° 22'S 123° 39'E 18/46 y.
T= 27.5° Ic= 8.9 Tp= 3303 Tn= 0
m= 14.4° M= 29.4° Itc= 714 Io= 2.0



TROPICAL XERIC (SEMIARID)
UPPER INFRATROPICAL UPPER SEMIARID

WATER INDEX CARD DERBY AT (AUSTRALIA)
Altitude: 7 m. Latitude: 17° 22'S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	21.9	57	4	0	0	4	53	0	0	-0.9
Aug.	23.6	82	2	0	0	2	80	0	0	-0.9
Sep.	26.4	128	0	0	0	0	128	0	0	-0.9
Oct.	29.2	171	2	0	0	2	169	0	0	-0.9
Nov.	30.8	184	25	0	0	25	159	0	0	-0.8
Dec.	30.8	192	113	0	0	113	79	0	0	-0.4
Jan.	30.6	190	181	0	0	181	9	0	0	0.0
Feb.	30.0	160	151	0	0	151	9	0	0	0.0
Mar.	30.0	172	109	0	0	109	63	0	0	-0.3
Apr.	28.6	148	41	0	0	41	107	0	0	-0.7
May.	25.6	109	16	0	0	16	93	0	0	-0.8
Jun.	22.8	65	12	0	0	12	53	0	0	-0.8
Year	27.5	1658	656	*	*	656	1002	0	0	*

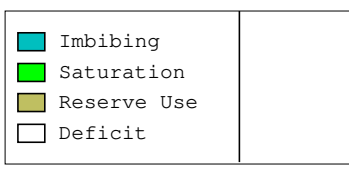
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
DR = Drainage HC = Humidity coeficient DF = Deficit SP = Superavit

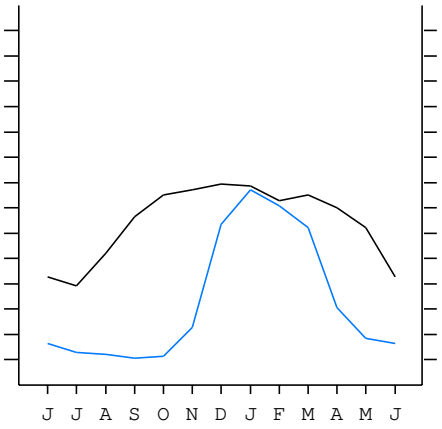
DERBY AT (AUSTRALIA)

17°22'S 123°39'E 7 m 18/46 y.

T= 27.5 Ic= 8.9
m= 14.4 Tp= 3303
M= 29.4 Tn= 0
M'= 0.0 Itc= 714
m'= 0.0 Io= 2.0
P= 656 mm
PE= 1658 mm

TROPICAL XERIC (SEMIARID)
UPPER INFRATROPICAL
UPPER SEMIARID





All over the year,
there is hydric deficit

DERBY AT (AUSTRALIA)

Latitude: 17°22’S Longitude: 123°39’E Altitude: 7 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continentality Index [A3a]
- + Type .....: A. Hyperoceanic
- + Subtype .....: 3. Subhyperoceanic
- + Variant .....: a. High

Thermic types [A2.A1]
- + Latitudinal zone ....: A. Warm
- + Latitudinal belt ....: 2. Eutropical
- + Thermic type .....: A. Warm
- + Thermic subtype .....: 1. Torrid

Bioclimatic types [A3.1a.4a]
- + Macrobioclimate .....: A. TROPICAL
- + Bioclimate .....: 3. XERIC
- + Bioclimatic variant .:
- + Thermic type.....: 1. INFRATROPICAL
- + Thermic subtype.....: a. UPPER
- + Ombrothermic type ...: 4. SEMIARID
- + Ombrothermic subtype : a. UPPER

Bioclimatic Classification .....: Trxe.Itr.Sar

DERBY AT (AUSTRALIA)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 580
Coldest semester of the year.....(Psw): 75
Warmest four months period of the year.....(Pcm1): 470
Following warmest four months period.....(Pcm2): 177
Positive precipitation dryest 3 months.....(Ppd): 4
Positive precipitation dryest 2 months.....(Ppd2): 2
Positive precipitation dryest 1 month.....(Ppd1): 0
Positive precipitation warmest 3 months.....(Pps): 319
Positive precipitation warmest 2 months.....(Pps2): 138
Positive precipitation warmest 1 month.....(Pps1): 25
Positive precipitation coldest 3 months.....(Ppw): 18
Positive precipitation coldest 2 months.....(Ppw2): 16
Positive precipitation coldest 1 month.....(Ppw1): 4

Seasons	Jun+Jul+Aug Ttr3-3	Sep+Oct+Nov Ttr4-4	Dec+Jan+Feb Ttr1-1	Mar+Apr+May Ttr2-2
Rainfall	18	27	445	165

Tropical rainfall rhythms: 1 > 2 > 4 > 3

DERBY AT (AUSTRALIA)

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 30.8
Average coldest month [T].....(Tmin): 21.9
Maximum temp. warmest month [M].....(Tmmax): 36.1
Minimum temp. coldest month [m].....(Tmmin): 14.4
Absolute Max.temp. warmest month [M’].....(Tamax): 0.0
Absolute Min.temp. coldest month [m’].....(Tamin): 0.0
First warmest contrasted month [M].....(Tcmax): 29.4 (7)
First coldest contrasted month [m].....(Tcmin): 14.4 (7)
Dry station temperature.....(Td): 792
Positive temperature dryest 3 months.....(Tpd): 792
Positive temperature dryest 2 months.....(Tpd2): 556
Positive temperature dryest 1 month.....(Tpd1): 264
Positive temperature warmest 3 months.....(Tps): 922
Positive temperature warmest 2 months.....(Tps2): 617
Positive temperature warmest 1 month.....(Tps1): 308
Positive temperature coldest 3 months.....(Tpw): 683
Positive temperature coldest 2 months.....(Tpw2): 447
Positive temperature coldest 1 month.....(Tpw1): 219

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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): 2.53
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)	1130	1806	1514	1087	406	160	119	41	23	3	18	249
Tp	308	306	300	300	286	256	228	219	236	264	292	308
Io (Iom)	3.66	5.91	5.05	3.62	1.42	0.63	0.52	0.19	0.10	0.01	0.06	0.81
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	4450 / 914			1653 / 842			183 / 683			270 / 864		
Io (Iot)	4.869			1.964			0.268			0.313		
Semesters	December-May						June-November					
Pp(x10)/Tp	6103 / 1756						453 / 1547					
Io (Iosm)	3.476						0.293					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 6556/3303=1.98 There is No Yearly Aridity

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	1130	1806	1514	1087	406	160	119	41	23	3	18	249
Tp [T*10]	308	306	300	300	286	256	228	219	236	264	292	308
Iom [Pp/Tp]	366	591	505	362	142	63	52	19	10	1	6	81
Avm [200-Iom]	***	***	***	***	58	137	148	181	190	199	194	119
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	4450 / 914			1653 / 842			183 / 683			270 / 864		
Iot [Pp/Tp]	487			196			27			31		
Avs E[Avm<200]	***			***			519			512		

Lower ultrahyperarid [3]	Upper ultrahyperarid [1]
Lower hyperarid [2]	Weak lower arid [2]
Weak upper arid [1]	Weak lower semiarid [1]

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....(Sp): 8.90
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....: 30.29
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....: 18.91
  + Hyperoceanic (-20<CI<20)
CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....: 1.31
  + Subcontinental (1.1<CI<1.7)
Rainfall Index of Lang (1925) [R=P/T] .....: 23.82
  + Steppic (40>R>0)
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....: 17.47
  + Semiarid -mediterranean- (20>Ia>15)
I of Emberger (1930) [Q=100*P/(Tmmax²-Tmmin²)] .....: 59.85
  + Subhumid (90>Q>50)
I of Dantin & Revenga (1940) [DR=100*T/P] .....: 4.20
  + Arid (6>DR>3)
Aridity Index of UNEP [I=P/PE] .....: 0.40
  + Semiarid (0.5>Im>0.2)
Potencial Erosion I of Fournier (1960) [K=Pi²/P].....: 49.75
  + Very low (K<60)

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BIOCLIMATIC INDICES II

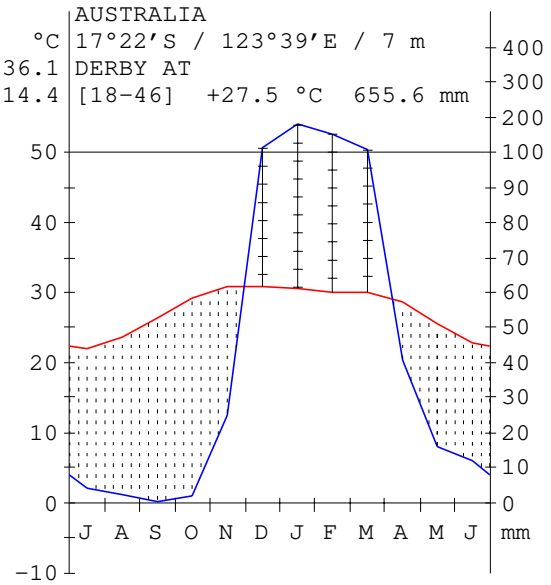
Bioclimatic classification of Gaussen & Bagnouls (1957)
  + Climate ....: A. Warm and temperate warm
  + Region .....: 3. Termoxeroteric (Mediterranean warm)
  + Thermic type: 1. Megathermic

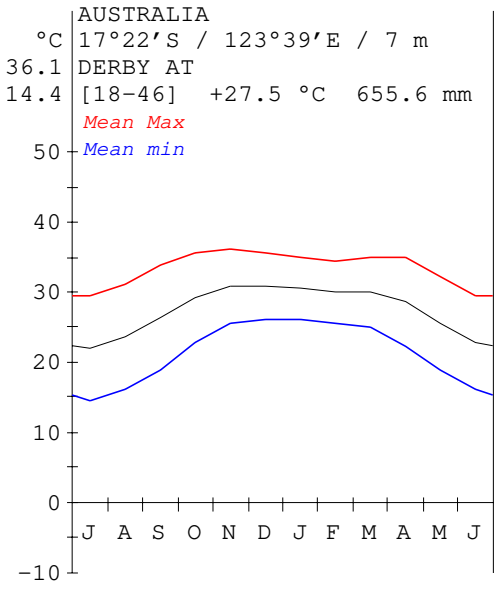
Thornthwaite (1948)

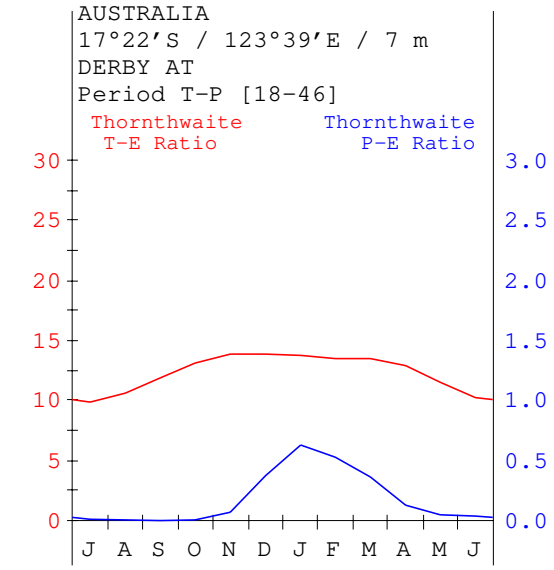
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.63	0.52	0.36	0.13	0.05	0.04	0.01	0.01	0.00	0.00	0.07	0.37
T-E ratio	13.75	13.50	13.50	12.87	11.50	10.25	9.87	10.62	11.88	13.13	13.88	13.88

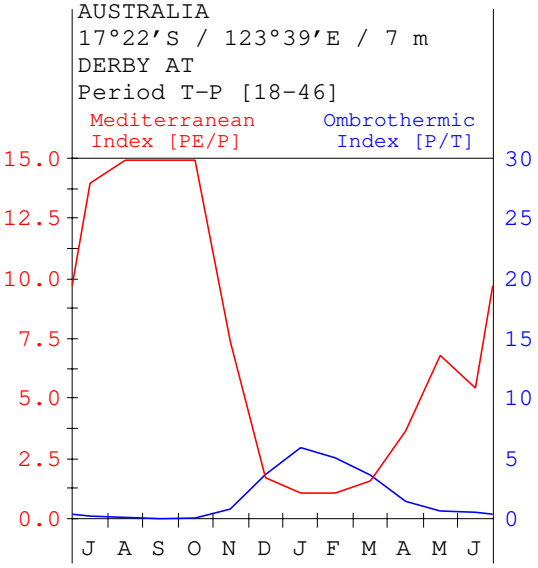
Precipitation-effectiveness: 21.90 Temperature-efficiency ....: 148.64

Moisture Index [MI=100*(P-PE)/PE] .....: -60.45
  + D.Semiarid (-66.7<MI<-33.3)
Index of dryness [DI=100*d/PE] .....: 60.45
  + Strong deficit (33.3<DI)
Index of humidity [HI=100*s/PE] .....: 0.00
  + No surplus (0<HI<10)
Potential Evapotranspiration PE .....: 1657.68
  + Megathermic (PE>1440)




AUSTRALIA
°C 17°22'S / 123°39'E / 7 m
36.1 DERBY AT
14.4 [18-46] +27.5 °C 655.6 mm
Mean Max
Mean min
50
40
30
20
10
0
-10
J A S O N D J F M A M J


AUSTRALIA
17°22'S / 123°39'E / 7 m
DERBY AT
Period T-P [18-46]
Thornthwaite T-E Ratio
Thornthwaite P-E Ratio
30
25
20
15
10
5
0
3.0
2.5
2.0
1.5
1.0
0.5
0.0
J A S O N D J F M A M J


AUSTRALIA
17°22'S / 123°39'E / 7 m
DERBY AT
Period T-P [18-46]
Mediterranean Index [PE/P]
Ombrothermic Index [P/T]
15.0
12.5
10.0
7.5
5.0
2.5
0.0
30
25
20
15
10
5
0
J A S O N D J F M A M J