

# Phytosociological Research Center

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## Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

HILLSTON (AUSTRALIA)

Altitude: 120 m.

Latitude: 33°29'S Longitude: 145°31'E

Temperature observation period.: 1945-1990 (46)

Rainfall observation period.....: 1881-1990 (110)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	Epi
Jan.	25.52	34.36	16.49	0.00	0.00	30.0	151.97
Feb.	25.34	31.80	18.80	0.00	0.00	25.7	128.93
Mar.	22.33	30.58	14.33	0.00	0.00	31.8	104.15
Apr.	17.40	22.98	11.93	0.00	0.00	28.3	58.38
May.	13.14	18.48	7.43	0.00	0.00	32.0	33.36
Jun.	10.20	14.94	5.51	0.00	0.00	34.8	19.31
Jul.	9.33	12.55	6.05	0.00	0.00	29.8	17.38
Aug.	11.00	14.05	7.55	0.00	0.00	31.4	25.40
Sep.	13.80	17.05	10.55	0.00	0.00	26.5	40.56
Oct.	17.35	22.50	12.10	0.00	0.00	35.0	69.82
Nov.	20.75	26.18	15.13	0.00	0.00	26.8	98.73
Dec.	23.64	30.30	17.30	0.00	0.00	28.0	134.21
Year	17.48	22.98	11.93	0.00	0.00	360	882.19

### BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	361
Compensated thermicity index.....(Itc):	361
Simple continentality index.....(Ic):	16.2
Diurnality index.....(Id):	17.9
Annual ombrothermic index.....(Io):	1.72
Monthly estival ombrothermic index.....(Ios1):	1.01
Bimonthly estival ombrothermic index.....(Ios2):	1.10
Threemonthly estival ombrothermic index.....(Ios3):	1.12
Fourmonthly estival ombrothermic index.....(Ios4):	1.16
Annual ombro-evaporation index.....(Ioe):	0.90
Annual positive temperature.....(Tp):	2098
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	745
Positive precipitation.....(Pp):	360

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

Latitudinal Belt...: Subtropical

Continentality.....: Oceanic - Low Euoceanic

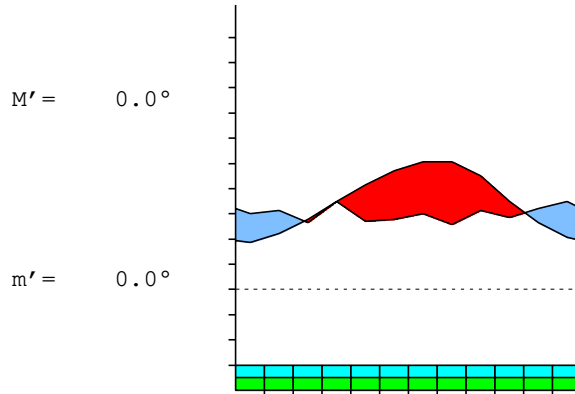
Bioclimate.....: MEDITERRANEAN XERIC-OCEANIC

Bioclimatic Belt...: UPPER THERMOMEDITERRANEAN UPPER SEMIARID

HILLSTON (AUSTRALIA)

120 m

P= 360 33° 29'S 145° 31'E 46/110 y.  
 T= 17.5° Ic= 16.2 Tp= 2098 Tn= 0  
 m= 6.1° M= 12.6° Itc= 361 Io= 1.7



MEDITERRANEAN XERIC-OCEANIC  
 UPPER THERMOMEDITERRANEAN UPPER SEMIARID

WATER INDEX CARD  
 Altitude: 120 m.

HILLSTON (AUSTRALIA)  
 Latitude: 33° 29'S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	9.3	17	30	12	28	17	0	0	0	0.7
Aug.	11.0	25	31	6	34	25	0	0	0	0.2
Sep.	13.8	41	26	-14	20	41	0	0	0	-0.3
Oct.	17.4	70	35	-20	0	55	15	0	0	-0.4
Nov.	20.8	99	27	0	0	27	72	0	0	-0.7
Dec.	23.6	134	28	0	0	28	106	0	0	-0.7
Jan.	25.5	152	30	0	0	30	122	0	0	-0.8
Feb.	25.3	129	26	0	0	26	103	0	0	-0.8
Mar.	22.3	104	32	0	0	32	72	0	0	-0.6
Apr.	17.4	58	28	0	0	28	30	0	0	-0.5
May.	13.1	33	32	0	0	32	1	0	0	0.0
Jun.	10.2	19	35	15	15	19	0	0	0	0.8
Year	17.5	882	360	*	*	360	522	0	0	*

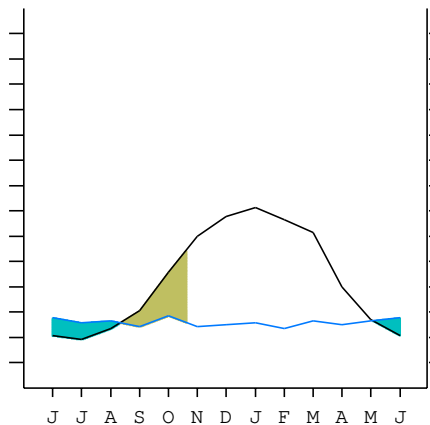
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration  
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

HILLSTON (AUSTRALIA)

33°29'S 145°31'E 120 m 46/110 y.

T= 17.5 Ic= 16.2 MEDITERRANEAN XERIC-OCEANIC  
 m= 6.1 Tp= 2098 UPPER THERMOMEDITERRANEAN  
 M= 12.6 Tn= 0 UPPER SEMIARID  
 M' = 0.0 Itc= 361  
 m' = 0.0 Io= 1.7  
 P= 360 mm  
 PE= 882 mm

Imbibing	3 May.
Saturation	9 Aug.
Reserve Use	18 Oct.
Deficit	



HILLSTON (AUSTRALIA)

Latitude: 33°29'S Longitude: 145°31'E Altitude: 120 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [B2b]  
 + Type .....: B. Oceanic  
 + Subtype .....: 2. Euoceanic  
 + Variant .....: b. Low  
 Thermic types [A3.A3]  
 + Latitudinal zone ....: A. Warm  
 + Latitudinal belt ....: 3. Subtropical  
 + Thermic type .....: A. Warm  
 + Thermic subtype .....: 3. Subwarm  
 Bioclimatic types [B6.2a.4a]  
 + Macrobioclimate .....: B. MEDITERRANEAN  
 + Bioclimate .....: 6. XERIC-OCEANIC  
 + Bioclimatic variant ..:  
 + Thermic type.....: 2. THERMOMEDITERRANEAN  
 + Thermic subtype.....: a. UPPER  
 + Ombrothermic type ...: 4. SEMIARID  
 + Ombrothermic subtype : a. UPPER  
 Bioclimatic Classification .....: MepDC.Tme.Sar

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 171  
 Coldest semester of the year.....(Psw): 189  
 Warmest four months period of the year.....(Pcm1): 115  
 Following warmest four months period.....(Pcm2): 125  
 Positive precipitation dryest 3 months.....(Ppd): 84  
 Positive precipitation dryest 2 months.....(Ppd2): 55  
 Positive precipitation dryest 1 month.....(Ppd1): 26  
 Positive precipitation warmest 3 months.....(Pps): 84  
 Positive precipitation warmest 2 months.....(Pps2): 56  
 Positive precipitation warmest 1 month.....(Pps1): 30  
 Positive precipitation coldest 3 months.....(Ppw): 96  
 Positive precipitation coldest 2 months.....(Ppw2): 65  
 Positive precipitation coldest 1 month.....(Ppw1): 30

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	95	88	83	92

Seasonal rainfall rhythms: W > F > P > S

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 25.5  
 Average coldest month [T].....(Tmin): 9.3  
 Maximum temp. warmest month [M].....(Tmmax): 34.4  
 Minimum temp. coldest month [m].....(Tmmin): 5.5  
 Absolute Max.temp. warmest month [M'].....(Tamax): 0.0  
 Absolute Min.temp. coldest month [m'].....(Tamin): 0.0  
 First warmest contrasted month [M].....(Tcmax): 34.4 (1)  
 First coldest contrasted month [m].....(Tcmin): 16.5 (1)  
 Estival temperature.....(Ts): 745  
 Positive temperature dryest 3 months.....(Tpd): 745  
 Positive temperature dryest 2 months.....(Tpd2): 444  
 Positive temperature dryest 1 month.....(Tpd1): 253  
 Positive temperature warmest 3 months.....(Tps): 745  
 Positive temperature warmest 2 months.....(Tps2): 509  
 Positive temperature warmest 1 month.....(Tps1): 255  
 Positive temperature coldest 3 months.....(Tpw): 305  
 Positive temperature coldest 2 months.....(Tpw2): 195  
 Positive temperature coldest 1 month.....(Tpw1): 93

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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): 2.45  
 Mediterranean index of January.....(Im1): 5.06  
 Mediterranean index of January & February.....(Im2): 5.04  
 Mediterranean index of December to February...(Im3): 4.96

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	280	300	257	318	283	320	348	298	314	265	350	268
Tp	236	255	253	223	174	131	102	93	110	138	174	208
Io (Iom)	1.18	1.18	1.01	1.42	1.62	2.43	3.41	3.20	2.85	1.92	2.02	1.29
Seasons	Summer			Autumn			Winter			Spring		
Pp(x10)/Tp	837 / 745			920 / 529			960 / 305			883 / 519		
Io (Iot)	1.124			1.740			3.144			1.702		
Semesters	December-May						June-November					
Pp(x10)/Tp	1757 / 1274						1843 / 824					
Io (Iosm)	1.380						2.236					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 3600/2098=1.72 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	280	300	257	318	283	320	348	298	314	265	350	268
Tp [T*10]	236	255	253	223	174	131	102	93	110	138	174	208
Iom [Pp/Tp]	118	118	101	142	162	243	341	320	285	192	202	129
Avm [200-Iom]	82	82	99	58	38	***	***	***	***	8	***	71
Seasons	Summer			Autumn			Winter			Spring		
Pp / Tp	837 / 745			920 / 529			960 / 305			883 / 519		
Iot [Pp/Tp]	112			174			314			170		
Avs E[Avm<200]	263			***			***			***		
Strong lower semiarid [4]						Weak lower semiarid [2]						
Strong upper semiarid [1]						Weak upper semiarid [1]						

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....	(Sp):	16.19
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....		29.49
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....		26.00
+ Oceanic (20<CI<40)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....		1.33
+ Subcontinental (1.1<CI<1.7)		
Rainfall Index of Lang (1925) [R=P/T] .....		20.59
+ Steppic (40>R>0)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....		13.10
+ Arid -steppic- (15>Ia>5)		
I of Emberger (1930) [Q=100*P/(Tmax <sup>2</sup> -Tmin <sup>2</sup> )] .....		31.30
+ Semiarid (50>Q>30)		
I of Dantin & Revenga (1940) [DR=100*T/P] .....		4.86
+ Arid (6>DR>3)		
Aridity Index of UNEP [I=P/PE] .....		0.41
+ Semiarid (0.5>Im>0.2)		
Potential Erosion I of Fournier (1960) [K=Pi <sup>2</sup> /P] .....		3.41
+ Very low (K<60)		

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)

- + Climate .....
- + Region .....
- + Thermic type: 3. Macro-mesothermic

Thornthwaite (1948)

	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	
P-E ratio	0.10	0.08	0.11	0.11	0.14	0.17	0.15	0.15	0.11	0.14	0.09	0.09	
T-E ratio	11.48	11.40	10.05	7.83	5.91	4.59	4.20	4.95	6.21	7.81	9.34	10.64	
Precipitation-effectiveness:	14.47						Temperature-efficiency .....						94.41
Moisture Index [MI=100*(P-PE)/PE] .....	-59.19												
+ D.Semiarid (-66.7<MI<-33.3)													
Index of dryness [DI=100*d/PE] .....	59.18												
+ Strong deficit (33.3<DI)													
Index of humidity [HI=100*s/PE] .....	0.00												
+ No surplus (0<HI<10)													
Potential Evapotranspiration PE .....	882.19												
+ Third mesothermic (855<PE<997)													

