

# Phytosociological Research Center

www.globalbioclimatics.org

## Worldwide Bioclimatic Classification System

Prof.Dr. Salvador Rivas-Martinez

(Adapted to Synoptical Table 30/08/2017)

INVERELL (AUSTRALIA)

Altitude: 814 m.

Latitude: 29°53'S Longitude: 151°8'E

Temperature observation period.: 1957-1994 (38)

Rainfall observation period....: 1938-1994 (57)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	Epi
Jan.	22.22	30.00	14.44	41.67	1.67	93.5	122.22
Feb.	21.95	30.00	13.89	41.67	5.00	72.1	102.89
Mar.	19.73	27.78	11.67	37.78	0.56	71.1	89.38
Apr.	15.83	24.44	7.22	32.78	-3.89	48.0	56.46
May.	11.67	20.00	3.33	29.44	-6.11	48.5	33.68
Jun.	8.89	16.11	1.67	25.56	-9.44	60.5	20.20
Jul.	7.78	15.56	0.00	25.00	-10.00	51.3	17.30
Aug.	8.89	17.22	0.56	29.44	-8.33	47.5	22.81
Sep.	12.22	21.11	3.33	31.67	-6.11	49.8	39.39
Oct.	15.56	24.44	6.67	36.67	-5.56	64.8	64.77
Nov.	19.45	27.78	11.11	38.89	0.00	69.3	93.97
Dec.	21.39	29.44	13.33	41.11	1.67	84.1	116.01
Year	15.46	23.66	7.27	34.31	-3.38	760	779.08

### BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	310
Compensated thermicity index.....(Itc):	310
Simple continentality index.....(Ic):	14.4
Diurnality index.....(Id):	17.8
Annual ombrothermic index.....(Io):	4.10
Monthly estival ombrothermic index.....(Ios1):	3.28
Bimonthly estival ombrothermic index.....(Ios2):	3.75
Threemonthly estival ombrothermic index.....(Ios3):	3.81
Fourmonthly estival ombrothermic index.....(Ios4):	3.75
Annual ombro-evaporation index.....(Ioe):	1.36
Annual positive temperature.....(Tp):	1856
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	656
Positive precipitation.....(Pp):	761

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

Latitudinal Belt...: Subtropical

Continentalty.....: Oceanic - High Euoceanic

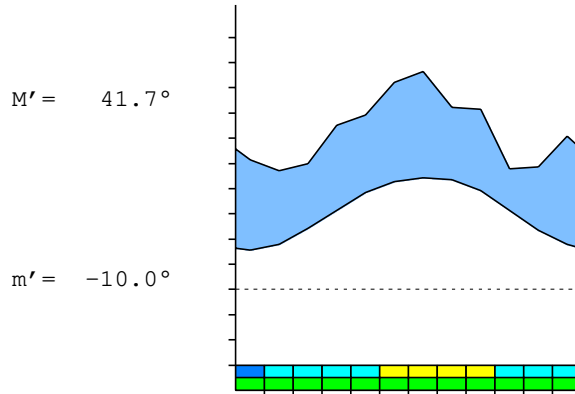
Bioclimate.....: TEMPERATE OCEANIC

Bioclimatic Belt...: UPPER THERMOTEMPERATE LOW SUBHUMID

INVERELL (AUSTRALIA)

814 m

P= 760      29° 53'S      151° 8'E      38/57 y.  
 T= 15.5°    Ic= 14.4      Tp= 1856      Tn= 0  
 m= 0.0°    M= 15.6°      Itc= 310      Io= 4.1



TEMPERATE OCEANIC  
 UPPER THERMOTEMPERATE LOW SUBHUMID

WATER INDEX CARD      INVERELL (AUSTRALIA)  
 Altitude: 814 m.      Latitude: 29° 53'S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	7.8	17	51	34	89	17	0	0	0	1.9
Aug.	8.9	23	48	11	100	23	0	14	7	1.0
Sep.	12.2	39	50	0	100	39	0	10	9	0.2
Oct.	15.6	65	65	0	100	65	0	0	4	0.0
Nov.	19.5	94	69	-25	75	94	0	0	2	-0.2
Dec.	21.4	116	84	-32	43	116	0	0	1	-0.2
Jan.	22.2	122	94	-29	15	122	0	0	1	-0.2
Feb.	22.0	103	72	-15	0	87	16	0	0	-0.2
Mar.	19.7	89	71	0	0	71	18	0	0	-0.2
Apr.	15.8	56	48	0	0	48	8	0	0	-0.1
May.	11.7	34	49	15	15	34	0	0	0	0.4
Jun.	8.9	20	61	40	55	20	0	0	0	1.9
Year	15.5	779	760	*	*	736	43	24	24	*

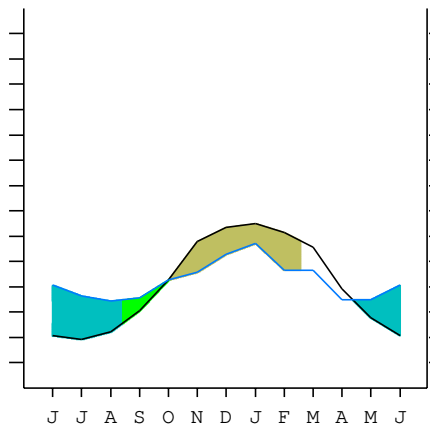
R = Reserve    VR = Variation of the reserve    RE = Real evapotranspiration  
 DR = Drainage    HC = Humidity coefficient    DF = Deficit    SP = Superavit

INVERELL (AUSTRALIA)

29°53'S    151°8'E    814 m 38/57 y.

T= 15.5    Ic= 14.4    TEMPERATE OCEANIC  
 m= 0.0    Tp= 1856    UPPER THERMOTEMPERATE  
 M= 15.6    Tn= 0    LOW SUBHUMID  
 M' = 41.7    Itc= 310  
 m' = -10.0    Io= 4.1  
 P= 760    mm    ———  
 PE= 779    mm    ———

Imbibing	11 Apr.
Saturation	14 Aug.
Reserve Use	1 Oct.
Deficit	15 Feb.



INVERELL (AUSTRALIA)

Latitude: 29°53'S Longitude: 151°8'E Altitude: 814 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [B2a]  
 + Type .....: B. Oceanic  
 + Subtype .....: 2. Euoceanic  
 + Variant .....: a. High  
 Thermic types [A3.A3]  
 + Latitudinal zone ....: A. Warm  
 + Latitudinal belt ....: 3. Subtropical  
 + Thermic type .....: A. Warm  
 + Thermic subtype .....: 3. Subwarm  
 Bioclimatic types [C3.2a.6b]  
 + Macrobioclimate .....: C. TEMPERATE  
 + Bioclimate .....: 3. OCEANIC  
 + Bioclimatic variant ..:  
 + Thermic type.....: 2. THERMOTEMPERATE  
 + Thermic subtype.....: a. UPPER  
 + Ombrothermic type ...: 6. SUBHUMID  
 + Ombrothermic subtype : b. LOW  
 Bioclimatic Classification .....: Teco.Tte.Shu

INVERELL (AUSTRALIA)

Latitude: 29°53'S Longitude: 151°8'E Altitude: 814 m

PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 438  
 Coldest semester of the year.....(Psw): 322  
 Warmest four months period of the year.....(Pcm1): 321  
 Following warmest four months period.....(Pcm2): 208  
 Positive precipitation dryest 3 months.....(Ppd): 149  
 Positive precipitation dryest 2 months.....(Ppd2): 97  
 Positive precipitation dryest 1 month.....(Ppd1): 48  
 Positive precipitation warmest 3 months.....(Pps): 250  
 Positive precipitation warmest 2 months.....(Pps2): 166  
 Positive precipitation warmest 1 month.....(Pps1): 94  
 Positive precipitation coldest 3 months.....(Ppw): 159  
 Positive precipitation coldest 2 months.....(Ppw2): 112  
 Positive precipitation coldest 1 month.....(Ppw1): 51

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	159	183	249	167

Seasonal rainfall rhythms: S > P > F > W

INVERELL (AUSTRALIA)

Latitude: 29°53'S Longitude: 151°8'E Altitude: 814 m

TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 22.2  
 Average coldest month [T].....(Tmin): 7.8  
 Maximum temp. warmest month [M].....(Tmmax): 30.0  
 Minimum temp. coldest month [m].....(Tmmin): 0.0  
 Absolute Max.temp. warmest month [M'].....(Tamax): 41.7  
 Absolute Min.temp. coldest month [m'].....(Tamin): -10.0  
 First warmest contrasted month [M].....(Tcmax): 21.1 (9)  
 First coldest contrasted month [m].....(Tcmin): 3.3 (9)  
 Estival temperature.....(Ts): 656  
 Positive temperature dryest 3 months.....(Tpd): 289  
 Positive temperature dryest 2 months.....(Tpd2): 275  
 Positive temperature dryest 1 month.....(Tpd1): 89  
 Positive temperature warmest 3 months.....(Tps): 656  
 Positive temperature warmest 2 months.....(Tps2): 442  
 Positive temperature warmest 1 month.....(Tps1): 222  
 Positive temperature coldest 3 months.....(Tpw): 256  
 Positive temperature coldest 2 months.....(Tpw2): 167  
 Positive temperature coldest 1 month.....(Tpw1): 78

INVERELL (AUSTRALIA)

Latitude: 29°53'S Longitude: 151°8'E Altitude: 814 m

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

INVERELL (AUSTRALIA)

Latitude: 29°53'S Longitude: 151°8'E Altitude: 814 m

OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 1.02  
 Mediterranean index of January.....(Im1): 1.31  
 Mediterranean index of January & February.....(Im2): 1.36  
 Mediterranean index of December to February...(Im3): 1.37

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	841	935	721	711	480	485	605	513	475	498	648	693
Tp	214	222	220	197	158	117	89	78	89	122	156	195
Io (Iom)	3.93	4.21	3.28	3.60	3.03	4.16	6.81	6.59	5.34	4.08	4.16	3.56
Seasons	Summer			Autumn			Winter			Spring		
Pp(x10)/Tp	2497 / 656			1676 / 472			1593 / 256			1839 / 472		
Io (Iot)	3.809			3.549			6.232			3.894		
Semesters	December-May						June-November					
Pp(x10)/Tp	4173 / 1128						3432 / 728					
Io (Iosm)	3.700						4.715					

INVERELL (AUSTRALIA)

Latitude: 29°53'S Longitude: 151°8'E Altitude: 814 m

Aridity Value Index (AVI)

[10xPP/TP=IO]: 7605/1856=4.10 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	841	935	721	711	480	485	605	513	475	498	648	693
Tp [T*10]	214	222	220	197	158	117	89	78	89	122	156	195
Iom [Pp/Tp]	393	421	328	360	303	416	681	659	534	408	416	356
Avm [200-Iom]	***	***	***	***	***	***	***	***	***	***	***	***
Seasons	Summer			Autumn			Winter			Spring		
Pp / Tp	2497 / 656			1676 / 472			1593 / 256			1839 / 472		
Iot [Pp/Tp]	381			355			623			389		
Avs E [Avm<200]	***			***			***			***		

INVERELL (AUSTRALIA)

Latitude: 29°53'S Longitude: 151°8'E Altitude: 814 m

BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....	(Sp): 14.44
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....	28.87
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....	24.28
+ Oceanic (20<CI<40)	
CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....	1.32
+ Subcontinental (1.1<CI<1.7)	
Rainfall Index of Lang (1925) [R=P/T] .....	49.18
+ Semiarid (60>R>40)	
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....	29.86
+ Subhumid (30>Ia>20)	
I of Emberger (1930) [Q=100*P/(Tmax <sup>2</sup> -Tmin <sup>2</sup> )] .....	84.50
+ Subhumid (90>Q>50)	
I of Dantin & Revenga (1940) [DR=100*T/P] .....	2.03
+ Semiarid (3>DR>2)	
Aridity Index of UNEP [I=P/PE] .....	0.98
+ Humid (I>0.65)	
Potential Erosion I of Fournier (1960) [K=Pi <sup>2</sup> /P] .....	11.50
+ Very low (K<60)	

INVERELL (AUSTRALIA)

Latitude: 29°53'S Longitude: 151°8'E Altitude: 814 m

BIOCLIMATIC INDICES II

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

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

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.37	0.28	0.29	0.21	0.24	0.33	0.29	0.25	0.24	0.29	0.28	0.33
T-E ratio	10.00	9.88	8.88	7.12	5.25	4.00	3.50	4.00	5.50	7.00	8.75	9.63
Precipitation-effectiveness: 33.84						Temperature-efficiency .....						83.51
Moisture Index [MI=100*(P-PE)/PE] .....												-2.39
+ C1.Subhumid dry (-33.3<MI<0)												
Index of dryness [DI=100*d/PE] .....												5.49
+ No deficit (0<DI<16.7)												
Index of humidity [HI=100*s/PE] .....												3.11
+ No surplus (0<HI<10)												
Potential Evapotranspiration PE .....												779.08
+ Second mesothermic (712<PE<855)												

