

# Phytosociological Research Center

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## Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

WILLIS ISLETS (AUSTRALIA)

Altitude: 8 m.

Latitude: 16°18'S Longitude: 149°59'E

Temperature observation period.: 1974-1994 (21)

Rainfall observation period....: 1974-1994 (21)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	28.06	30.56	25.56	33.89	21.11	167.6	165.75
Feb.	27.78	30.00	25.56	33.33	21.67	282.0	142.83
Mar.	27.50	30.00	25.00	32.78	21.11	175.3	150.68
Apr.	26.67	28.89	24.44	31.67	20.00	177.8	134.12
May.	25.56	27.78	23.33	30.56	16.11	66.0	115.45
Jun.	24.17	26.11	22.22	29.44	17.22	71.1	89.71
Jul.	23.62	25.56	21.67	28.89	17.78	48.3	86.18
Aug.	23.89	26.11	21.67	28.89	17.78	17.8	94.38
Sep.	24.72	27.22	22.22	30.00	18.89	22.9	104.54
Oct.	25.83	28.33	23.33	32.22	18.89	17.8	130.87
Nov.	26.94	29.44	24.44	32.22	20.56	35.6	148.75
Dec.	27.78	30.56	25.00	33.33	21.11	91.4	164.69
Year	26.04	28.38	23.70	31.44	19.35	1174	1528.0

### BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	733
Compensated thermicity index.....(Itc):	733
Simple continentality index.....(Ic):	4.4
Diurnality index.....(Id):	5.6
Annual ombrothermic index.....(Io):	3.76
Monthly dry ombrothermic index.....(Iod1):	0.75
Bimonthly dry ombrothermic index.....(Iod2):	0.84
Three monthly dry ombrothermic index.....(Iod3):	0.79
Four monthly dry ombrothermic index.....(Iod4):	1.09
Annual ombro-evaporation index.....(Ioe):	3.81
Annual positive temperature.....(Tp):	3125
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	744
Positive precipitation.....(Pp):	1174

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

Latitudinal Belt...: Eutropical

Continentalty.....: Hyperoceanic - High Euhyperoceanic

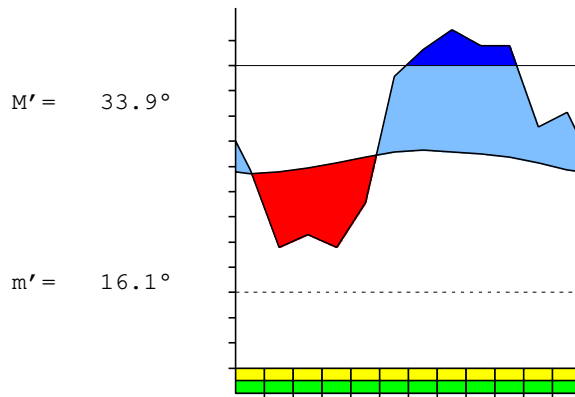
Bioclimate(Variant): TROPICAL PLUVISEASONAL (PLUVISEROTIN, SUBMESOPHYTIC)

Bioclimatic Belt...: UPPER INFRATROPICAL LOW SUBHUMID

WILLIS ISLETS (AUSTRALIA)

8 m

P= 1174      16° 18' S      149° 59' E      21/21 y.  
 T= 26.0°      Ic= 4.4      Tp= 3125      Tn= 0  
 m= 21.7°      M= 25.6°      Itc= 733      Io= 3.8



TROPICAL PLUVISEASONAL (PLUVISEROTIN)  
 UPPER INFRATROPICAL LOW SUBHUMID

WATER INDEX CARD

WILLIS ISLETS (AUSTRALIA)

Altitude: 8 m.

Latitude: 16° 18' S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	23.6	86	48	-32	0	80	6	0	4	-0.4
Aug.	23.9	94	18	0	0	18	77	0	2	-0.8
Sep.	24.7	105	23	0	0	23	82	0	1	-0.7
Oct.	25.8	131	18	0	0	18	113	0	1	-0.8
Nov.	26.9	149	36	0	0	36	113	0	0	-0.7
Dec.	27.8	165	91	0	0	91	73	0	0	-0.4
Jan.	28.1	166	168	2	2	166	0	0	0	0.0
Feb.	27.8	143	282	98	100	143	0	41	21	0.9
Mar.	27.5	151	175	0	100	151	0	25	23	0.1
Apr.	26.7	134	178	0	100	134	0	44	33	0.3
May.	25.6	115	66	-49	51	115	0	0	17	-0.4
Jun.	24.2	90	71	-19	32	90	0	0	8	-0.2
Year	26.0	1528	1174	*	*	1064	464	109	109	*

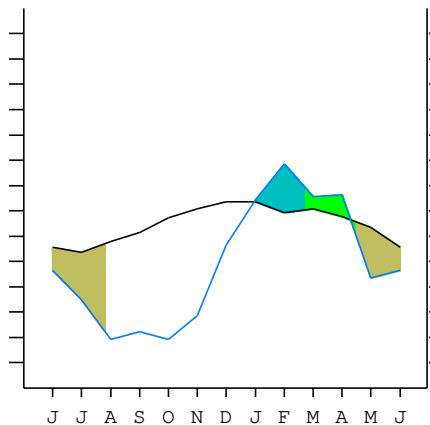
R = Reserve    VR = Variation of the reserve    RE = Real evapotranspiration  
 DR = Drainage    HC = Humidity coefficient    DF = Deficit    SP = Superavit

WILLIS ISLETS (AUSTRALIA)

16°18' S 149°59' E      8 m 21/21 y.

T= 26.0      Ic= 4.4      TROPICAL PLUVISEASONAL (PLUVISEROTIN)  
 m= 21.7      Tp= 3125      UPPER INFRATROPICAL  
 M= 25.6      Tn= 0      LOW SUBHUMID  
 M' = 33.9      Itc= 733  
 m' = 16.1      Io= 3.8  
 P= 1174      mm      ———  
 PE= 1528      mm      ———

Imbibing	30 Dec.
Saturation	22 Feb.
Reserve Use	15 Apr.
Deficit	26 Jul.



WILLIS ISLETS (AUSTRALIA)

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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [A2a]  
 + Type .....: A. Hyperoceanic  
 + Subtype .....: 2. Euhyperoceanic  
 + 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 [A4e.1a.6b]  
 + Macrobioclimate .....: A. TROPICAL  
 + Bioclimate .....: 4. PLUVISEASONAL  
 + Bioclimatic variant .: e. PLUVISEROTIN, SUBMESOPHYTIC  
 + Thermic type.....: 1. INFRATROPICAL  
 + Thermic subtype.....: a. UPPER  
 + Ombrothermic type ...: 6. SUBHUMID  
 + Ombrothermic subtype : b. LOW  
 Bioclimatic Classification .....: Trde(Pse).Itr.Shu

WILLIS ISLETS (AUSTRALIA)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 930  
 Coldest semester of the year.....(Psw): 244  
 Warmest four months period of the year.....(Pcm1): 716  
 Following warmest four months period.....(Pcm2): 363  
 Positive precipitation dryest 3 months.....(Ppd): 59  
 Positive precipitation dryest 2 months.....(Ppd2): 41  
 Positive precipitation dryest 1 month.....(Ppd1): 18  
 Positive precipitation warmest 3 months.....(Pps): 541  
 Positive precipitation warmest 2 months.....(Pps2): 450  
 Positive precipitation warmest 1 month.....(Pps1): 168  
 Positive precipitation coldest 3 months.....(Ppw): 137  
 Positive precipitation coldest 2 months.....(Ppw2): 66  
 Positive precipitation coldest 1 month.....(Ppw1): 48

Seasons	Jun+Jul+Aug Ttr3-3	Sep+Oct+Nov Ttr4-4	Dec+Jan+Feb Ttr1-1	Mar+Apr+May Ttr2-2
Rainfall	137	76	541	419

Tropical rainfall rhythms: 1 > 2 > 3 > 4

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 28.1  
 Average coldest month [T].....(Tmin): 23.6  
 Maximum temp. warmest month [M].....(Tmmax): 30.6  
 Minimum temp. coldest month [m].....(Tmmin): 21.7  
 Absolute Max.temp. warmest month [M'].....(Tamax): 33.9  
 Absolute Min.temp. coldest month [m'].....(Tamin): 16.1  
 First warmest contrasted month [M].....(Tcmax): 30.6 (12)  
 First coldest contrasted month [m].....(Tcmin): 25.0 (12)  
 Dry station temperature.....(Td): 744  
 Positive temperature dryest 3 months.....(Tpd): 744  
 Positive temperature dryest 2 months.....(Tpd2): 486  
 Positive temperature dryest 1 month.....(Tpd1): 239  
 Positive temperature warmest 3 months.....(Tps): 836  
 Positive temperature warmest 2 months.....(Tps2): 558  
 Positive temperature warmest 1 month.....(Tps1): 281  
 Positive temperature coldest 3 months.....(Tpw): 717  
 Positive temperature coldest 2 months.....(Tpw2): 475  
 Positive temperature coldest 1 month.....(Tpw1): 236

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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)	o	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	o

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 1.30  
 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)	914	1676	2820	1753	1778	660	711	483	178	229	178	356
Tp	278	281	278	275	267	256	242	236	239	247	258	269
Io (Iom)	3.29	5.97	10.2	6.37	6.67	2.58	2.94	2.04	0.75	0.93	0.69	1.32
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	5410 / 836			4191 / 797			1372 / 717			763 / 775		
Io (Iot)	6.470			5.256			1.914			0.985		
Semesters	December-May						June-November					
Pp(x10)/Tp	9601 / 1634						2135 / 1492					
Io (Iosm)	5.878						1.431					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 11736/3125=3.76 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	914	1676	2820	1753	1778	660	711	483	178	229	178	356
Tp [T*10]	278	281	278	275	267	256	242	236	239	247	258	269
Iom [Pp/Tp]	329	597	\$\$	637	667	258	294	204	75	93	69	132
Avm [200-Iom]	***	***	***	***	***	***	***	***	125	107	131	68
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	5410 / 836			4191 / 797			1372 / 717			763 / 775		
Iot [Pp/Tp]	647			526			191			98		
Avs E[Avm<200]	***			***			***			306		
Weak lower arid [1]							Strong upper arid [1]					
Weak upper arid [2]							Weak lower semiarid [1]					

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....	(Sp):	4.44
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....		6.49
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....		3.04
+ Hyperoceanic (-20<CI<20)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....		0.69
+ Oceanic (0.6<CI<1.1)		
Rainfall Index of Lang (1925) [R=P/T] .....		45.06
+ Semiarid (60>R>40)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....		32.56
+ Humid (60>Ia>30)		
I of Emberger (1930) [Q=100*P/(Tmax <sup>2</sup> -Tmin <sup>2</sup> )] .....		252.75
+ Humid (Q>90)		
I of Dantin & Revenga (1940) [DR=100*T/P] .....		2.22
+ Semiarid (3>DR>2)		
Aridity Index of UNEP [I=P/PE] .....		0.77
+ Humid (I>0.65)		
Potential Erosion I of Fournier (1960) [K=Pi <sup>2</sup> /P] .....		67.76
+ Low (60<K<90)		

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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	0.61	1.10	0.65	0.67	0.23	0.26	0.17	0.06	0.07	0.05	0.11	0.31	
T-E ratio	12.63	12.50	12.38	12.00	11.50	10.88	10.63	10.75	11.12	11.62	12.12	12.50	
Precipitation-effectiveness:	42.97					Temperature-efficiency .....							140.63
Moisture Index [MI=100*(P-PE)/PE] .....	-23.19												
+ C1.Subhumid dry (-33.3<MI<0)													
Index of dryness [DI=100*d/PE] .....	30.34												
+ Moderate deficit (16.7<DI<33.3)													
Index of humidity [HI=100*s/PE] .....	7.15												
+ No surplus (0<HI<10)													
Potential Evapotranspiration PE .....	1527.97												
+ Megathermic (PE>1440)													

