

# Phytosociological Research Center

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## Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

WYNDHAM (AUSTRALIA)

Altitude: 4 m.

Latitude: 15°31'S Longitude: 128°9'E

Temperature observation period.: 1953-1994 (42)

Rainfall observation period....: 1941-1994 (54)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPi
Jan.	31.12	35.56	26.67	44.44	19.44	185.4	193.18
Feb.	31.12	35.56	26.67	42.22	17.78	152.4	169.03
Mar.	30.56	35.00	26.11	41.11	19.44	116.8	176.40
Apr.	30.00	35.00	25.00	40.56	17.78	20.3	160.24
May.	27.22	32.22	22.22	37.78	12.78	5.1	138.44
Jun.	25.00	30.00	20.00	36.67	12.22	5.1	85.98
Jul.	24.17	29.44	18.89	35.00	10.00	5.1	76.22
Aug.	26.39	31.67	21.11	37.22	13.33	0.8	122.36
Sep.	29.17	34.44	23.89	40.00	15.56	2.5	156.87
Oct.	31.39	36.11	26.67	43.33	20.00	10.2	186.86
Nov.	31.95	36.67	27.22	44.44	20.56	50.8	191.66
Dec.	31.67	36.11	27.22	43.33	20.00	104.1	199.87
Year	29.15	33.98	24.31	40.51	16.57	659	1857.1

### BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	775
Compensated thermicity index.....(Itc):	775
Simple continentality index.....(Ic):	7.8
Diurnality index.....(Id):	10.6
Annual ombrothermic index.....(Io):	1.88
Monthly dry ombrothermic index.....(Iod1):	0.03
Bimonthly dry ombrothermic index.....(Iod2):	0.06
Three monthly dry ombrothermic index.....(Iod3):	0.11
Four monthly dry ombrothermic index.....(Iod4):	0.13
Annual ombro-evaporation index.....(Ioe):	15.93
Annual positive temperature.....(Tp):	3498
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	797
Positive precipitation.....(Pp):	659

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

Latitudinal Belt...: Eutropical

Continentalty.....: Hyperoceanic - Low Euhyperoceanic

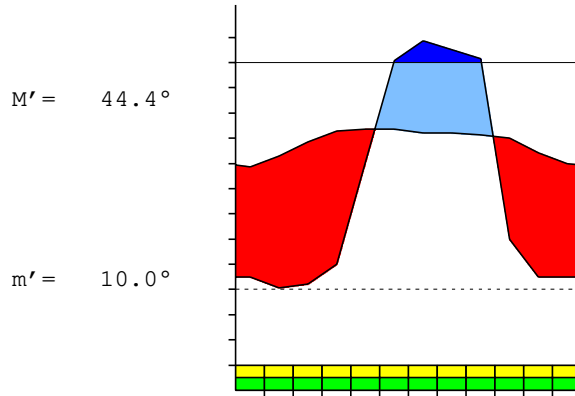
Bioclimate(Variant): TROPICAL XERIC (SEMIARID)

Bioclimatic Belt...: UPPER INFRATROPICAL UPPER SEMIARID

WYNDHAM (AUSTRALIA)

4 m

P= 659 15° 31'S 128° 9'E 42/54 y.  
 T= 29.1° Ic= 7.8 Tp= 3498 Tn= 0  
 m= 18.9° M= 29.4° Itc= 775 Io= 1.9



TROPICAL XERIC (SEMIARID)  
 UPPER INFRATROPICAL UPPER SEMIARID

WATER INDEX CARD

WYNDHAM (AUSTRALIA)

Altitude: 4 m.

Latitude: 15° 31'S

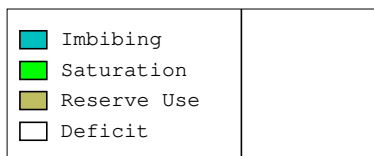
(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	24.2	76	5	0	0	5	71	0	0	-0.9
Aug.	26.4	122	1	0	0	1	122	0	0	-0.9
Sep.	29.2	157	3	0	0	3	154	0	0	-0.9
Oct.	31.4	187	10	0	0	10	177	0	0	-0.9
Nov.	32.0	192	51	0	0	51	141	0	0	-0.7
Dec.	31.7	200	104	0	0	104	96	0	0	-0.4
Jan.	31.1	193	185	0	0	185	8	0	0	0.0
Feb.	31.1	169	152	0	0	152	17	0	0	0.0
Mar.	30.6	176	117	0	0	117	60	0	0	-0.3
Apr.	30.0	160	20	0	0	20	140	0	0	-0.8
May.	27.2	138	5	0	0	5	133	0	0	-0.9
Jun.	25.0	86	5	0	0	5	81	0	0	-0.9
Year	29.1	1857	659	*	*	659	1199	0	0	*

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

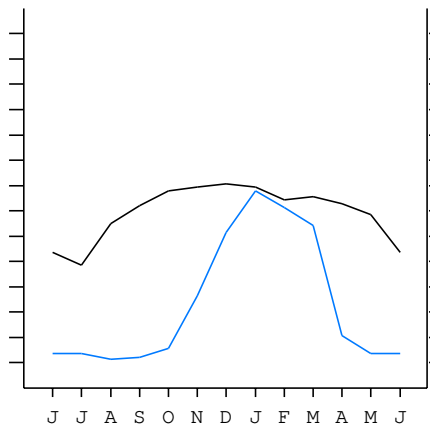
WYNDHAM (AUSTRALIA)

15°31'S 128°9'E 4 m 42/54 y.

T= 29.1 Ic= 7.8 TROPICAL XERIC (SEMIARID)  
 m= 18.9 Tp= 3498 UPPER INFRATROPICAL  
 M= 29.4 Tn= 0 UPPER SEMIARID  
 M' = 44.4 Itc= 775  
 m' = 10.0 Io= 1.9  
 P= 659 mm ———  
 PE= 1857 mm ———



All over the year,  
 there is hydric deficit



WYNDHAM (AUSTRALIA)

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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [A2b]  
 + Type .....: A. Hyperoceanic  
 + Subtype .....: 2. Euhyperoceanic  
 + 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 [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

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 620  
 Coldest semester of the year.....(Psw): 39  
 Warmest four months period of the year.....(Pcm1): 351  
 Following warmest four months period.....(Pcm2): 295  
 Positive precipitation dryest 3 months.....(Ppd): 8  
 Positive precipitation dryest 2 months.....(Ppd2): 3  
 Positive precipitation dryest 1 month.....(Ppd1): 1  
 Positive precipitation warmest 3 months.....(Pps): 165  
 Positive precipitation warmest 2 months.....(Pps2): 155  
 Positive precipitation warmest 1 month.....(Pps1): 51  
 Positive precipitation coldest 3 months.....(Ppw): 11  
 Positive precipitation coldest 2 months.....(Ppw2): 10  
 Positive precipitation coldest 1 month.....(Ppw1): 5

Seasons	Jun+Jul+Aug Ttr3-3	Sep+Oct+Nov Ttr4-4	Dec+Jan+Feb Ttr1-1	Mar+Apr+May Ttr2-2
Rainfall	11	63	441	142

Tropical rainfall rhythms: 1 > 2 > 4 > 3

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 32.0  
 Average coldest month [T].....(Tmin): 24.2  
 Maximum temp. warmest month [M].....(Tmmax): 36.7  
 Minimum temp. coldest month [m].....(Tmmin): 18.9  
 Absolute Max.temp. warmest month [M'].....(Tamax): 44.4  
 Absolute Min.temp. coldest month [m'].....(Tamin): 10.0  
 First warmest contrasted month [M].....(Tcmax): 31.7 (8)  
 First coldest contrasted month [m].....(Tcmin): 21.1 (8)  
 Dry station temperature.....(Td): 797  
 Positive temperature dryest 3 months.....(Tpd): 797  
 Positive temperature dryest 2 months.....(Tpd2): 556  
 Positive temperature dryest 1 month.....(Tpd1): 264  
 Positive temperature warmest 3 months.....(Tps): 950  
 Positive temperature warmest 2 months.....(Tps2): 636  
 Positive temperature warmest 1 month.....(Tps1): 320  
 Positive temperature coldest 3 months.....(Tpw): 756  
 Positive temperature coldest 2 months.....(Tpw2): 492  
 Positive temperature coldest 1 month.....(Tpw1): 242

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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

WYNDHAM (AUSTRALIA)

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 2.82  
 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)	1041	1854	1524	1168	203	51	51	51	8	25	102	508
Tp	317	311	311	306	300	272	250	242	264	292	314	320
Io (Iom)	3.29	5.96	4.90	3.82	0.68	0.19	0.20	0.21	0.03	0.09	0.32	1.59
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	4419 / 939			1422 / 878			110 / 756			635 / 925		
Io (Iot)	4.706			1.620			0.146			0.686		
Semesters	December-May						June-November					
Pp(x10)/Tp	5841 / 1817						745 / 1681					
Io (Iosm)	3.215						0.443					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 6586/3498=1.88 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	1041	1854	1524	1168	203	51	51	51	8	25	102	508
Tp [T*10]	317	311	311	306	300	272	250	242	264	292	314	320
Iom [Pp/Tp]	329	596	490	382	68	19	20	21	3	9	32	159
Avm [200-Iom]	***	***	***	***	132	181	180	179	197	191	168	41
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	4419 / 939			1422 / 878			110 / 756			635 / 925		
Iot [Pp/Tp]	471			162			15			69		
Avs E[Avm<200]	***			***			555			400		
Lower ultrahyperarid [2]						Upper ultrahyperarid [2]						
Lower hyperarid [2]						Upper hyperarid [1]						
Weak lower arid [2]						Strong upper semiarid [1]						

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....	(Sp):	7.78
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....		29.04
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....		16.70
+ Hyperoceanic (-20<CI<20)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....		1.26
+ Subcontinental (1.1<CI<1.7)		
Rainfall Index of Lang (1925) [R=P/T] .....		22.60
+ Steppic (40>R>0)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....		16.82
+ Semiarid -mediterranean- (20>Ia>15)		
I of Emberger (1930) [Q=100*P/(Tmmax <sup>2</sup> -Tmmin <sup>2</sup> )] .....		66.67
+ Subhumid (90>Q>50)		
I of Dantin & Revenga (1940) [DR=100*T/P] .....		4.43
+ Arid (6>DR>3)		
Aridity Index of UNEP [I=P/PE] .....		0.35
+ Semiarid (0.5>Im>0.2)		
Potential Erosion I of Fournier (1960) [K=Pi <sup>2</sup> /P] .....		52.19
+ Very low (K<60)		

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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	0.64	0.52	0.39	0.06	0.01	0.01	0.01	0.00	0.01	0.03	0.15	0.33
T-E ratio	14.00	14.00	13.75	13.50	12.25	11.25	10.88	11.88	13.13	14.13	14.38	14.25
Precipitation-effectiveness: 21.59						Temperature-efficiency .....						157.39
Moisture Index [MI=100*(P-PE)/PE] .....												-64.54
+ D.Semiarid (-66.7<MI<-33.3)												
Index of dryness [DI=100*d/PE] .....												64.54
+ Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE] .....												0.00
+ No surplus (0<HI<10)												
Potential Evapotranspiration PE .....												1857.12
+ Megathermic (PE>1440)												

