

# Phytosociological Research Center

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## Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

TENNANT CREEK (AUSTRALIA)

Altitude: 376 m.

Latitude: 19°39'S Longitude: 134°11'E

Temperature observation period.: 1961-1994 (34)

Rainfall observation period....: 1937-1994 (58)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	Epi
Jan.	30.56	36.67	24.44	46.11	15.56	91.4	191.52
Feb.	29.73	35.56	23.89	43.89	11.11	91.4	161.35
Mar.	28.33	34.44	22.22	41.67	12.22	50.8	157.66
Apr.	25.56	31.67	19.44	40.00	10.00	15.2	115.82
May.	21.11	27.22	15.00	37.78	5.00	7.6	60.10
Jun.	18.34	25.00	11.67	32.78	2.78	5.1	35.44
Jul.	17.50	24.44	10.56	33.33	2.22	5.1	31.58
Aug.	19.72	27.22	12.22	35.56	2.78	2.5	49.75
Sep.	23.89	31.67	16.11	38.89	5.56	7.6	95.05
Oct.	27.50	35.00	20.00	42.22	10.56	12.7	156.42
Nov.	29.73	36.67	22.78	44.44	11.11	25.4	175.87
Dec.	30.56	37.22	23.89	45.00	14.44	53.3	193.20
Year	25.21	31.90	18.52	40.14	8.61	368	1423.8

### BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	602
Compensated thermicity index.....(Itc):	602
Simple continentality index.....(Ic):	13.1
Diurnality index.....(Id):	15.6
Annual ombrothermic index.....(Io):	1.22
Monthly dry ombrothermic index.....(Iod1):	0.13
Bimonthly dry ombrothermic index.....(Iod2):	0.20
Three monthly dry ombrothermic index.....(Iod3):	0.23
Four monthly dry ombrothermic index.....(Iod4):	0.26
Annual ombro-evaporation index.....(Ioe):	7.54
Annual positive temperature.....(Tp):	3025
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	556
Positive precipitation.....(Pp):	368

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	0	2	2	8	0

Latitudinal Belt...: Eutropical

Continentalty.....: Oceanic - Low Semihyperoceanic

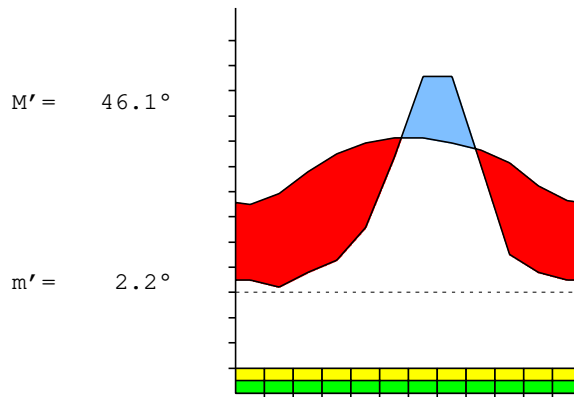
Bioclimate(Variant): TROPICAL XERIC (SEMIARID)

Bioclimatic Belt...: LOW THERMOTROPICAL LOW SEMIARID

TENNANT CREEK (AUSTRALIA)

376 m

P= 368 19° 39'S 134° 11'E 34/58 y.  
 T= 25.2° Ic= 13.1 Tp= 3025 Tn= 0  
 m= 10.6° M= 24.4° Itc= 602 Io= 1.2



TROPICAL XERIC (SEMIARID)  
 LOW THERMOTROPICAL LOW SEMIARID

WATER INDEX CARD TENNANT CREEK (AUSTRALIA)  
 Altitude: 376 m. Latitude: 19° 39'S

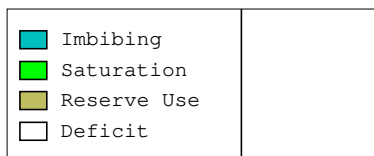
(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	17.5	32	5	0	0	5	26	0	0	-0.8
Aug.	19.7	50	3	0	0	3	47	0	0	-0.9
Sep.	23.9	95	8	0	0	8	87	0	0	-0.9
Oct.	27.5	156	13	0	0	13	144	0	0	-0.9
Nov.	29.7	176	25	0	0	25	150	0	0	-0.8
Dec.	30.6	193	53	0	0	53	140	0	0	-0.7
Jan.	30.6	192	91	0	0	91	100	0	0	-0.5
Feb.	29.7	161	91	0	0	91	70	0	0	-0.4
Mar.	28.3	158	51	0	0	51	107	0	0	-0.6
Apr.	25.6	116	15	0	0	15	101	0	0	-0.8
May.	21.1	60	8	0	0	8	53	0	0	-0.8
Jun.	18.3	35	5	0	0	5	30	0	0	-0.8
Year	25.2	1424	368	*	*	368	1056	0	0	*

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

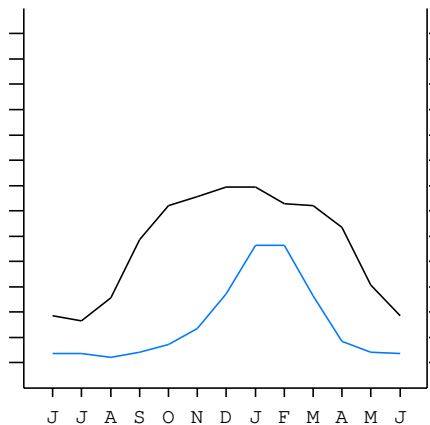
TENNANT CREEK (AUSTRALIA)

19°39'S 134°11'E 376 m 34/58 y.

T= 25.2 Ic= 13.1 TROPICAL XERIC (SEMIARID)  
 m= 10.6 Tp= 3025 LOW THERMOTROPICAL  
 M= 24.4 Tn= 0 LOW SEMIARID  
 M' = 46.1 Itc= 602  
 m' = 2.2 Io= 1.2  
 P= 368 mm  
 PE= 1424 mm



All over the year,  
 there is hydric deficit



TENNANT CREEK (AUSTRALIA)

Latitude: 19°39'S Longitude: 134°11'E Altitude: 376 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [B1b]  
 + Type .....: B. Oceanic  
 + Subtype .....: 1. Semihyperoceanic  
 + 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 [A3.2b.4b]  
 + Macrobioclimate .....: A. TROPICAL  
 + Bioclimate .....: 3. XERIC  
 + Bioclimatic variant ..:  
 + Thermic type.....: 2. THERMOTROPICAL  
 + Thermic subtype.....: b. LOW  
 + Ombrothermic type ...: 4. SEMIARID  
 + Ombrothermic subtype : b. LOW  
 Bioclimatic Classification .....: Trxe.Ttr.Sar

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 325  
 Coldest semester of the year.....(Psw): 43  
 Warmest four months period of the year.....(Pcm1): 262  
 Following warmest four months period.....(Pcm2): 79  
 Positive precipitation dryest 3 months.....(Ppd): 13  
 Positive precipitation dryest 2 months.....(Ppd2): 8  
 Positive precipitation dryest 1 month.....(Ppd1): 3  
 Positive precipitation warmest 3 months.....(Pps): 170  
 Positive precipitation warmest 2 months.....(Pps2): 145  
 Positive precipitation warmest 1 month.....(Pps1): 91  
 Positive precipitation coldest 3 months.....(Ppw): 13  
 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	12	45	236	73

Tropical rainfall rhythms: 1 > 2 > 4 > 3

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 30.6  
 Average coldest month [T].....(Tmin): 17.5  
 Maximum temp. warmest month [M].....(Tmmax): 37.2  
 Minimum temp. coldest month [m].....(Tmmin): 10.6  
 Absolute Max.temp. warmest month [M'].....(Tamax): 46.1  
 Absolute Min.temp. coldest month [m'].....(Tamin): 2.2  
 First warmest contrasted month [M].....(Tcmax): 31.7 (9)  
 First coldest contrasted month [m].....(Tcmin): 16.1 (9)  
 Dry station temperature.....(Td): 556  
 Positive temperature dryest 3 months.....(Tpd): 556  
 Positive temperature dryest 2 months.....(Tpd2): 372  
 Positive temperature dryest 1 month.....(Tpd1): 197  
 Positive temperature warmest 3 months.....(Tps): 909  
 Positive temperature warmest 2 months.....(Tps2): 611  
 Positive temperature warmest 1 month.....(Tps1): 306  
 Positive temperature coldest 3 months.....(Tpw): 556  
 Positive temperature coldest 2 months.....(Tpw2): 358  
 Positive temperature coldest 1 month.....(Tpw1): 175

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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): 3.87  
 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)	533	914	914	508	152	76	51	51	25	76	127	254
Tp	306	306	297	283	256	211	183	175	197	239	275	297
Io (Iom)	1.74	2.99	3.07	1.79	0.59	0.36	0.28	0.29	0.13	0.32	0.46	0.85
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	2361 / 908			736 / 750			127 / 556			457 / 811		
Io (Iot)	2.599			0.981			0.229			0.563		
Semesters	December-May						June-November					
Pp(x10)/Tp	3097 / 1658						584 / 1367					
Io (Iosm)	1.867						0.427					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 3681/3025=1.22 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	533	914	914	508	152	76	51	51	25	76	127	254
Tp [T*10]	306	306	297	283	256	211	183	175	197	239	275	297
Iom [Pp/Tp]	174	299	307	179	59	36	28	29	13	32	46	85
Avm [200-Iom]	26	***	***	21	141	164	172	171	187	168	154	115
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	2361 / 908			736 / 750			127 / 556			457 / 811		
Iot [Pp/Tp]	260			98			23			56		
Avs E[Avm<200]	***			325			530			437		
Upper ultrahyperarid [1]							Lower hyperarid [3]					
Upper hyperarid [2]							Strong lower arid [1]					
Weak lower arid [2]							Weak upper arid [2]					
Weak upper semiarid [2]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....(Sp): 13.06  
 CI of Gorezinski (1920) [1.7\*Sp/sin(Lat)-20.4] .....: 45.62  
 CI of Conrad (1946) [1.7\*Sp/sin(Lat+10)-14] .....: 30.88  
 + Oceanic (20<CI<40)  
 CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....: 1.73  
 + Continental (1.7<CI<2.3)  
 Rainfall Index of Lang (1925) [R=P/T] .....: 14.60  
 + Steppic (40>R>0)  
 Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....: 10.45  
 + Arid -steppic- (15>Ia>5)  
 I of Emberger (1930) [Q=100\*P/(Tmax<sup>2</sup>-Tmin<sup>2</sup>)] .....: 28.90  
 + Arid (30>Q>0)  
 I of Dantin & Revenga (1940) [DR=100\*T/P] .....: 6.85  
 + Extremely arid (DR>6)  
 Aridity Index of UNEP [I=P/PE] .....: 0.26  
 + Semiarid (0.5>Im>0.2)  
 Potential Erosion I of Fournier (1960) [K=Pi<sup>2</sup>/P].....: 22.69  
 + Very low (K<60)

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BIOCLIMATIC INDICES II

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

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.30	0.30	0.16	0.04	0.02	0.02	0.02	0.01	0.02	0.04	0.07	0.16
T-E ratio	13.75	13.38	12.75	11.50	9.50	8.25	7.88	8.87	10.75	12.38	13.38	13.75
Precipitation-effectiveness: 11.57						Temperature-efficiency ....: 136.14						
Moisture Index [MI=100*(P-PE)/PE] .....: -74.15 + E.Dry (-110<MI<-66.7)												
Index of dryness [DI=100*d/PE] .....: 74.14 + Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE] .....: 0.00 + No surplus (0<HI<10)												
Potential Evapotranspiration PE .....: 1423.76 + Forth mesothermic (997<PE<1440)												

