Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

LAUNCESTON -TASMANIA- (AUSTRALIA) Altitude: 81 m.

Latitude: 41°27'S Longitude: 147°10'E
Temperature observation period.: 1931-1980 (50)
Rainfall observation period....: 1950-1980 (31)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPi
Jan.	17.70	24.40	11.10	37.80	1.10	41.0	101.78
Feb.	18.20	25.00	11.70	38.30	0.90	50.0	88.91
Mar.	16.10	22.20	10.00	34.40	-0.60	40.0	75.84
Apr.	12.90	18.30	7.20	28.90	-2.30	62.0	49.46
May.	10.20	15.00	5.00	23.80	-4.40	73.0	33.34
Jun.	8.10	12.80	3.90	19.00	-5.60	71.0	22.40
Jul.	7.40	12.20	2.80	19.00	-6.10	86.0	21.47
Aug.	8.50	13.30	3.30	20.00	-3.90	80.0	28.49
Sep.	10.40	15.60	5.00	23.90	-4.40	65.0	40.22
Oct.	12.30	17.80	6.70	31.60	-3.90	68.0	57.49
Nov.	14.60	20.60	8.30	32.80	0.30	56.0	75.55
Dec.	16.50	22.80	10.00	36.10	-0.30	50.0	95.12
Year	12.74	18.33	7.08	28.80	-2.43	742	690.07

BIOCLIMATIC INDICES AND DIAGNOSIS

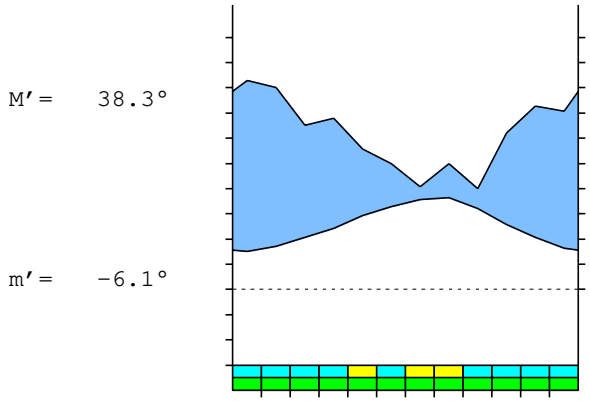
Thermicity index.....(It): 277
Compensated thermicity index.....(Itc): 277
Simple continentality index.....(Ic): 10.8
Diurnality index.....(Id): 13.3
Annual ombrothermic index.....(Io): 4.85
Monthly estival ombrothermic index.....(Ios1): 2.32
Bimonthly estival ombrothermic index.....(Ios2): 2.53
Threemonthly estival ombrothermic index.....(Ios3): 2.69
Fourmonthly estival ombrothermic index.....(Ios4): 2.94
Annual ombro-evaporation index.....(Ioe): 0.67
Annual positive temperature.....(Tp): 1529
Annual negative temperature.....(Tn): 0
Estival temperature.....(Ts): 524
Positive precipitation.....(Pp): 742

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

Latitudinal Belt...: Low eutemperate
Continentality.....: Hyperoceanic - Low Subhyperoceanic
Bioclimate(Variant): TEMPERATE HYPEROCEANIC (SUBMEDITERRANEAN)
Bioclimatic Belt...: LOW MESOTEMPERATE UPPER SUBHUMID

LAUNCESTON –TASMANIA– (AUSTRALIA) 81 m

P=	742	41° 27'S	147° 10'E		50/31 y.
T=	12.7°	Ic= 10.8	Tp= 1529	Tn=	0
m=	2.8°	M= 12.2°	Itc= 277	Io=	4.9



TEMPERATE HYPEROCEANIC (SUBMEDITERRANEAN)
LOW MESOTEMPERATE UPPER SUBHUMID

WATER INDEX CARD LAUNCESTON –TASMANIA– (AUSTRALIA)

Altitude: 81 m. Latitude: 41° 27'S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	7.4	21	86	0	100	21	0	65	33	3.0
Aug.	8.5	28	80	0	100	28	0	52	42	1.8
Sep.	10.4	40	65	0	100	40	0	25	33	0.6
Oct.	12.3	57	68	0	100	57	0	11	22	0.1
Nov.	14.6	76	56	-20	80	76	0	0	11	-0.2
Dec.	16.5	95	50	-45	35	95	0	0	5	-0.4
Jan.	17.7	102	41	-35	0	76	25	0	3	-0.5
Feb.	18.2	89	50	0	0	50	39	0	1	-0.4
Mar.	16.1	76	40	0	0	40	36	0	1	-0.4
Apr.	12.9	49	62	13	13	49	0	0	0	0.2
May.	10.2	33	73	40	52	33	0	0	0	1.1
Jun.	8.1	22	71	48	100	22	0	1	0	2.1
Year	12.7	690	742	*	*	590	100	152	152	*

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

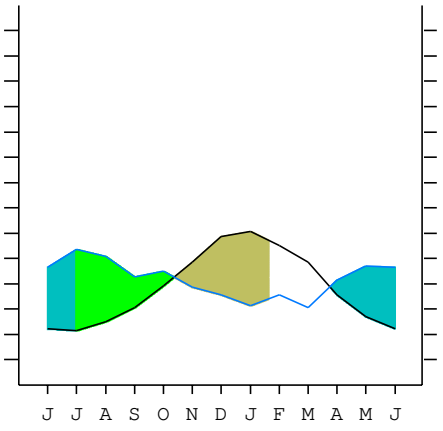
LAUNCESTON –TASMANIA– (AUSTRALIA)

41°27'S 147°10'E 81 m 50/31 y.

T=	12.7	Ic=	10.8
m=	2.8	Tp=	1529
M=	12.2	Tn=	0
M'=	38.3	Itc=	277
m'=	-6.1	Io=	4.9
P=	742	mm	
PE=	690	mm	

TEMPERATE HYPEROCEANIC (SUBMEDITERRANEAN)
LOW MESOTEMPERATE
UPPER SUBHUMID

Imbibing	23 Mar.
Saturation	30 Jun.
Reserve Use	11 Oct.
Deficit	18 Jan.



LAUNCESTON -TASMANIA- (AUSTRALIA)

Latitude: 41°27'S Longitude: 147°10'E Altitude: 81 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continentality Index [A3b]
  + Type .....: A. Hyperoceanic
  + Subtype .....: 3. Subhyperoceanic
  + Variant .....: b. Low
Thermic types [B1.B4]
  + Latitudinal zone ....: B. Temperate
  + Latitudinal belt ....: 1. Low eutemperate
  + Thermic type .....: B. Temperate
  + Thermic subtype .....: 4. Temperate
Bioclimatic types [C4b.3b.6a]
  + Macrobioclimate .....: C. TEMPERATE
  + Bioclimate .....: 4. HYPEROCEANIC
  + Bioclimatic variant .: b. SUBMEDITERRANEAN
  + Thermic type.....: 3. MESOTEMPERATE
  + Thermic subtype.....: b. LOW
  + Ombrothermic type ...: 6. SUBHUMID
  + Ombrothermic subtype : a. UPPER
Bioclimatic Classification .....: Texe(Sbm).Mte.Shu

LAUNCESTON -TASMANIA- (AUSTRALIA)

Latitude: 41°27'S Longitude: 147°10'E Altitude: 81 m

PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 299
Coldest semester of the year.....(Psw): 443
Warmest four months period of the year.....(Pcm1): 181
Following warmest four months period.....(Pcm2): 292
Positive precipitation dryest 3 months.....(Ppd): 131
Positive precipitation dryest 2 months.....(Ppd2): 90
Positive precipitation dryest 1 month.....(Ppd1): 40
Positive precipitation warmest 3 months.....(Pps): 141
Positive precipitation warmest 2 months.....(Pps2): 91
Positive precipitation warmest 1 month.....(Pps1): 50
Positive precipitation coldest 3 months.....(Ppw): 237
Positive precipitation coldest 2 months.....(Ppw2): 157
Positive precipitation coldest 1 month.....(Ppw1): 86

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	237	189	141	175

Seasonal rainfall rhythms: W > P > F > S

LAUNCESTON -TASMANIA- (AUSTRALIA)

Latitude: 41°27'S Longitude: 147°10'E Altitude: 81 m

TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 18.2
Average coldest month [T].....(Tmin): 7.4
Maximum temp. warmest month [M].....(Tmmax): 25.0
Minimum temp. coldest month [m].....(Tmmin): 2.8
Absolute Max.temp. warmest month [M'].....(Tamax): 38.3
Absolute Min.temp. coldest month [m'].....(Tamin): -6.1
First warmest contrasted month [M].....(Tcmax): 24.4 (1)
First coldest contrasted month [m].....(Tcmin): 11.1 (1)
Estival temperature.....(Ts): 524
Positive temperature dryest 3 months.....(Tpd): 520
Positive temperature dryest 2 months.....(Tpd2): 343
Positive temperature dryest 1 month.....(Tpd1): 161
Positive temperature warmest 3 months.....(Tps): 524
Positive temperature warmest 2 months.....(Tps2): 359
Positive temperature warmest 1 month.....(Tps1): 182
Positive temperature coldest 3 months.....(Tpw): 240
Positive temperature coldest 2 months.....(Tpw2): 155
Positive temperature coldest 1 month.....(Tpw1): 74

LAUNCESTON -TASMANIA- (AUSTRALIA)

Latitude: 41°27'S Longitude: 147°10'E Altitude: 81 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)												
Pregelid.....[m'<=0](Pf)			o	o	o	o	o	o	o	o		o
Agelid.....[m'> 0](Pf)	o	o									o	
HiperAgelid..[all>0](Pf)	o	o									o	

LAUNCESTON -TASMANIA- (AUSTRALIA)

Latitude: 41°27'S Longitude: 147°10'E Altitude: 81 m

OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 0.93
Mediterranean index of January.....(Im1): 2.48
Mediterranean index of January & February.....(Im2): 2.10
Mediterranean index of December to February...(Im3): 2.03

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	500	410	500	400	620	730	710	860	800	650	680	560
Tp	165	177	182	161	129	102	81	74	85	104	123	146
Io (Iom)	3.03	2.32	2.75	2.48	4.81	7.16	8.77	11.6	9.41	6.25	5.53	3.84

Seasons	Summer	Automn	Winter	Spring
Pp(x10)/Tp	1410 / 524	1750 / 392	2370 / 240	1890 / 373
Io (Iot)	2.691	4.464	9.875	5.067

Semesters	December-May	June-November
Pp(x10)/Tp	3160 / 916	4260 / 613
Io (Iosm)	3.450	6.949

LAUNCESTON -TASMANIA- (AUSTRALIA)

Latitude: 41°27'S Longitude: 147°10'E Altitude: 81 m

Aridity Value Index (AVI)

[10xPP/TP=IO]: 7420/1529=4.85 There is No Yearly Aridity

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	500	410	500	400	620	730	710	860	800	650	680	560
Tp [T*10]	165	177	182	161	129	102	81	74	85	104	123	146
Iom [Pp/Tp]	303	232	275	248	481	716	877	$$	941	625	553	384
Avm [200-Iom]	***	***	***	***	***	***	***	***	***	***	***	***

Seasons	Summer	Automn	Winter	Spring
Pp / Tp	1410 / 524	1750 / 392	2370 / 240	1890 / 373
Iot [Pp/Tp]	269	446	987	507
Avs E[Avm<200]	***	***	***	***

LAUNCESTON -TASMANIA- (AUSTRALIA)

Latitude: 41°27'S Longitude: 147°10'E Altitude: 81 m

BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....(Sp): 10.80
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....: 7.34
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....: 9.48
  + Hyperoceanic (-20<CI<20)
CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....: 0.73
  + Oceanic (0.6<CI<1.1)
Rainfall Index of Lang (1925) [R=P/T] .....: 58.23
  + Semiarid (60>R>40)
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....: 32.63
  + Humid (60>Ia>30)
I of Emberger (1930) [Q=100*P/(Tmmax²-Tmmin²)] .....: 120.23
  + Humid (Q>90)
I of Dantin & Revenga (1940) [DR=100*T/P] .....: 1.72
  + Humid (2>DR>0)
Aridity Index of UNEP [I=P/PE] .....: 1.08
  + Humid (I>0.65)
Potencial Erosion I of Fournier (1960) [K=Pi²/P].....: 9.97
  + Very low (K<60)

LAUNCESTON -TASMANIA- (AUSTRALIA)

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BIOCLIMATIC INDICES II

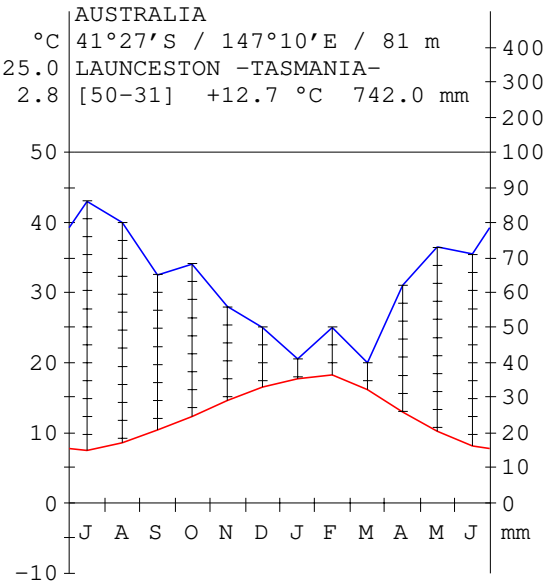
Bioclimatic classification of Gaussen & Bagnouls (1957)
  + Climate ....: A. Warm and temperate warm
  + Region .....: 7. Mesoaxeric (Axeric temperate)
  + Thermic type: 4. Mesothermic

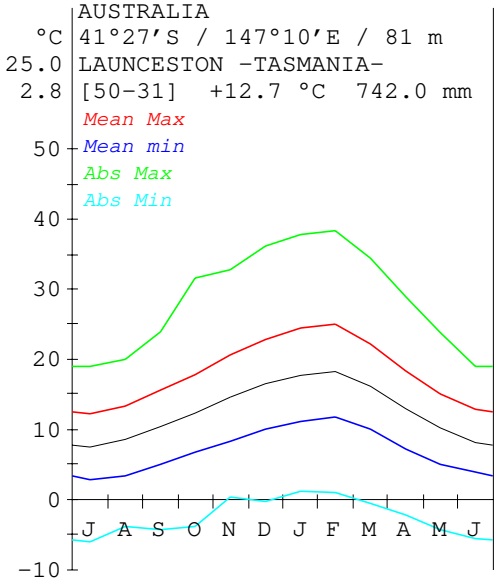
Thornthwaite (1948)

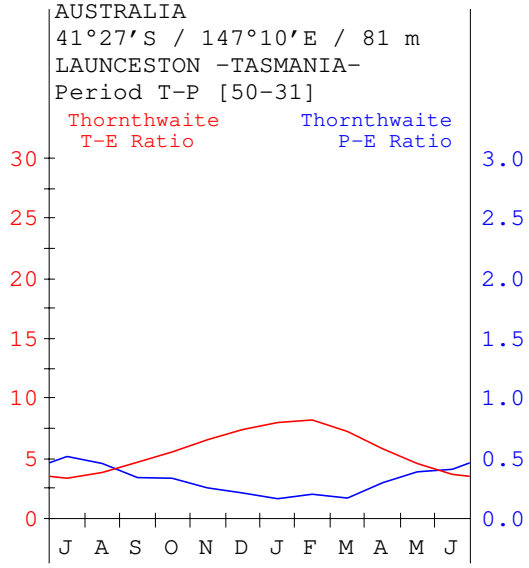
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.16	0.20	0.17	0.30	0.39	0.41	0.52	0.46	0.34	0.34	0.25	0.21
T-E ratio	7.97	8.19	7.25	5.80	4.59	3.65	3.33	3.82	4.68	5.54	6.57	7.43

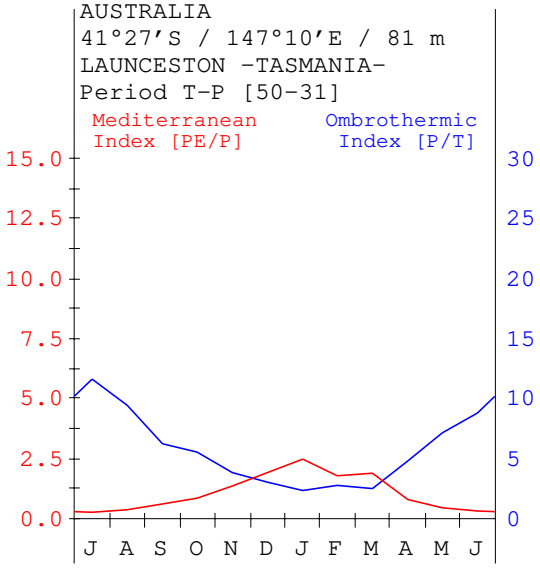
Precipitation-effectiveness: 37.47 Temperature-efficiency ....: 68.81

Moisture Index [MI=100*(P-PE)/PE] .....: 7.53
  + C2.Subhumid humid (0<MI<20)
Index of dryness [DI=100*d/PE] .....: 14.52
  + No deficit (0<DI<16.7)
Index of humidity [HI=100*s/PE] .....: 22.04
  + Strong surplus (20<HI)
Potential Evapotranspiration PE .....: 690.07
  + First mesothermic (570<PE<712)




AUSTRALIA
°C 41°27'S / 147°10'E / 81 m
25.0 LAUNCESTON -TASMANIA-
2.8 [50-31] +12.7 °C 742.0 mm
Mean Max
Mean min
Abs Max
Abs Min
50
40
30
20
10
0
-10
J A S O N D J F M A M J


AUSTRALIA
41°27'S / 147°10'E / 81 m
LAUNCESTON -TASMANIA-
Period T-P [50-31]
Thornthwaite T-E Ratio
Thornthwaite P-E Ratio
30
25
20
15
10
5
0
3.0
2.5
2.0
1.5
1.0
0.5
0.0
J A S O N D J F M A M J


AUSTRALIA
41°27'S / 147°10'E / 81 m
LAUNCESTON -TASMANIA-
Period T-P [50-31]
Mediterranean Index [PE/P]
Ombrothermic Index [P/T]
15.0
12.5
10.0
7.5
5.0
2.5
0.0
30
25
20
15
10
5
0
J A S O N D J F M A M J