

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

LEONORA (AUSTRALIA)

Altitude: 376 m.

Latitude: 28°53'S Longitude: 121°19'E

Temperature observation period.: 1949-1990 (42)

Rainfall observation period....: 1898-1990 (93)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPi
Jan.	29.28	35.01	23.64	0.00	0.00	23.0	187.72
Feb.	28.12	32.92	23.18	0.00	0.00	24.9	151.44
Mar.	25.94	33.42	18.48	0.00	0.00	27.1	136.35
Apr.	21.32	28.64	14.01	0.00	0.00	19.7	76.70
May.	16.31	21.96	10.59	0.00	0.00	25.2	39.32
Jun.	13.10	18.30	7.90	0.00	0.00	25.3	21.84
Jul.	12.03	15.35	8.85	0.00	0.00	18.2	18.88
Aug.	13.58	18.98	7.93	0.00	0.00	15.6	26.56
Sep.	17.33	23.53	11.18	0.00	0.00	9.5	49.36
Oct.	21.05	27.60	14.60	0.00	0.00	7.4	86.95
Nov.	24.61	30.26	18.89	0.00	0.00	10.9	128.28
Dec.	27.79	34.03	21.68	0.00	0.00	15.0	174.99
Year	20.87	26.67	15.08	0.00	0.00	222	1098.4

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	451
Compensated thermicity index.....(Itc):	451
Simple continentality index.....(Ic):	17.3
Diurnality index.....(Id):	14.9
Annual ombrothermic index.....(Io):	0.89
Monthly dry ombrothermic index.....(Iod1):	0.35
Bimonthly dry ombrothermic index.....(Iod2):	0.44
Three monthly dry ombrothermic index.....(Iod3):	0.44
Four monthly dry ombrothermic index.....(Iod4):	0.57
Annual ombro-evaporation index.....(Ioe):	1.19
Annual positive temperature.....(Tp):	2505
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	630
Positive precipitation.....(Pp):	222

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

Latitudinal Belt...: Subtropical

Continentalty.....: Oceanic - Low Semicontinental

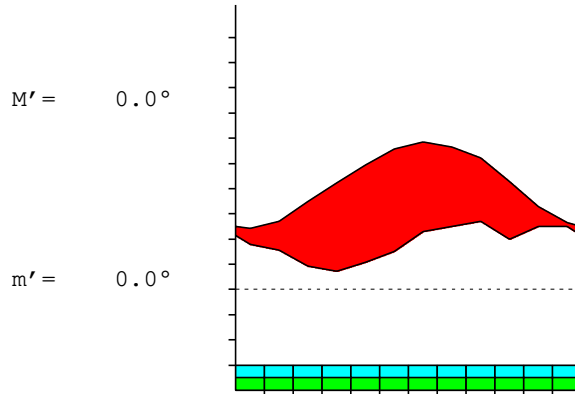
Bioclimate(Variant): TROPICAL DESERTIC (PLUVISEROTIN, ARID)

Bioclimatic Belt...: LOW MESOTROPICAL UPPER ARID

LEONORA (AUSTRALIA)

376 m

P= 222 28° 53' S 121° 19' E 42/93 y.
 T= 20.9° Ic= 17.3 Tp= 2505 Tn= 0
 m= 8.9° M= 15.4° Itc= 451 Io= 0.9



TROPICAL DESERTIC (PLUVISEROTIN)
 LOW MESOTROPICAL UPPER ARID

WATER INDEX CARD LEONORA (AUSTRALIA)
 Altitude: 376 m. Latitude: 28° 53' S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	12.0	19	18	-1	3	19	0	0	0	0.0
Aug.	13.6	27	16	-3	0	18	8	0	0	-0.4
Sep.	17.3	49	10	0	0	10	40	0	0	-0.8
Oct.	21.0	87	7	0	0	7	80	0	0	-0.9
Nov.	24.6	128	11	0	0	11	117	0	0	-0.9
Dec.	27.8	175	15	0	0	15	160	0	0	-0.9
Jan.	29.3	188	23	0	0	23	165	0	0	-0.8
Feb.	28.1	151	25	0	0	25	127	0	0	-0.8
Mar.	25.9	136	27	0	0	27	109	0	0	-0.8
Apr.	21.3	77	20	0	0	20	57	0	0	-0.7
May.	16.3	39	25	0	0	25	14	0	0	-0.3
Jun.	13.1	22	25	3	3	22	0	0	0	0.1
Year	20.9	1098	222	*	*	222	877	0	0	*

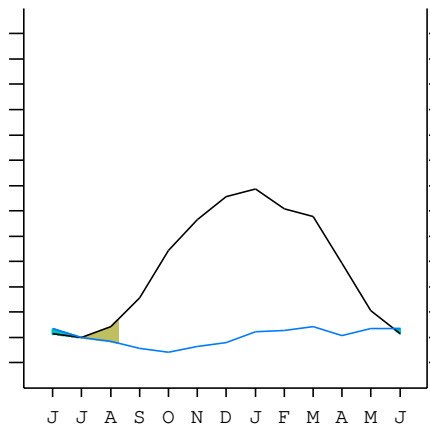
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

LEONORA (AUSTRALIA)

28°53' S 121°19' E 376 m 42/93 y.

T= 20.9 Ic= 17.3 TROPICAL DESERTIC (PLUVISEROTIN)
 m= 8.9 Tp= 2505 LOW MESOTROPICAL
 M= 15.4 Tn= 0 UPPER ARID
 M' = 0.0 Itc= 451
 m' = 0.0 Io= 0.9
 P= 222 mm ———
 PE= 1098 mm ———

Imbibing	25 May.
Saturation	26 Jun.
Reserve Use	8 Aug.
Deficit	



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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [B1a]
 + Type: B. Oceanic
 + Subtype: 1. Semicontinental
 + Variant: a. Low

Thermic types [A3.A2]
 + Latitudinal zone: A. Warm
 + Latitudinal belt: 3. Subtropical
 + Thermic type: A. Warm
 + Thermic subtype: 2. Warm

Bioclimatic types [A2e.3b.3a]
 + Macrobioclimate: A. TROPICAL
 + Bioclimate: 2. DESERTIC
 + Bioclimatic variant .: e. PLUVISEROTIN, ARID
 + Thermic type.....: 3. MESOTROPICAL
 + Thermic subtype.....: b. LOW
 + Ombrothermic type ...: 3. ARID
 + Ombrothermic subtype : a. UPPER

Bioclimatic Classification: Trps (Pse) .Mtr.Ari

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 121
 Coldest semester of the year.....(Psw): 101
 Warmest four months period of the year.....(Pcm1): 90
 Following warmest four months period.....(Pcm2): 88
 Positive precipitation dryest 3 months.....(Ppd): 28
 Positive precipitation dryest 2 months.....(Ppd2): 17
 Positive precipitation dryest 1 month.....(Ppd1): 7
 Positive precipitation warmest 3 months.....(Pps): 63
 Positive precipitation warmest 2 months.....(Pps2): 48
 Positive precipitation warmest 1 month.....(Pps1): 23
 Positive precipitation coldest 3 months.....(Ppw): 59
 Positive precipitation coldest 2 months.....(Ppw2): 43
 Positive precipitation coldest 1 month.....(Ppw1): 18

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	59	27	62	71

Seasonal rainfall rhythms: F > S > W > P

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 29.3
 Average coldest month [T].....(Tmin): 12.0
 Maximum temp. warmest month [M].....(Tmmax): 35.0
 Minimum temp. coldest month [m].....(Tmmin): 7.9
 Absolute Max.temp. warmest month [M'].....(Tamax): 0.0
 Absolute Min.temp. coldest month [m'].....(Tamin): 0.0
 First warmest contrasted month [M].....(Tcmax): 33.4 (3)
 First coldest contrasted month [m].....(Tcmin): 18.5 (3)
 Dry station temperature.....(Td): 630
 Positive temperature dryest 3 months.....(Tpd): 630
 Positive temperature dryest 2 months.....(Tpd2): 384
 Positive temperature dryest 1 month.....(Tpd1): 211
 Positive temperature warmest 3 months.....(Tps): 852
 Positive temperature warmest 2 months.....(Tps2): 574
 Positive temperature warmest 1 month.....(Tps1): 293
 Positive temperature coldest 3 months.....(Tpw): 387
 Positive temperature coldest 2 months.....(Tpw2): 251
 Positive temperature coldest 1 month.....(Tpw1): 120

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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)												
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): 4.96
 Mediterranean index of January.....(Im1): 8.17
 Mediterranean index of January & February.....(Im2): 7.09
 Mediterranean index of December to February...(Im3): 8.18

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	150	230	249	271	197	252	253	182	156	95	74	109
Tp	278	293	281	259	213	163	131	120	136	173	211	246
Io (Iom)	0.54	0.78	0.89	1.05	0.92	1.54	1.93	1.51	1.15	0.55	0.35	0.44
Seasons	Summer			Autumn			Winter			Spring		
Pp(x10)/Tp	628 / 852			720 / 636			590 / 387			278 / 630		
Io (Iot)	0.738			1.132			1.525			0.442		
Semesters	December-May						June-November					
Pp(x10)/Tp	1348 / 1488						869 / 1017					
Io (Iosm)	0.906						0.854					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 2217/2505=0.89 [Weak upper arid \(8\) \[1235\]](#)

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	150	230	249	271	197	252	253	182	156	95	74	109
Tp [T*10]	278	293	281	259	213	163	131	120	136	173	211	246
Iom [Pp/Tp]	54	78	89	105	92	154	193	151	115	55	35	44
Avm [200-Iom]	146	122	111	95	108	46	7	49	85	145	165	156
Seasons	Summer			Autumn			Winter			Spring		
Pp / Tp	628 / 852			720 / 636			590 / 387			278 / 630		
Iot [Pp/Tp]	74			113			153			44		
Avs E[Avm<200]	379			249			141			466		
Upper hyperarid [1]							Strong lower arid [2]					
Weak lower arid [2]							Strong upper arid [2]					
Weak upper arid [2]							Strong lower semiarid [3]					
Strong upper semiarid [3]							Weak upper semiarid [1]					

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp):	17.25
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]		40.31
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]		32.72
+ Oceanic (20<CI<40)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)]		1.62
+ Subcontinental (1.1<CI<1.7)		
Rainfall Index of Lang (1925) [R=P/T]		10.62
+ Steppic (40>R>0)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)]		7.18
+ Arid -steppic- (15>Ia>5)		
I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)]		19.06
+ Arid (30>Q>0)		
I of Dantin & Revenga (1940) [DR=100*T/P]		9.42
+ Extremely arid (DR>6)		
Aridity Index of UNEP [I=P/PE]		0.20
+ Semiarid (0.5>Im>0.2)		
Potential Erosion I of Fournier (1960) [K=Pi ² /P]		3.32
+ Very low (K<60)		

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)

- + Climate
- + Region
- + Thermic type: 2. Macrothermic

Thornthwaite (1948)

	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	
P-E ratio	0.07	0.07	0.08	0.07	0.10	0.11	0.08	0.06	0.03	0.02	0.03	0.04	
T-E ratio	13.18	12.65	11.67	9.59	7.34	5.90	5.41	6.11	7.80	9.47	11.07	12.51	
Precipitation-effectiveness:	7.69						Temperature-efficiency						112.71
Moisture Index [MI=100*(P-PE)/PE]	-79.82												
+ E.Dry (-110<MI<-66.7)													
Index of dryness [DI=100*d/PE]	79.82												
+ Strong deficit (33.3<DI)													
Index of humidity [HI=100*s/PE]	0.00												
+ No surplus (0<HI<10)													
Potential Evapotranspiration PE	1098.38												
+ Forth mesothermic (997<PE<1440)													

