

# Phytosociological Research Center

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## Worldwide Bioclimatic Classification System

S.Rivas-Martinez(+) & S.Rivas-Saenz

(Adapted to Synoptical Table 14/02/2020)

DECEPTION ISLAND (ANTARCTICA)

Altitude: 8 m.

Latitude: 62°59'S Longitude: 60°34'W

Temperature observation period.: 1986-1994 (9)

Rainfall observation period....: 1992-1994 (3)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	1.11	2.78	-0.56	10.56	-7.22	58.4	176.85
Feb.	1.11	2.78	-0.56	8.89	-6.67	53.3	136.12
Mar.	0.00	1.67	-1.67	7.78	-11.11	68.6	0.00
Apr.	-2.50	-0.56	-4.44	8.33	-16.67	50.8	0.00
May.	-5.00	-2.78	-7.22	5.56	-21.11	5.1	0.00
Jun.	-7.50	-5.00	-10.00	3.89	-26.67	7.6	0.00
Jul.	-8.89	-6.11	-11.67	4.44	-25.00	15.2	0.00
Aug.	-8.33	-5.56	-11.11	5.00	-27.78	25.4	0.00
Sep.	-5.83	-3.33	-8.33	3.89	-23.33	22.9	0.00
Oct.	-2.78	-0.56	-5.00	7.22	-16.67	109.2	0.00
Nov.	-1.95	0.00	-3.89	5.56	-13.89	96.5	0.00
Dec.	0.56	2.22	-1.11	7.22	-7.78	50.8	133.53
Year	-3.33	-1.20	-5.46	6.53	-16.99	564	446.51

### BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	-211
Compensated thermicity index.....(Itc):	-211
Simple continentality index.....(Ic):	10.0
Diurnality index.....(Id):	5.6
Annual ombrothermic index.....(Io):	58.45
Monthly estival ombrothermic index.....(Ios1):	52.61
Bimonthly estival ombrothermic index.....(Ios2):	50.32
Threemonthly estival ombrothermic index.....(Ios3):	58.45
Fourmonthly estival ombrothermic index.....(Ios4):	312.05
Annual ombro-evaporation index.....(Ioe):	1.26
Annual positive temperature.....(Tp):	28
Annual negative temperature.....(Tn):	428
Estival temperature.....(Ts):	28
Positive precipitation.....(Pp):	163

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

Latitudinal Belt...: High Subtemperate

Continentality.....: Hyperoceanic - Low Subhyperoceanic

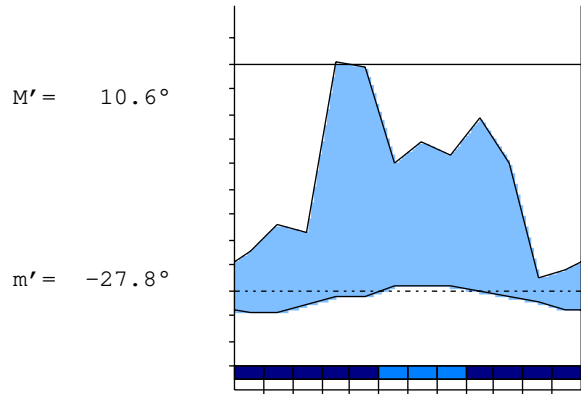
Bioclimate(Variant): POLAR-S SUPRAPOLAR (POLAR-HYPEROCEANIC)

Bioclimatic Belt...: Upper SUPRAPOLAR MEDIUM-SNOWY

DECEPTION ISLAND (ANTARCTICA)

8 m

P= 564      62° 59'S      60° 34'W      9/3 y.  
 T= -3.3 °      Ic= 10.0      Tp= 28      Tn= 428  
 m= -11.7 °      M= -6.1 °      Itc= -211      Io= 58.5



POLAR-S SUPRAPOLAR (POLAR-HYPEROCEANIC)  
 Upper SUPRAPOLAR MEDIUM-SNOWY

WATER INDEX CARD      DECEPTION ISLAND (ANTARCTICA)  
 Altitude: 8 m.      Latitude: 62° 59'S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	-8.9	0	15	0	100	0	0	15	12	*
Aug.	-8.3	0	25	0	100	0	0	25	19	*
Sep.	-5.8	0	23	0	100	0	0	23	21	*
Oct.	-2.8	0	109	0	100	0	0	109	65	*
Nov.	-2.0	0	97	0	100	0	0	97	81	*
Dec.	0.6	134	51	-83	17	134	0	0	40	-0.6
Jan.	1.1	177	58	-17	0	76	101	0	20	-0.6
Feb.	1.1	136	53	0	0	53	83	0	10	-0.6
Mar.	0.0	0	69	69	69	0	0	0	5	*
Apr.	-2.5	0	51	31	100	0	0	19	12	*
May.	-5.0	0	5	0	100	0	0	5	9	*
Jun.	-7.5	0	8	0	100	0	0	8	8	*
Year	-3.3	447	564	*	*	263	184	301	301	*

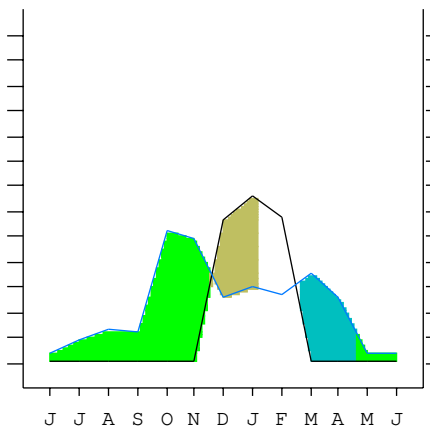
R = Reserve      VR = Variation of the reserve      RE = Real evapotranspiration  
 DR = Drainage      HC = Humidity coefficient      DF = Deficit      SP = Superavit

DECEPTION ISLAND (ANTARCTICA)

62°59'S      60°34'W      8 m      9/3 y.

T= -3.3      Ic= 10.0      POLAR-S SUPRAPOLAR (POLAR-HYPEROCEANIC)  
 m= -11.7      Tp= 28      Upper SUPRAPOLAR  
 M= -6.1      Tn= 428      MEDIUM-SNOWY  
 M' = 10.6      Itc= -211  
 m' = -27.8      Io= 58.5  
 P= 564      mm ———  
 PE= 447      mm ———

Imbibing	17 Feb.
Saturation	19 Apr.
Reserve Use	17 Nov.
Deficit	5 Jan.



DECEPTION ISLAND (ANTARCTICA)

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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continentality Index [A3b]  
 + Type .....: A. Hyperoceanic  
 + Subtype .....: 3. Subhyperoceanic  
 + Variant .....: b. Low  
 Thermic types [C2.D8]  
 + Latitudinal zone ....: C. Cold  
 + Latitudinal belt ....: 2. High Subtemperate  
 + Thermic type .....: D. Gelid  
 + Thermic subtype .....: 8. Ultramicrothermic  
 Bioclimatic types [E2.4.4]  
 + Macrobioclimate .....: E. POLAR-S  
 + Bioclimate .....: 2. SUPRAPOLAR  
 + Bioclimatic variant .: POLAR-HYPEROCEANIC  
 + Thermic type.....: 4. Upper SUPRAPOLAR  
 + Thermic subtype.....:  
 + Ombrothermic type ...: 4. MEDIUM-SNOWY  
 + Ombrothermic subtype :  
 Bioclimatic Classification .....Posu(Pho).Spo.Sar.Sho

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 378  
 Coldest semester of the year.....(Psw): 185  
 Warmest four months period of the year.....(Pcm1): 231  
 Following warmest four months period.....(Pcm2): 79  
 Positive precipitation dryest 3 months.....(Ppd): 0  
 Positive precipitation dryest 2 months.....(Ppd2): 0  
 Positive precipitation dryest 1 month.....(Ppd1): 0  
 Positive precipitation warmest 3 months.....(Pps): 163  
 Positive precipitation warmest 2 months.....(Pps2): 112  
 Positive precipitation warmest 1 month.....(Pps1): 58  
 Positive precipitation coldest 3 months.....(Ppw): 0  
 Positive precipitation coldest 2 months.....(Ppw2): 0  
 Positive precipitation coldest 1 month.....(Ppw1): 0

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	48	228	162	124

Seasonal rainfall rhythms: P > S > F > W

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 1.1  
 Average coldest month [T].....(Tmin): -8.9  
 Maximum temp. warmest month [M].....(Tmmax): 2.8  
 Minimum temp. coldest month [m].....(Tmmin): -11.7  
 Absolute Max.temp. warmest month [M'].....(Tamax): 10.6  
 Absolute Min.temp. coldest month [m'].....(Tamin): -27.8  
 First warmest contrasted month [M].....(Tcmax): -6.1 (7)  
 First coldest contrasted month [m].....(Tcmin): -11.7 (7)  
 Estival temperature.....(Ts): 28  
 Positive temperature dryest 3 months.....(Tpd): 0  
 Positive temperature dryest 2 months.....(Tpd2): 0  
 Positive temperature dryest 1 month.....(Tpd1): 0  
 Positive temperature warmest 3 months.....(Tps): 28  
 Positive temperature warmest 2 months.....(Tps2): 22  
 Positive temperature warmest 1 month.....(Tps1): 11  
 Positive temperature coldest 3 months.....(Tpw): 0  
 Positive temperature coldest 2 months.....(Tpw2): 0  
 Positive temperature coldest 1 month.....(Tpw1): 0

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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)												
Ultragelid...[M'<=0] (Pf)												
Hypergelid...[M <=0] (Pf)				o	o	o	o	o	o	o	o	
Gelid.....[T <=0] (Pf)			o	o	o	o	o	o	o	o	o	
Subgelid.....[m <=0] (Pf)	o	o	o	o	o	o	o	o	o	o	o	o
Pregelid.....[m'<=0] (Pf)	o	o	o	o	o	o	o	o	o	o	o	o
Agelid.....[m'> 0] (Pf)												
HiperAgelid..[all>0] (Pf)												

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 0.79  
 Mediterranean index of January.....(Im1): 3.03  
 Mediterranean index of January & February....(Im2): 2.80  
 Mediterranean index of December to February...(Im3): 2.75

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp (x10)	508	584	533	*	*	*	*	*	*	*	*	*
Tp	6	11	11	*	*	*	*	*	*	*	*	*
Io (Iom)	90.7	52.6	48.0	*	*	*	*	*	*	*	*	*
Seasons	Summer			Autumn			Winter			Spring		
Pp(x10)/Tp	1625 / 28			*/*			*/*			*/*		
Io (Iot)	58.45			*			*			*		
Semesters	December-May						June-November					
Pp(x10)/Tp	*/*						*/*					
Io (Iosm)	*						*					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 1625/28=58.45 There is No Yearly Aridity

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	508	584	533	*	*	*	*	*	*	*	*	*
Tp [T*10]	6	11	11	*	*	*	*	*	*	*	*	*
Iom [Pp/Tp]	\$\$	\$\$	\$\$	\$\$	!!	!!	!!	!!	!!	!!	!!	!!
Avm [200-Iom]	***	***	***	***	***	***	***	***	***	***	***	***
Seasons	Summer			Autumn			Winter			Spring		
Pp / Tp	1625 / 28			* / *			* / *			* / *		
Iot [Pp/Tp]	\$\$			**			**			**		
Avs E [Avm<200]	***			***			***			***		

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....(Sp): 10.00  
 CI of Gorezinski (1920) [1.7\*Sp/sin(Lat)-20.4] .....: -1.32  
 CI of Conrad (1946) [1.7\*Sp/sin(Lat+10)-14] .....: 3.78  
 + Hyperoceanic (-20<CI<20)  
 CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....: 0.45  
 + Hyperoceanic (0<CI<0.6)  
 Rainfall Index of Lang (1925) [R=P/T] .....:-169.14  
 +  
 Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....: 84.57  
 + Perhumid (Ia>60)  
 I of Emberger (1930) [Q=100\*P/(Tmmax<sup>2</sup>-Tmmin<sup>2</sup>)] .....:-438.89  
 +  
 I of Dantin & Revenga (1940) [DR=100\*T/P] .....: -0.59  
 +  
 Aridity Index of UNEP [I=P/PE] .....: 1.26  
 + Humid (I>0.65)  
 Potential Erosion I of Fournier (1960) [K=Pi<sup>2</sup>/P].....: 21.15  
 + Very low (K<60)

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)  
 + Climate .....: B. Cold and temperate cold  
 + Region .....: 11. Psicroaxeric (Axeric cold)  
 + Thermic type: 8. Ultramicrothermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.43	0.39	0.55	0.43	0.03	0.05	0.11	0.20	0.18	1.01	0.88	0.38
T-E ratio	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25
Precipitation-effectiveness: 46.44						Temperature-efficiency .....: 1.25						
Moisture Index [MI=100*(P-PE)/PE] .....: 26.27 + B1.Humid low-humid (20<MI<40)												
Index of dryness [DI=100*d/PE] .....: 41.21 + Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE] .....: 67.46 + Strong surplus (20<HI)												
Potential Evapotranspiration PE .....: 446.51 + Second microthermic (427<PE<570)												

