

Phytosociological Research Center

www.globalbioclimatics.org

Worldwide Bioclimatic Classification System

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

(Adapted to Synoptical Table 14/02/2020)

ELLSWORTH (ANTARCTICA) Altitude: 42 m.

Latitude: 77°44'S Longitude: 41°7'W

Temperature observation period.: 1988-1994 (7)

Rainfall observation period....: 1988-1994 (7)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	-8.33	-5.56	-11.11	0.56	-22.78	6.4	0.00
Feb.	-15.84	-12.78	-18.89	-2.78	-30.56	3.8	0.00
Mar.	-23.06	-19.44	-26.67	-3.89	-40.00	6.4	0.00
Apr.	-27.50	-23.33	-31.67	-3.89	-50.00	14.0	0.00
May.	-28.06	-23.89	-32.22	2.22	-54.44	4.8	0.00
Jun.	-31.95	-28.33	-35.56	-10.56	-50.56	6.1	0.00
Jul.	-33.33	-29.44	-37.22	-12.22	-51.67	5.1	0.00
Aug.	-33.33	-29.44	-37.22	-6.67	-51.67	5.1	0.00
Sep.	-30.56	-26.67	-34.44	-6.67	-51.11	6.9	0.00
Oct.	-22.50	-18.89	-26.11	-3.89	-56.67	9.9	0.00
Nov.	-15.00	-11.67	-18.33	-0.56	-40.00	11.9	0.00
Dec.	-8.06	-5.56	-10.56	0.00	-20.00	5.1	0.00
Year	-23.13	-19.58	-26.67	-4.03	-43.29	86	0.00

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	-898
Compensated thermicity index.....(Itc):	-819
Simple continentality index.....(Ic):	25.3
Diurnality index.....(Id):	8.3
Annual ombrothermic index.....(Io):	No
Monthly estival ombrothermic index.....(Ios1):	No
Bimonthly estival ombrothermic index.....(Ios2):	No
Threemonthly estival ombrothermic index.....(Ios3):	No
Fourmonthly estival ombrothermic index.....(Ios4):	No
Annual ombro-evaporation index.....(Ioe):	No
Annual positive temperature.....(Tp):	0
Annual negative temperature.....(Tn):	2775
Estival temperature.....(Ts):	0
Positive precipitation.....(Pp):	0

N. of Months	P>4T	P:2T-4T	PT-2T	P<T	T<0
	0	0	0	0	12

Latitudinal Belt...: Low Polar

Continentality.....: Continental - High Subcontinental

Bioclimate.....: POLAR-S HYPOGELID

Bioclimatic Belt...: Upper HYPOGELID SCANTY-SNOWY

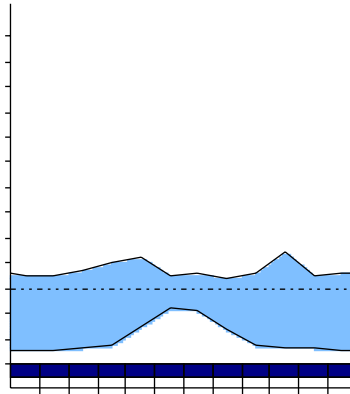
ELLSWORTH (ANTARCTICA)

42 m

P= 86 77° 44'S 41° 7'W 7/7 y.
 T= -23.1 ° Ic= 25.3 Tp= 0 Tn= 2775
 m= -37.2 ° M= -29.4 ° Itc= -819 Io=9999.9

M' = 2.2°

m' = -56.7°



POLAR-S HYPOGELID
 Upper HYPOGELID SCANTY-SNOWY

WATER INDEX CARD ELLSWORTH (ANTARCTICA)
 Altitude: 42 m. Latitude: 77° 44'S

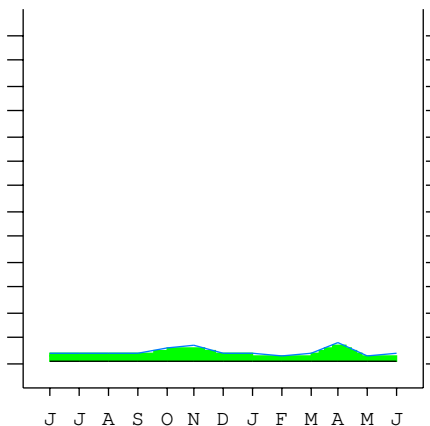
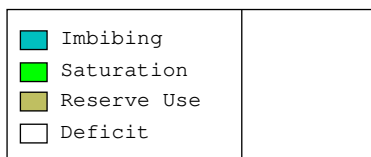
(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	-33.3	0	5	0	100	0	0	5	6	*
Aug.	-33.3	0	5	0	100	0	0	5	6	*
Sep.	-30.6	0	7	0	100	0	0	7	6	*
Oct.	-22.5	0	10	0	100	0	0	10	8	*
Nov.	-15.0	0	12	0	100	0	0	12	10	*
Dec.	-8.1	0	5	0	100	0	0	5	8	*
Jan.	-8.3	0	6	0	100	0	0	6	7	*
Feb.	-15.8	0	4	0	100	0	0	4	5	*
Mar.	-23.1	0	6	0	100	0	0	6	6	*
Apr.	-27.5	0	14	0	100	0	0	14	10	*
May.	-28.1	0	5	0	100	0	0	5	7	*
Jun.	-32.0	0	6	0	100	0	0	6	7	*
Year	-23.1	0	86	*	*	0	0	85	85	*

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

ELLSWORTH (ANTARCTICA)

77°44'S 41°7'W 42 m 7/7 y.

T= -23.1 Ic= 25.3 POLAR-S HYPOGELID
 m= -37.2 Tp= 0 Upper HYPOGELID
 M= -29.4 Tn= 2775 SCANTY-SNOWY
 M' = 2.2 Itc= -819
 m' = -56.7 Io=9999.9
 P= 86 mm
 PE= 0 mm



All over the year,
 there is no hydric deficit

ELLSWORTH (ANTARCTICA)

Latitude: 77°44'S Longitude: 41°7'W Altitude: 42 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continentality Index [C2b]
 + Type: C. Continental
 + Subtype: 2. Subcontinental
 + Variant: b. High
 Thermic types [C2.D10]
 + Latitudinal zone: C. Cold
 + Latitudinal belt: 2. Low Polar
 + Thermic type: D. Gelid
 + Thermic subtype: 10.Hipergelid
 Bioclimatic types [E3.5.2]
 + Macrobioclimate: E. POLAR-S
 + Bioclimate: 3. HYPOGELID
 + Bioclimatic variant .:
 + Thermic type.....: 5. Upper HYPOGELID
 + Thermic subtype.....:
 + Ombrothermic type ...: 2. SCANTY-SNOWY
 + Ombrothermic subtype :
 Bioclimatic ClassificationPoho.Opo.Har.Suc

ELLSWORTH (ANTARCTICA)

Latitude: 77°44'S Longitude: 41°7'W Altitude: 42 m

PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 44
 Coldest semester of the year.....(Psw): 42
 Warmest four months period of the year.....(Pcm1): 27
 Following warmest four months period.....(Pcm2): 31
 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): 0
 Positive precipitation warmest 2 months.....(Pps2): 0
 Positive precipitation warmest 1 month.....(Pps1): 0
 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	16	28	15	25

Seasonal rainfall rhythms: P > F > W > S

ELLSWORTH (ANTARCTICA)

Latitude: 77°44'S Longitude: 41°7'W Altitude: 42 m

TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): -8.1
 Average coldest month [T].....(Tmin): -33.3
 Maximum temp. warmest month [M].....(Tmmax): -5.6
 Minimum temp. coldest month [m].....(Tmmin): -37.2
 Absolute Max.temp. warmest month [M'].....(Tamax): 2.2
 Absolute Min.temp. coldest month [m'].....(Tamin): -56.7
 First warmest contrasted month [M].....(Tcmax): -23.3 (4)
 First coldest contrasted month [m].....(Tcmin): -31.7 (4)
 Estival temperature.....(Ts): 0
 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): 0
 Positive temperature warmest 2 months.....(Tps2): 0
 Positive temperature warmest 1 month.....(Tps1): 0
 Positive temperature coldest 3 months.....(Tpw): 0
 Positive temperature coldest 2 months.....(Tpw2): 0
 Positive temperature coldest 1 month.....(Tpw1): 0

ELLSWORTH (ANTARCTICA)

Latitude: 77°44'S Longitude: 41°7'W Altitude: 42 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			
Warmest 4 months... (Cm1)	o	o									o	o
Dryest 4 months... (Cmd)					o	o	o	o				
Vegetation Activity (Pav)												
Ultragelid... [M' <= 0] (Pf)		o	o	o		o	o	o	o	o	o	o
Hypergelid... [M <= 0] (Pf)	o	o	o	o	o	o	o	o	o	o	o	o
Gelid... [T <= 0] (Pf)	o	o	o	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)												

ELLSWORTH (ANTARCTICA)

Latitude: 77°44'S Longitude: 41°7'W Altitude: 42 m

OMBROTHERMIC PARAMETERS

Annual aridity index. [PE/P]..... (Iar): 0.00
 Mediterranean index of January..... (Im1): 0.00
 Mediterranean index of January & February.... (Im2): 0.00
 Mediterranean index of December to February... (Im3): 0.00

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp (x10)	*	*	*	*	*	*	*	*	*	*	*	*
Tp	*	*	*	*	*	*	*	*	*	*	*	*
Io (Iom)	*	*	*	*	*	*	*	*	*	*	*	*
Seasons	Summer			Autumn			Winter			Spring		
Pp (x10) / Tp	* / *			* / *			* / *			* / *		
Io (Iot)	*			*			*			*		
Semesters	December-May						June-November					
Pp (x10) / Tp	* / *						* / *					
Io (Iosm)	*						*					

ELLSWORTH (ANTARCTICA)

Latitude: 77°44'S Longitude: 41°7'W Altitude: 42 m

Aridity Value Index (AVI)

[10xPP/TP=IO]: 0/0=9999.90 There is No Yearly Aridity

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

ELLSWORTH (ANTARCTICA)

Latitude: 77°44'S Longitude: 41°7'W Altitude: 42 m

BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin](Sp): 25.27
 CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]: 23.56
 CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]: 28.99
 + Oceanic (20<CI<40)
 CI of Currey (1974) [CI=Sp/(1+Lat/3)]: 0.94
 + Oceanic (0.6<CI<1.1)
 Rainfall Index of Lang (1925) [R=P/T]: -3.70
 +
 Aridity Index of Martonne (1926) [Ia=P/(T+10)]: -6.51
 +
 I of Emberger (1930) [Q=100*P/(Tmmax²-Tmmin²)]: -6.31
 +
 I of Dantin & Revenga (1940) [DR=100*T/P]: -27.05
 +
 Aridity Index of UNEP [I=P/PE]: 0.00
 + Hyperarid (0.05>Im)
 Potential Erosion I of Fournier (1960) [K=Pi²/P].....: 2.29
 + Very low (K<60)

ELLSWORTH (ANTARCTICA)

Latitude: 77°44'S Longitude: 41°7'W Altitude: 42 m

BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)
 + Climate: C. Gelid
 + Region: 12. Criomeric (Gelid)
 + Thermic type: 10. Hipergelid

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.04	0.02	0.04	0.10	0.03	0.04	0.03	0.03	0.05	0.07	0.09	0.03
T-E ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Precipitation-effectiveness: 5.89						Temperature-efficiency: 0.00						
Moisture Index [MI=100*(P-PE)/PE]: 0.00												
+ C2.Subhumid humid (0<MI<20)												
Index of dryness [DI=100*d/PE]: 0.00												
+ No deficit (0<DI<16.7)												
Index of humidity [HI=100*s/PE]: 0.00												
+ No surplus (0<HI<10)												
Potential Evapotranspiration PE: 0.00												
+ Ice climate (PE<142)												

