

# Phytosociological Research Center

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## Worldwide Bioclimatic Classification System

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

(Adapted to Synoptical Table 14/02/2020)

LADY FRANKLIN (CANADA) Altitude: 15 m.

Latitude: 68°28'N Longitude: 113°12'W

Temperature observation period.: 1964-1994 (31)

Rainfall observation period....: 1964-1994 (31)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	-28.06	-23.89	-32.22	-3.33	-47.78	15.2	0.00
Feb.	-29.17	-25.00	-33.33	1.11	-50.00	10.2	0.00
Mar.	-25.56	-21.11	-30.00	-1.67	-45.56	17.8	0.00
Apr.	-17.22	-12.22	-22.22	7.78	-43.89	15.2	0.00
May.	-5.56	-1.67	-9.44	17.22	-31.11	12.7	0.00
Jun.	3.61	7.22	0.00	27.78	-15.00	22.9	95.44
Jul.	9.73	13.89	5.56	30.56	-0.56	35.6	161.39
Aug.	8.06	11.67	4.44	27.78	-2.78	43.2	116.71
Sep.	2.22	5.00	-0.56	26.11	-13.89	30.5	40.07
Oct.	-6.95	-3.89	-10.00	13.89	-33.33	30.5	0.00
Nov.	-20.27	-16.11	-24.44	2.22	-41.11	20.3	0.00
Dec.	-26.67	-22.78	-30.56	4.44	-45.00	12.7	0.00
Year	-11.32	-7.41	-15.23	12.82	-30.83	267	413.61

### BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	-697
Compensated thermicity index.....(Itc):	-304
Simple continentality index.....(Ic):	38.9
Diurnality index.....(Id):	10.0
Annual ombrothermic index.....(Io):	5.60
Monthly estival ombrothermic index.....(Ios1):	3.66
Bimonthly estival ombrothermic index.....(Ios2):	4.43
Threemonthly estival ombrothermic index.....(Ios3):	4.75
Fourmonthly estival ombrothermic index.....(Ios4):	7.22
Annual ombro-evaporation index.....(Ioe):	0.65
Annual positive temperature.....(Tp):	236
Annual negative temperature.....(Tn):	1595
Estival temperature.....(Ts):	214
Positive precipitation.....(Pp):	132

N. of Months	P>4T	P:2T-4T	PT-2T	P<T	T<0
	3	1	0	0	8

Latitudinal Belt...: Low Polar

Continentality.....: Continental - High Eucontinental

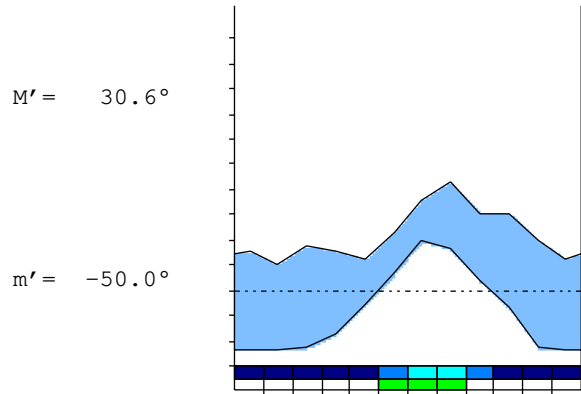
Bioclimate.....: POLAR-N CONTINENTAL

Bioclimatic Belt...: LOW MESOPOLAR-N UPPER SUBHUMID

LADY FRANKLIN (CANADA)

15 m

P= 267      68° 28'N      113° 12'W      31/31 y.  
 T= -11.3 °      Ic= 38.9      Tp= 236      Tn= 1595  
 m= -33.3 °      M= -25.0 °      Itc= -304      Io= 5.6



POLAR-N CONTINENTAL  
 LOW MESOPOLAR-N UPPER SUBHUMID

WATER INDEX CARD      LADY FRANKLIN (CANADA)  
 Altitude: 15 m.      Latitude: 68° 28'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	-28.1	0	15	15	79	0	0	0	0	*
Feb.	-29.2	0	10	10	89	0	0	0	0	*
Mar.	-25.6	0	18	11	100	0	0	7	3	*
Apr.	-17.2	0	15	0	100	0	0	15	9	*
May.	-5.6	0	13	0	100	0	0	13	11	*
Jun.	3.6	95	23	-73	27	95	0	0	5	-0.7
Jul.	9.7	161	36	-27	0	63	98	0	3	-0.7
Aug.	8.1	117	43	0	0	43	74	0	1	-0.6
Sep.	2.2	40	31	0	0	31	10	0	1	-0.2
Oct.	-6.9	0	31	31	31	0	0	0	0	*
Nov.	-20.3	0	20	20	51	0	0	0	0	*
Dec.	-26.7	0	13	13	63	0	0	0	0	*
Year	-11.3	414	267	*	*	232	181	35	35	*

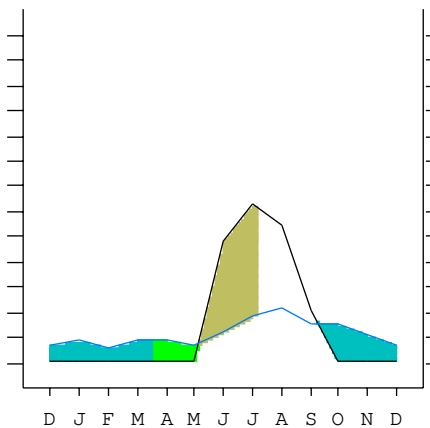
R = Reserve      VR = Variation of the reserve      RE = Real evapotranspiration  
 DR = Drainage      HC = Humidity coefficient      DF = Deficit      SP = Superavit

LADY FRANKLIN (CANADA)

68°28'N 113°12'W      15 m 31/31 y.

T= -11.3      Ic= 38.9      POLAR-N CONTINENTAL  
 m= -33.3      Tp= 236      LOW MESOPOLAR-N  
 M= -25.0      Tn= 1595      UPPER SUBHUMID  
 M' = 30.6      Itc= -304  
 m' = -50.0      Io= 5.6  
 P= 267      mm ———  
 PE= 414      mm ———

Imbibing	8 Sep.
Saturation	19 Mar.
Reserve Use	5 May.
Deficit	7 Jul.



LADY FRANKLIN (CANADA)

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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continentality Index [C3b]  
 + Type .....: C. Continental  
 + Subtype .....: 3. Eucontinental  
 + Variant .....: b. High

Thermic types [C1.D8]  
 + Latitudinal zone ....: C. Cold  
 + Latitudinal belt ....: 1. Low Polar  
 + Thermic type .....: D. Gelid  
 + Thermic subtype .....: 8. Ultramicrothermic

Bioclimatic types [E3.3b.6a]  
 + Macrobioclimate .....: E. POLAR-N  
 + Bioclimate .....: 3. CONTINENTAL  
 + Bioclimatic variant .:  
 + Thermic type.....: 3. MESOPOLAR-N  
 + Thermic subtype.....: b. LOW  
 + Ombrothermic type ...: 6. SUBHUMID  
 + Ombrothermic subtype : a. UPPER

Bioclimatic Classification .....Poco.Mpo.Shu.Euc

LADY FRANKLIN (CANADA)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 175  
 Coldest semester of the year.....(Psw): 91  
 Warmest four months period of the year.....(Pcm1): 132  
 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): 102  
 Positive precipitation warmest 2 months.....(Pps2): 79  
 Positive precipitation warmest 1 month.....(Pps1): 36  
 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	38	45	101	81

Seasonal rainfall rhythms: S > F > P > W

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 9.7  
 Average coldest month [T].....(Tmin): -29.2  
 Maximum temp. warmest month [M].....(Tmmax): 13.9  
 Minimum temp. coldest month [m].....(Tmmin): -33.3  
 Absolute Max.temp. warmest month [M'].....(Tamax): 30.6  
 Absolute Min.temp. coldest month [m'].....(Tamin): -50.0  
 First warmest contrasted month [M].....(Tcmax): -12.2 (4)  
 First coldest contrasted month [m].....(Tcmin): -22.2 (4)  
 Estival temperature.....(Ts): 214  
 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): 214  
 Positive temperature warmest 2 months.....(Tps2): 178  
 Positive temperature warmest 1 month.....(Tps1): 97  
 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)						o	o	o				
Ultragelid...[M'<=0] (Pf)	o		o									
Hypergelid...[M <=0] (Pf)	o	o	o	o	o					o	o	o
Gelid.....[T <=0] (Pf)	o	o	o	o	o					o	o	o
Subgelid.....[m <=0] (Pf)	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): 1.55  
 Mediterranean index of July.[PE/P].....(Im1): 4.53  
 Mediterranean index of July & August.....(Im2): 3.53  
 Mediterranean index of June, July & August....(Im3): 3.67

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	*	*	*	*	*	*	229	356	432	305	*	*
Tp	*	*	*	*	*	*	36	97	81	22	*	*
Io (Iom)	*	*	*	*	*	*	6.34	3.66	5.36	13.7	*	*
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	*/*			*/*			1017 / 214			*/*		
Io (Iot)	*			*			4.752			*		
Semesters	December-May						June-November					
Pp(x10)/Tp	*/*						*/*					
Io (Iosm)	*						*					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 1322/236=5.60 There is No Yearly Aridity

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	*	*	*	*	*	*	229	356	432	305	*	*
Tp [T*10]	*	*	*	*	*	*	36	97	81	22	*	*
Iom [Pp/Tp]	!!	!!	!!	!!	!!	!!	634	366	536	\$\$	!!	!!
Avm [200-Iom]	***	***	***	***	***	***	***	***	***	***	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	* / *			* / *			1017 / 214			* / *		
Iot [Pp/Tp]	**			**			475			**		
Avs E [Avm<200]	***			***			***			***		

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....(Sp): 38.90  
 CI of Gorezinski (1920) [1.7\*Sp/sin(Lat)-20.4] .....: 50.69  
 CI of Conrad (1946) [1.7\*Sp/sin(Lat+10)-14] .....: 53.49  
 + Subcontinental (40<CI<60)  
 CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....: 1.63  
 + Subcontinental (1.1<CI<1.7)  
 Rainfall Index of Lang (1925) [R=P/T] .....: -23.57  
 +  
 Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....:-202.12  
 +  
 I of Emberger (1930) [Q=100\*P/(Tmmax<sup>2</sup>-Tmmin<sup>2</sup>)] .....: -29.06  
 +  
 I of Dantin & Revenga (1940) [DR=100\*T/P] .....: -4.24  
 +  
 Aridity Index of UNEP [I=P/PE] .....: 0.65  
 + Subhumid - dry (0.65>I>0.5)  
 Potential Erosion I of Fournier (1960) [K=Pi<sup>2</sup>/P].....: 6.99  
 + 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	0.11	0.07	0.13	0.11	0.09	0.14	0.18	0.23	0.20	0.24	0.16	0.09
T-E ratio	0.00	0.00	0.00	0.00	0.00	1.62	4.38	3.63	1.00	0.00	0.00	0.00
Precipitation-effectiveness: 17.69						Temperature-efficiency .....: 10.63						
Moisture Index [MI=100*(P-PE)/PE] .....: -35.49 + D.Semiarid (-66.7<MI<-33.3)												
Index of dryness [DI=100*d/PE] .....: 43.86 + Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE] .....: 8.34 + No surplus (0<HI<10)												
Potential Evapotranspiration PE .....: 413.61 + First microthermic (285<PE<427)												

