

# Phytosociological Research Center

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## Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 14/02/2020)

SUJANA (RUS YAKUTSKAYA)

Altitude: 70 m.

Latitude: 68°44'N Longitude: 118°0'E

Temperature observation period.: 1938-1960 (23)

Rainfall observation period....: 1938-1965 (28)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	Epi
Jan.	-42.50	-38.20	-46.90	-17.00	-65.00	7.0	0.00
Feb.	-37.10	-32.00	-42.30	-15.00	-65.00	7.0	0.00
Mar.	-26.30	-18.50	-34.40	-4.00	-56.00	7.0	0.00
Apr.	-12.80	-5.30	-21.10	6.00	-47.00	10.0	0.00
May.	-0.70	4.50	-6.40	17.00	-29.00	16.0	0.00
Jun.	11.30	17.00	5.90	28.00	-12.00	35.0	153.56
Jul.	14.70	21.10	8.10	30.00	-3.00	47.0	178.80
Aug.	10.10	16.40	4.20	26.00	-12.00	42.0	110.09
Sep.	2.50	7.30	-1.80	18.00	-23.00	28.0	30.44
Oct.	-11.30	-7.60	-15.20	3.00	-44.00	22.0	0.00
Nov.	-31.60	-27.10	-35.90	-10.00	-56.00	12.0	0.00
Dec.	-38.50	-34.10	-43.00	-14.00	-62.00	9.0	0.00
Year	-13.52	-8.04	-19.07	5.67	-39.50	242	472.89

### BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	-986
Compensated thermicity index.....(Itc):	-80
Simple continentality index.....(Ic):	57.2
Diurnality index.....(Id):	15.9
Annual ombrothermic index.....(Io):	3.94
Monthly estival ombrothermic index.....(Ios1):	3.20
Bimonthly estival ombrothermic index.....(Ios2):	3.15
Threemonthly estival ombrothermic index.....(Ios3):	3.43
Fourmonthly estival ombrothermic index.....(Ios4):	3.95
Annual ombro-evaporation index.....(Ioe):	0.51
Annual positive temperature.....(Tp):	386
Annual negative temperature.....(Tn):	2008
Estival temperature.....(Ts):	361
Positive precipitation.....(Pp):	152

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

Latitudinal Belt...: Low Polar

Continentality.....: Continental - High Hypercontinental

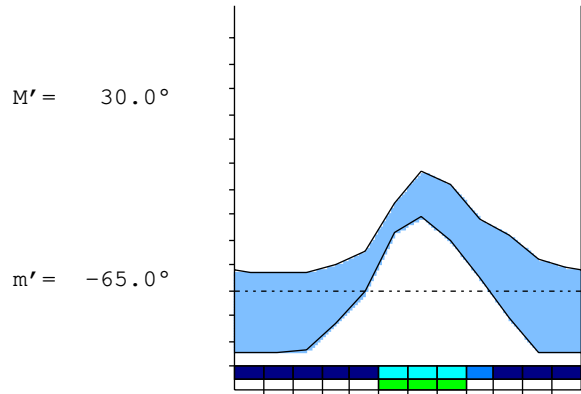
Bioclimate.....: BOREAL HYPERCONTINENTAL

Bioclimatic Belt...: UPPER OROBOREAL LOW SUBHUMID

SUJANA (RUS YAKUTSKAYA)

70 m

P= 242      68° 44'N      118° 0'E      23/28 y.  
 T= -13.5 °      Ic= 57.2      Tp= 386      Tn= 2008  
 m= -46.9 °      M= -38.2 °      Itc= -80      Io= 3.9



BOREAL HYPERCONTINENTAL  
 UPPER OROBOREAL LOW SUBHUMID

WATER INDEX CARD

SUJANA (RUS YAKUTSKAYA)

Altitude: 70 m.

Latitude: 68° 44'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	-42.5	0	7	7	50	0	0	0	0	*
Feb.	-37.1	0	7	7	57	0	0	0	0	*
Mar.	-26.3	0	7	7	64	0	0	0	0	*
Apr.	-12.8	0	10	10	74	0	0	0	0	*
May.	-0.7	0	16	16	90	0	0	0	0	*
Jun.	11.3	154	35	-90	0	125	29	0	0	-0.7
Jul.	14.7	179	47	0	0	47	132	0	0	-0.7
Aug.	10.1	110	42	0	0	42	68	0	0	-0.6
Sep.	2.5	30	28	0	0	28	2	0	0	0.0
Oct.	-11.3	0	22	22	22	0	0	0	0	*
Nov.	-31.6	0	12	12	34	0	0	0	0	*
Dec.	-38.5	0	9	9	43	0	0	0	0	*
Year	-13.5	473	242	*	*	242	231	0	0	*

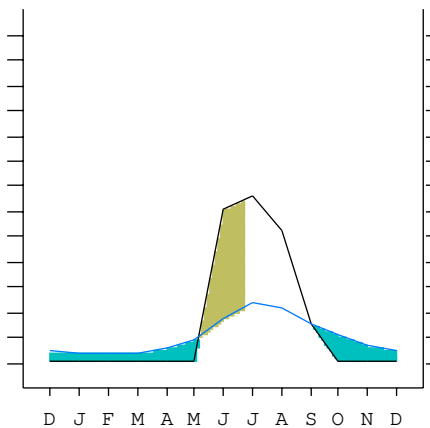
R = Reserve      VR = Variation of the reserve      RE = Real evapotranspiration  
 DR = Drainage      HC = Humidity coefficient      DF = Deficit      SP = Superavit

SUJANA (RUS YAKUTSKAYA)

68°44'N      118°0'E      70 m 23/28 y.

T= -13.5      Ic= 57.2      BOREAL HYPERCONTINENTAL  
 m= -46.9      Tp= 386      UPPER OROBOREAL  
 M= -38.2      Tn= 2008      LOW SUBHUMID  
 M' = 30.0      Itc= -80  
 m' = -65.0      Io= 3.9  
 P= 242      mm ———  
 PE= 473      mm ———

Imbibing	3 Sep.
Saturation	4 May.
Reserve Use	23 Jun.
Deficit	



SUJANA (RUS YAKUTSKAYA)

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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continentality Index [C4b]  
 + Type .....: C. Continental  
 + Subtype .....: 4. Hypercontinental  
 + 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 [D2.5a.6b]  
 + Macrobioclimate .....: D. BOREAL  
 + Bioclimate .....: 2. HYPERCONTINENTAL  
 + Bioclimatic variant .:  
 + Thermic type.....: 5. OROBOREAL  
 + Thermic subtype.....: a. UPPER  
 + Ombrothermic type ...: 6. SUBHUMID  
 + Ombrothermic subtype : b. LOW

Bioclimatic Classification .....Bohc.Obo.Shu.Hco

SUJANA (RUS YAKUTSKAYA)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 190  
 Coldest semester of the year.....(Psw): 52  
 Warmest four months period of the year.....(Pcm1): 152  
 Following warmest four months period.....(Pcm2): 50  
 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): 124  
 Positive precipitation warmest 2 months.....(Pps2): 82  
 Positive precipitation warmest 1 month.....(Pps1): 47  
 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	23	33	124	62

Seasonal rainfall rhythms: S > F > P > W

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 14.7  
 Average coldest month [T].....(Tmin): -42.5  
 Maximum temp. warmest month [M].....(Tmax): 21.1  
 Minimum temp. coldest month [m].....(Tmin): -46.9  
 Absolute Max.temp. warmest month [M'].....(Tamax): 30.0  
 Absolute Min.temp. coldest month [m'].....(Tamin): -65.0  
 First warmest contrasted month [M].....(Tcmax): -18.5 (3)  
 First coldest contrasted month [m].....(Tcmin): -34.4 (3)  
 Estival temperature.....(Ts): 361  
 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): 361  
 Positive temperature warmest 2 months.....(Tps2): 260  
 Positive temperature warmest 1 month.....(Tps1): 147  
 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	o								o	o
Hypergelid...[M <=0] (Pf)	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
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): 1.95  
 Mediterranean index of July.[PE/P].....(Im1): 3.80  
 Mediterranean index of July & August.....(Im2): 3.25  
 Mediterranean index of June, July & August....(Im3): 3.57

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp (x10)	*	*	*	*	*	*	350	470	420	280	*	*
Tp	*	*	*	*	*	*	113	147	101	25	*	*
Io (Iom)	*	*	*	*	*	*	3.10	3.20	4.16	11.2	*	*
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	*/*			*/*			1240 / 361			*/*		
Io (Iot)	*			*			3.435			*		
Semesters	December-May						June-November					
Pp(x10)/Tp	*/*						*/*					
Io (Iosm)	*						*					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 1520/386=3.94 There is No Yearly Aridity

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	*	*	*	*	*	*	350	470	420	280	*	*
Tp [T*10]	*	*	*	*	*	*	113	147	101	25	*	*
Iom [Pp/Tp]	!!	!!	!!	!!	!!	!!	310	320	416	\$\$	!!	!!
Avm [200-Iom]	***	***	***	***	***	***	***	***	***	***	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	* / *			* / *			1240 / 361			* / *		
Iot [Pp/Tp]	**			**			343			**		
Avs E [Avm<200]	***			***			***			***		

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....(Sp): 57.20  
 CI of Gorezinski (1920) [1.7\*Sp/sin(Lat)-20.4] .....: 83.95  
 CI of Conrad (1946) [1.7\*Sp/sin(Lat+10)-14] .....: 85.15  
 + Hypercontinental (80<CI<120)  
 CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....: 2.39  
 + Hypercontinental (2.3<CI<5)  
 Rainfall Index of Lang (1925) [R=P/T] .....: -17.90  
 +  
 Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....: -68.82  
 +  
 I of Emberger (1930) [Q=100\*P/(Tmmax<sup>2</sup>-Tmmin<sup>2</sup>)] .....: -13.79  
 +  
 I of Dantin & Revenga (1940) [DR=100\*T/P] .....: -5.59  
 +  
 Aridity Index of UNEP [I=P/PE] .....: 0.51  
 + Subhumid - dry (0.65>I>0.5)  
 Potential Erosion I of Fournier (1960) [K=Pi<sup>2</sup>/P].....: 9.13  
 + 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	0.05	0.05	0.05	0.07	0.11	0.17	0.21	0.21	0.18	0.17	0.09	0.06
T-E ratio	0.00	0.00	0.00	0.00	0.00	5.09	6.61	4.55	1.13	0.00	0.00	0.00
Precipitation-effectiveness: 14.12						Temperature-efficiency .....: 17.37						
Moisture Index [MI=100*(P-PE)/PE] .....: -48.83 + D.Semiarid (-66.7<MI<-33.3)												
Index of dryness [DI=100*d/PE] .....: 48.81 + Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE] .....: 0.00 + No surplus (0<HI<10)												
Potential Evapotranspiration PE .....: 472.89 + Second microthermic (427<PE<570)												

