

# Phytosociological Research Center

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## Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 14/02/2020)

BOGORODITSK S.-J. TEJNIKUM (RUS TULSKAYA) Altitude: 228 m.

Latitude: 53°47'N Longitude: 38°7'E

Temperature observation period.: 1901-1960 (60)

Rainfall observation period....: 1893-1933 (41)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	-10.60	0.00	-13.90	0.00	-42.00	32.0	0.00
Feb.	-10.20	0.00	-13.90	0.00	-35.00	28.0	0.00
Mar.	-5.60	0.00	-8.80	0.00	-30.00	35.0	0.00
Apr.	3.90	0.00	0.40	0.00	-19.00	37.0	25.67
May.	12.10	0.00	7.00	0.00	-9.00	52.0	87.90
Jun.	16.20	0.00	11.00	0.00	-4.00	59.0	119.29
Jul.	18.40	0.00	13.00	0.00	2.00	73.0	135.55
Aug.	16.80	0.00	11.60	0.00	0.00	63.0	111.22
Sep.	11.00	0.00	6.80	0.00	-7.00	44.0	62.14
Oct.	4.20	0.00	1.20	0.00	-20.00	41.0	21.18
Nov.	-2.30	0.00	-4.70	0.00	-34.00	40.0	0.00
Dec.	-7.80	0.00	-10.40	0.00	-37.00	38.0	0.00
Year	3.84	0.00	-0.06	0.00	-19.58	542	562.96

### BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	-240
Compensated thermicity index.....(Itc):	-95
Simple continentality index.....(Ic):	29.0
Diurnality index.....(Id):	3.3
Annual ombrothermic index.....(Io):	4.47
Monthly estival ombrothermic index.....(Ios1):	3.64
Bimonthly estival ombrothermic index.....(Ios2):	3.86
Threemonthly estival ombrothermic index.....(Ios3):	3.79
Fourmonthly estival ombrothermic index.....(Ios4):	3.89
Annual ombro-evaporation index.....(Ioe):	0.96
Annual positive temperature.....(Tp):	826
Annual negative temperature.....(Tn):	365
Estival temperature.....(Ts):	514
Positive precipitation.....(Pp):	369

N. of Months	P>4T	P:2T-4T	PT-2T	P<T	T<0
	3	4	0	0	5

Latitudinal Belt...: Low Subtemperate

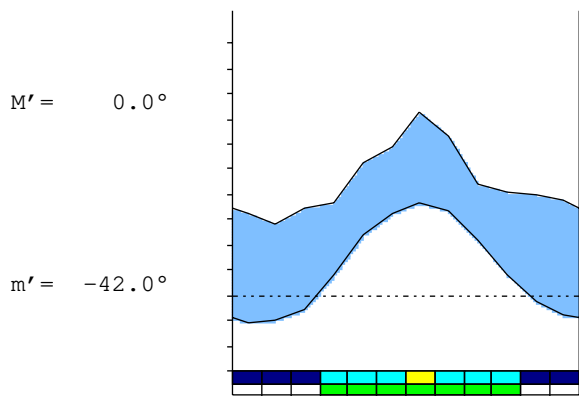
Continentality.....: Continental - Low Eucontinental

Bioclimate(Variant): TEMPERATE CONTINENTAL (HEMIBOREAL)

Bioclimatic Belt...: UPPER SUPRATEMPERATE (HEMIBOREAL) LOW SUBHUMID

BOGORODITSK S.-J. TEJNIKUM (RUS TULSKAYA) 228 m

P= 542 53° 47'N 38° 7'E 60/41 y.  
 T= 3.8 ° Ic= 29.0 Tp= 826 Tn= 365  
 m= -13.9 ° M= -13.9 ° Itc= -95 Io= 4.5



TEMPERATE CONTINENTAL (HEMIBOREAL)  
 UPPER SUPRATEMPERATE (HEMIBOREAL) LOW SUBHUMID

WATER INDEX CARD BOGORODITSK S.-J. TEJNIKUM (RUS TULSKAYA)

Altitude: 228 m. Latitude: 53° 47'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	-10.6	0	32	2	100	0	0	30	15	*
Feb.	-10.2	0	28	0	100	0	0	28	21	*
Mar.	-5.6	0	35	0	100	0	0	35	28	*
Apr.	3.9	26	37	0	100	26	0	11	20	0.4
May.	12.1	88	52	-36	64	88	0	0	10	-0.4
Jun.	16.2	119	59	-60	4	119	0	0	5	-0.5
Jul.	18.4	136	73	-4	0	77	59	0	2	-0.4
Aug.	16.8	111	63	0	0	63	48	0	1	-0.4
Sep.	11.0	62	44	0	0	44	18	0	1	-0.2
Oct.	4.2	21	41	20	20	21	0	0	0	0.9
Nov.	-2.3	0	40	40	60	0	0	0	0	*
Dec.	-7.8	0	38	38	98	0	0	0	0	*
Year	3.8	563	542	*	*	438	125	104	104	*

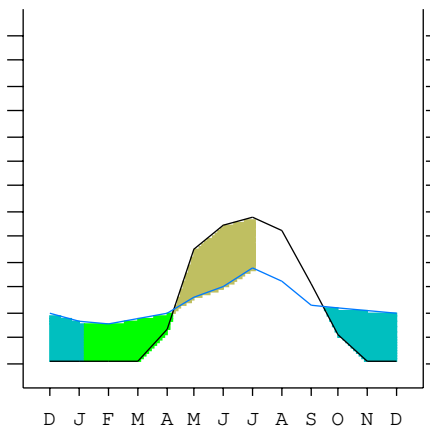
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration  
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

BOGORODITSK S.-J. TEJNIKUM (RUS TULSKAYA)

53°47'N 38°7'E 228 m 60/41 y.

T= 3.8 Ic= 29.0 TEMPERATE CONTINENTAL (HEMIBOREAL)  
 m= -13.9 Tp= 826 UPPER SUPRATEMPERATE (HEMIBOREAL)  
 M= -13.9 Tn= 365 LOW SUBHUMID  
 M' = 0.0 Itc= -95  
 m' = -42.0 Io= 4.5  
 P= 542 mm ———  
 PE= 563 mm ———

Imbibing	15 Sep.
Saturation	3 Jan.
Reserve Use	8 Apr.
Deficit	2 Jul.



BOGORODITSK S.-J. TEJNIKUM (RUS TULSKAYA)

Latitude: 53°47'N Longitude: 38°7'E Altitude: 228 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continentality Index [C3a]  
+ Type .....: C. Continental  
+ Subtype .....: 3. Eucontinental  
+ Variant .....: a. Low  
Thermic types [B2.C6]  
+ Latitudinal zone ....: B. Temperate  
+ Latitudinal belt ....: 2. Low Subtemperate  
+ Thermic type .....: C. Cold  
+ Thermic subtype .....: 6. Cool  
Bioclimatic types [C2.4a.6b]  
+ Macrobioclimate .....: C. TEMPERATE  
+ Bioclimate .....: 2. CONTINENTAL  
+ Bioclimatic variant .: HEMIBOREAL  
+ Thermic type.....: 4. SUPRATEMPERATE (HEMIBOREAL)  
+ Thermic subtype.....: a. UPPER  
+ Ombrothermic type ...: 6. SUBHUMID  
+ Ombrothermic subtype : b. LOW  
Bioclimatic Classification .....Teco(Hem).Ste.Shu.Euc

BOGORODITSK S.-J. TEJNIKUM (RUS TULSKAYA)

Latitude: 53°47'N Longitude: 38°7'E Altitude: 228 m

PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 332  
Coldest semester of the year.....(Psw): 210  
Warmest four months period of the year.....(Pcm1): 247  
Following warmest four months period.....(Pcm2): 163  
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): 195  
Positive precipitation warmest 2 months.....(Pps2): 136  
Positive precipitation warmest 1 month.....(Pps1): 73  
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	98	124	195	125

Seasonal rainfall rhythms: S > F > P > W

BOGORODITSK S.-J. TEJNIKUM (RUS TULSKAYA)

Latitude: 53°47'N Longitude: 38°7'E Altitude: 228 m

TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 18.4  
Average coldest month [T].....(Tmin): -10.6  
Maximum temp. warmest month [M].....(Tmax): 0.0  
Minimum temp. coldest month [m].....(Tmin): -13.9  
Absolute Max.temp. warmest month [M'].....(Tamax): 0.0  
Absolute Min.temp. coldest month [m'].....(Tamin): -42.0  
First warmest contrasted month [M].....(Tcmax): 0.0 (1)  
First coldest contrasted month [m].....(Tcmin): -13.9 (1)  
Estival temperature.....(Ts): 514  
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): 514  
Positive temperature warmest 2 months.....(Tps2): 352  
Positive temperature warmest 1 month.....(Tps1): 184  
Positive temperature coldest 3 months.....(Tpw): 0  
Positive temperature coldest 2 months.....(Tpw2): 0  
Positive temperature coldest 1 month.....(Tpw1): 0

BOGORODITSK S.-J. TEJNIKUM (RUS TULSKAYA)

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

BOGORODITSK S.-J. TEJNIKUM (RUS TULSKAYA)

Latitude: 53°47'N Longitude: 38°7'E Altitude: 228 m

OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 1.04  
 Mediterranean index of July.[PE/P].....(Im1): 1.86  
 Mediterranean index of July & August.....(Im2): 1.81  
 Mediterranean index of June, July & August....(Im3): 1.88

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp (x10)	*	*	*	*	370	520	590	730	630	440	410	*
Tp	*	*	*	*	39	121	162	184	168	110	42	*
Io (Iom)	*	*	*	*	9.49	4.30	3.64	3.97	3.75	4.00	9.76	*
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	*/*			*/*			1950 / 514			*/*		
Io (Iot)	*			*			3.794			*		
Semesters	December-May						June-November					
Pp(x10)/Tp	*/*						*/*					
Io (Iosm)	*						*					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 3690/826=4.47 There is No Yearly Aridity

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	*	*	*	*	370	520	590	730	630	440	410	*
Tp [T*10]	*	*	*	*	39	121	162	184	168	110	42	*
Iom [Pp/Tp]	!!	!!	!!	!!	949	430	364	397	375	400	976	!!
Avm [200-Iom]	***	***	***	***	***	***	***	***	***	***	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	* / *			* / *			1950 / 514			* / *		
Iot [Pp/Tp]	**			**			379			**		
Avs E [Avm<200]	***			***			***			***		

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....(Sp): 29.00  
 CI of Gorezinski (1920) [1.7\*Sp/sin(Lat)-20.4] .....: 40.71  
 CI of Conrad (1946) [1.7\*Sp/sin(Lat+10)-14] .....: 40.95  
 + Subcontinental (40<CI<60)  
 CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....: 1.53  
 + Subcontinental (1.1<CI<1.7)  
 Rainfall Index of Lang (1925) [R=P/T] .....: 141.08  
 + Temperate humid (160>R>100)  
 Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....: 39.16  
 + Humid (60>Ia>30)  
 I of Emberger (1930) [Q=100\*P/(Tmmax<sup>2</sup>-Tmmin<sup>2</sup>)] .....:-280.52  
 +  
 I of Dantin & Revenga (1940) [DR=100\*T/P] .....: 0.71  
 + Humid (2>DR>0)  
 Aridity Index of UNEP [I=P/PE] .....: 0.96  
 + Humid (I>0.65)  
 Potential Erosion I of Fournier (1960) [K=Pi<sup>2</sup>/P].....: 9.83  
 + 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: 6. Microthermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.26	0.22	0.29	0.23	0.25	0.26	0.31	0.27	0.22	0.26	0.33	0.31
T-E ratio	0.00	0.00	0.00	1.76	5.45	7.29	8.28	7.56	4.95	1.89	0.00	0.00
Precipitation-effectiveness: 31.99						Temperature-efficiency .....: 37.17						
Moisture Index [MI=100*(P-PE)/PE] .....: -3.72 + C1.Subhumid dry (-33.3<MI<0)												
Index of dryness [DI=100*d/PE] .....: 22.22 + Moderate deficit (16.7<DI<33.3)												
Index of humidity [HI=100*s/PE] .....: 18.49 + Moderate surplus (10<HI<20)												
Potential Evapotranspiration PE .....: 562.96 + Second microthermic (427<PE<570)												

