

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 14/02/2020)

SEROV (RUSSIA)

Altitude: 132 m.

Latitude: 59°36'N Longitude: 60°32'E

Temperature observation period.: 1984-1994 (11)

Rainfall observation period....: 1984-1994 (11)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	-16.39	-12.22	-20.56	2.22	-38.89	27.7	0.00
Feb.	-13.88	-9.44	-18.33	3.89	-42.78	24.6	0.00
Mar.	-6.67	-1.67	-11.67	12.22	-41.11	35.1	0.00
Apr.	3.06	8.33	-2.22	26.11	-21.11	19.1	25.24
May.	10.00	16.11	3.89	28.89	-7.22	24.6	85.62
Jun.	13.89	19.44	8.33	32.22	-2.22	74.4	120.04
Jul.	18.61	24.44	12.78	33.89	2.22	56.6	153.75
Aug.	14.17	19.44	8.89	28.89	0.00	41.7	104.91
Sep.	9.17	13.89	4.44	27.78	-7.78	40.9	57.95
Oct.	0.84	3.89	-2.22	17.78	-25.00	32.8	5.86
Nov.	-6.67	-3.33	-10.00	15.00	-36.11	26.4	0.00
Dec.	-13.89	-10.56	-17.22	2.78	-42.78	26.2	0.00
Year	1.02	5.69	-3.66	19.31	-21.90	430	553.37

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	-318
Compensated thermicity index.....(Itc):	-23
Simple continentality index.....(Ic):	35.0
Diurnality index.....(Id):	12.2
Annual ombrothermic index.....(Io):	4.16
Monthly estival ombrothermic index.....(Ios1):	3.04
Bimonthly estival ombrothermic index.....(Ios2):	3.00
Threemonthly estival ombrothermic index.....(Ios3):	3.70
Fourmonthly estival ombrothermic index.....(Ios4):	3.48
Annual ombro-evaporation index.....(Ioe):	0.78
Annual positive temperature.....(Tp):	697
Annual negative temperature.....(Tn):	575
Estival temperature.....(Ts):	467
Positive precipitation.....(Pp):	290

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

Latitudinal Belt...: High Subtemperate

Continentality.....: Continental - Low Eucontinental

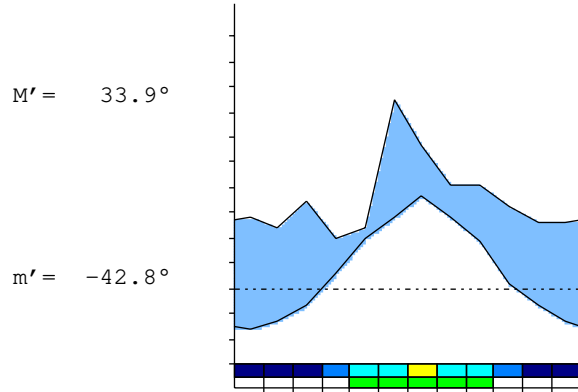
Bioclimate(Variant): BOREAL CONTINENTAL (STEPPIC)

Bioclimatic Belt...: UPPER THERMOBOREAL LOW SUBHUMID

SEROV (RUSSIA)

132 m

P= 430 59° 36'N 60° 32'E 11/11 y.
 T= 1.0 ° Ic= 35.0 Tp= 697 Tn= 575
 m= -20.6 ° M= -12.2 ° Itc= -23 Io= 4.2



BOREAL CONTINENTAL (STEPPIC)
 UPPER THERMOBOREAL LOW SUBHUMID

WATER INDEX CARD SEROV (RUSSIA)
 Altitude: 132 m. Latitude: 59° 36'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	-16.4	0	28	20	100	0	0	7	4	*
Feb.	-13.9	0	25	0	100	0	0	25	14	*
Mar.	-6.7	0	35	0	100	0	0	35	25	*
Apr.	3.1	25	19	-6	94	25	0	0	12	-0.2
May.	10.0	86	25	-61	33	86	0	0	6	-0.7
Jun.	13.9	120	74	-33	0	107	13	0	3	-0.3
Jul.	18.6	154	57	0	0	57	97	0	2	-0.6
Aug.	14.2	105	42	0	0	42	63	0	1	-0.6
Sep.	9.2	58	41	0	0	41	17	0	0	-0.2
Oct.	0.8	6	33	27	27	6	0	0	0	4.5
Nov.	-6.7	0	26	26	53	0	0	0	0	*
Dec.	-13.9	0	26	26	80	0	0	0	0	*
Year	1.0	553	430	*	*	363	190	67	67	*

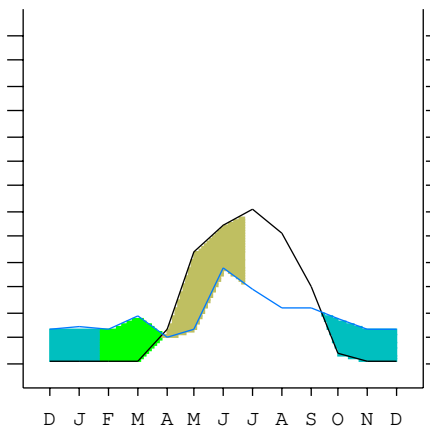
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

SEROV (RUSSIA)

59°36'N 60°32'E 132 m 11/11 y.

T= 1.0 Ic= 35.0 BOREAL CONTINENTAL (STEPPIC)
 m= -20.6 Tp= 697 UPPER THERMOBOREAL
 M= -12.2 Tn= 575 LOW SUBHUMID
 M' = 33.9 Itc= -23
 m' = -42.8 Io= 4.2
 P= 430 mm ———
 PE= 553 mm ———

Imbibing	12 Sep.
Saturation	23 Jan.
Reserve Use	26 Mar.
Deficit	22 Jun.



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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continentality Index [C3a]
 + Type: C. Continental
 + Subtype: 3. Eucontinental
 + Variant: a. Low

Thermic types [B2.C7]
 + Latitudinal zone: B. Temperate
 + Latitudinal belt: 2. High Subtemperate
 + Thermic type: C. Cold
 + Thermic subtype: 7. Cold

Bioclimatic types [D3a.2a.6b]
 + Macrobioclimate: D. BOREAL
 + Bioclimate: 3. CONTINENTAL
 + Bioclimatic variant .: STEPPIC
 + Thermic type.....: 2. THERMOBOREAL
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 6. SUBHUMID
 + Ombrothermic subtype : b. LOW

Bioclimatic ClassificationBoco(Stp).Tbo.Shu.Euc

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 257
 Coldest semester of the year.....(Psw): 173
 Warmest four months period of the year.....(Pcm1): 197
 Following warmest four months period.....(Pcm2): 126
 Positive precipitation dryest 3 months.....(Ppd): 0
 Positive precipitation dryest 2 months.....(Ppd2): 44
 Positive precipitation dryest 1 month.....(Ppd1): 19
 Positive precipitation warmest 3 months.....(Pps): 173
 Positive precipitation warmest 2 months.....(Pps2): 98
 Positive precipitation warmest 1 month.....(Pps1): 57
 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	78	78	172	100

Seasonal rainfall rhythms: S > F > P > W

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 18.6
 Average coldest month [T].....(Tmin): -16.4
 Maximum temp. warmest month [M].....(Tmax): 24.4
 Minimum temp. coldest month [m].....(Tmin): -20.6
 Absolute Max.temp. warmest month [M'].....(Tamax): 33.9
 Absolute Min.temp. coldest month [m'].....(Tamin): -42.8
 First warmest contrasted month [M].....(Tcmax): 16.1 (5)
 First coldest contrasted month [m].....(Tcmin): 3.9 (5)
 Estival temperature.....(Ts): 467
 Positive temperature dryest 3 months.....(Tpd): 0
 Positive temperature dryest 2 months.....(Tpd2): 131
 Positive temperature dryest 1 month.....(Tpd1): 31
 Positive temperature warmest 3 months.....(Tps): 467
 Positive temperature warmest 2 months.....(Tps2): 328
 Positive temperature warmest 1 month.....(Tps1): 186
 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	o	o			
Ultragelid...[M' <=0] (Pf)												
Hypergelid...[M <=0] (Pf)	o	o	o								o	o
Gelid.....[T <=0] (Pf)	o	o	o								o	o
Subgelid.....[m <=0] (Pf)	o	o	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					

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 1.29
 Mediterranean index of July.[PE/P].....(Im1): 2.72
 Mediterranean index of July & August.....(Im2): 2.63
 Mediterranean index of June, July & August....(Im3): 2.19

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp (x10)	*	*	*	*	191	246	744	566	417	409	328	*
Tp	*	*	*	*	31	100	139	186	142	92	8	*
Io (Iom)	*	*	*	*	6.24	2.46	5.36	3.04	2.94	4.46	39.0	*
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	*/*			*/*			1727 / 467			*/*		
Io (Iot)	*			*			3.700			*		
Semesters	December-May						June-November					
Pp(x10)/Tp	*/*						*/*					
Io (Iosm)	*						*					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 2901/697=4.16 There is No Yearly Aridity

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	*	*	*	*	191	246	744	566	417	409	328	*
Tp [T*10]	*	*	*	*	31	100	139	186	142	92	8	*
Iom [Pp/Tp]	!!	!!	!!	!!	624	246	536	304	294	446	\$\$!!
Avm [200-Iom]	***	***	***	***	***	***	***	***	***	***	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	* / *			* / *			1727 / 467			* / *		
Iot [Pp/Tp]	**			**			370			**		
Avs E [Avm<200]	***			***			***			***		

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin](Sp): 35.00
 CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]: 48.58
 CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]: 49.48
 + Subcontinental (40<CI<60)
 CI of Currey (1974) [CI=Sp/(1+Lat/3)]: 1.68
 + Subcontinental (1.1<CI<1.7)
 Rainfall Index of Lang (1925) [R=P/T]: 421.67
 + Humid (R>160)
 Aridity Index of Martonne (1926) [Ia=P/(T+10)]: 39.03
 + Humid (60>Ia>30)
 I of Emberger (1930) [Q=100*P/(Tmax²-Tmin²)]: 246.33
 + Humid (Q>90)
 I of Dantin & Revenga (1940) [DR=100*T/P]: 0.24
 + Humid (2>DR>0)
 Aridity Index of UNEP [I=P/PE]: 0.78
 + Humid (I>0.65)
 Potential Erosion I of Fournier (1960) [K=Pi²/P].....: 12.87
 + 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: 7. Hipermicrothermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.22	0.19	0.29	0.11	0.12	0.36	0.23	0.19	0.21	0.23	0.21	0.21
T-E ratio	0.00	0.00	0.00	1.38	4.50	6.25	8.37	6.38	4.13	0.38	0.00	0.00
Precipitation-effectiveness: 25.59						Temperature-efficiency: 31.38						
Moisture Index [MI=100*(P-PE)/PE]: -22.28 + C1.Subhumid dry (-33.3<MI<0)												
Index of dryness [DI=100*d/PE]: 34.37 + Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE]: 12.09 + Moderate surplus (10<HI<20)												
Potential Evapotranspiration PE: 553.37 + Second microthermic (427<PE<570)												

