

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 14/02/2020)

NOVGOROD-SEVERSKIJ (RUS UKRAINSKAYA) Altitude: 139 m.

Latitude: 52°5'N Longitude: 32°42'E

Temperature observation period.: 1893-1941 (49)

Rainfall observation period....: 1891-1964 (74)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	-7.80	-5.20	-11.00	2.00	-36.00	36.0	0.00
Feb.	-7.40	-4.00	-11.00	3.00	-35.00	36.0	0.00
Mar.	-2.60	0.80	-5.70	9.00	-35.00	35.0	0.00
Apr.	6.00	10.00	2.30	20.00	-16.00	39.0	34.38
May.	14.00	19.10	8.90	26.00	-6.00	48.0	95.05
Jun.	17.20	22.50	12.50	28.00	1.00	65.0	119.89
Jul.	19.40	25.00	14.40	31.00	6.00	74.0	136.55
Aug.	18.10	23.50	13.10	31.00	2.00	64.0	115.32
Sep.	12.60	18.00	8.20	27.00	-4.00	48.0	67.02
Oct.	6.20	9.80	2.70	18.00	-18.00	48.0	27.89
Nov.	0.00	2.40	-2.50	11.00	-32.00	42.0	0.00
Dec.	-5.20	-2.80	-7.70	4.00	-33.00	39.0	0.00
Year	5.88	9.93	2.02	17.50	-17.17	574	596.11

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	-103
Compensated thermicity index.....(Itc):	5
Simple continentality index.....(Ic):	27.2
Diurnality index.....(Id):	10.6
Annual ombrothermic index.....(Io):	4.13
Monthly estival ombrothermic index.....(Ios1):	3.54
Bimonthly estival ombrothermic index.....(Ios2):	3.68
Threemonthly estival ombrothermic index.....(Ios3):	3.71
Fourmonthly estival ombrothermic index.....(Ios4):	3.65
Annual ombro-evaporation index.....(Ioe):	0.96
Annual positive temperature.....(Tp):	935
Annual negative temperature.....(Tn):	230
Estival temperature.....(Ts):	547
Positive precipitation.....(Pp):	386

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

Latitudinal Belt...: Low Subtemperate

Continentality.....: Continental - High Subcontinental

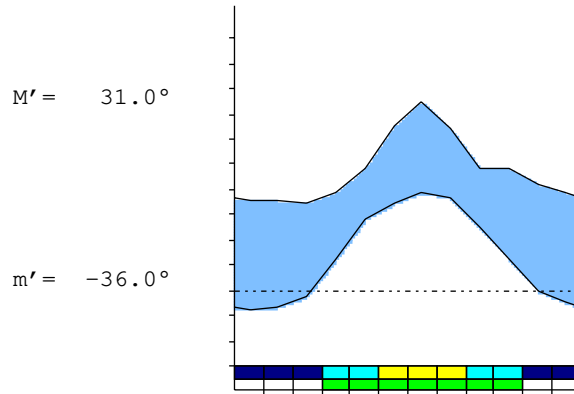
Bioclimate.....: TEMPERATE CONTINENTAL

Bioclimatic Belt...: UPPER SUPRATEMPERATE LOW SUBHUMID

NOVGOROD-SEVERSKIJ (RUS UKRAINSKAYA)

139 m

P= 574 52° 5'N 32° 42'E 49/74 y.
 T= 5.9 ° Ic= 27.2 Tp= 935 Tn= 230
 m= -11.0 ° M= -5.2 ° Itc= 5 Io= 4.1



TEMPERATE CONTINENTAL
 UPPER SUPRATEMPERATE LOW SUBHUMID

WATER INDEX CARD NOVGOROD-SEVERSKIJ (RUS UKRAINSKAYA)

Altitude: 139 m. Latitude: 52° 5'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	-7.8	0	36	0	100	0	0	36	18	*
Feb.	-7.4	0	36	0	100	0	0	36	27	*
Mar.	-2.6	0	35	0	100	0	0	35	31	*
Apr.	6.0	34	39	0	100	34	0	5	18	0.1
May.	14.0	95	48	-47	53	95	0	0	9	-0.4
Jun.	17.2	120	65	-53	0	118	2	0	4	-0.4
Jul.	19.4	137	74	0	0	74	63	0	2	-0.4
Aug.	18.1	115	64	0	0	64	51	0	1	-0.4
Sep.	12.6	67	48	0	0	48	19	0	1	-0.2
Oct.	6.2	28	48	20	20	28	0	0	0	0.7
Nov.	0.0	0	42	42	62	0	0	0	0	*
Dec.	-5.2	0	39	38	100	0	0	1	1	*
Year	5.9	596	574	*	*	461	135	113	113	*

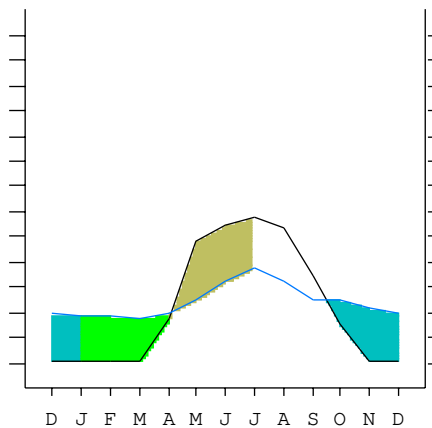
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

NOVGOROD-SEVERSKIJ (RUS UKRAINSKAYA)

52°5'N 32°42'E 139 m 49/74 y.

T= 5.9 Ic= 27.2 TEMPERATE CONTINENTAL
 m= -11.0 Tp= 935 UPPER SUPRATEMPERATE
 M= -5.2 Tn= 230 LOW SUBHUMID
 M' = 31.0 Itc= 5
 m' = -36.0 Io= 4.1
 P= 574 mm
 PE= 596 mm

Imbibing	15 Sep.
Saturation	30 Dec.
Reserve Use	3 Apr.
Deficit	29 Jun.



NOVGOROD-SEVERSKIJ (RUS UKRAINSKAYA)

Latitude: 52°5'N Longitude: 32°42'E Altitude: 139 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continentality Index [C2b]
 + Type: C. Continental
 + Subtype: 2. Subcontinental
 + Variant: b. High

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 .:
 + Thermic type.....: 4. SUPRATEMPERATE
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 6. SUBHUMID
 + Ombrothermic subtype : b. LOW

Bioclimatic ClassificationTeco.Ste.Shu.Suc

NOVGOROD-SEVERSKIJ (RUS UKRAINSKAYA)

Latitude: 52°5'N Longitude: 32°42'E Altitude: 139 m

PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 347
 Coldest semester of the year.....(Psw): 227
 Warmest four months period of the year.....(Pcm1): 251
 Following warmest four months period.....(Pcm2): 177
 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): 203
 Positive precipitation warmest 2 months.....(Pps2): 138
 Positive precipitation warmest 1 month.....(Pps1): 74
 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	111	122	203	138

Seasonal rainfall rhythms: S > F > P > W

NOVGOROD-SEVERSKIJ (RUS UKRAINSKAYA)

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 19.4
 Average coldest month [T].....(Tmin): -7.8
 Maximum temp. warmest month [M].....(Tmmax): 25.0
 Minimum temp. coldest month [m].....(Tmmin): -11.0
 Absolute Max.temp. warmest month [M'].....(Tamax): 31.0
 Absolute Min.temp. coldest month [m'].....(Tamin): -36.0
 First warmest contrasted month [M].....(Tcmax): 25.0 (7)
 First coldest contrasted month [m].....(Tcmin): 14.4 (7)
 Estival temperature.....(Ts): 547
 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): 547
 Positive temperature warmest 2 months.....(Tps2): 375
 Positive temperature warmest 1 month.....(Tps1): 194
 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	o	o		
Ultragelid...[M' <=0] (Pf)												
Hypergelid...[M <=0] (Pf)	o	o										o
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
Agelid.....[m' > 0] (Pf)						o	o	o				
HiperAgelid..[all>0] (Pf)						o	o	o				

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 1.04
 Mediterranean index of July.[PE/P].....(Im1): 1.85
 Mediterranean index of July & August.....(Im2): 1.83
 Mediterranean index of June, July & August....(Im3): 1.83

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	*	*	*	*	390	480	650	740	640	480	480	*
Tp	*	*	*	*	60	140	172	194	181	126	62	*
Io (Iom)	*	*	*	*	6.50	3.43	3.78	3.81	3.54	3.81	7.74	*
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	*/*			*/*			2030 / 547			*/*		
Io (Iot)	*			*			3.711			*		
Semesters	December-May						June-November					
Pp(x10)/Tp	*/*						*/*					
Io (Iosm)	*						*					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 3860/935=4.13 There is No Yearly Aridity

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	*	*	*	*	390	480	650	740	640	480	480	*
Tp [T*10]	*	*	*	*	60	140	172	194	181	126	62	*
Iom [Pp/Tp]	!!	!!	!!	!!	650	343	378	381	354	381	774	\$\$
Avm [200-Iom]	***	***	***	***	***	***	***	***	***	***	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	* / *			* / *			2030 / 547			1380 / 188		
Iot [Pp/Tp]	**			**			371			734		
Avs E [Avm<200]	***			***			***			***		

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin](Sp): 27.20
 CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]: 38.21
 CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]: 38.33
 + Oceanic (20<CI<40)
 CI of Currey (1974) [CI=Sp/(1+Lat/3)]: 1.48
 + Subcontinental (1.1<CI<1.7)
 Rainfall Index of Lang (1925) [R=P/T]: 97.70
 + Temperate warm (100>R>60)
 Aridity Index of Martonne (1926) [Ia=P/(T+10)]: 36.16
 + Humid (60>Ia>30)
 I of Emberger (1930) [Q=100*P/(Tmmax²-Tmmin²)]: 113.89
 + Humid (Q>90)
 I of Dantin & Revenga (1940) [DR=100*T/P]: 1.02
 + Humid (2>DR>0)
 Aridity Index of UNEP [I=P/PE]: 0.96
 + Humid (I>0.65)
 Potential Erosion I of Fournier (1960) [K=Pi²/P].....: 9.54
 + 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	0.29	0.29	0.29	0.23	0.22	0.28	0.30	0.27	0.23	0.28	0.32	0.32
T-E ratio	0.00	0.00	0.00	2.70	6.30	7.74	8.73	8.15	5.67	2.79	0.00	0.00
Precipitation-effectiveness: 33.11						Temperature-efficiency: 42.08						
Moisture Index [MI=100*(P-PE)/PE]: -3.71 + C1.Subhumid dry (-33.3<MI<0)												
Index of dryness [DI=100*d/PE]: 22.61 + Moderate deficit (16.7<DI<33.3)												
Index of humidity [HI=100*s/PE]: 18.91 + Moderate surplus (10<HI<20)												
Potential Evapotranspiration PE: 596.11 + First mesothermic (570<PE<712)												

