Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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

(Adapted to Synoptical Table 14/02/2020)

JATYNNAJ (RUSSIA) Altitude: 782 m.

Latitude: 62°41'N Longitude: 150°30'E
Temperature observation period.: 1935-1960 (26)
Rainfall observation period....: 1935-1964 (30)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPi
Jan.	-29.50	-27.50	-32.00	-17.00	-39.00	15.0	0.00
Feb.	-27.50	-24.60	-30.40	-16.00	-37.00	12.0	0.00
Mar.	-21.90	-18.50	-24.60	-7.00	-33.00	7.0	0.00
Apr.	-12.20	-8.50	-15.80	0.00	-24.00	10.0	0.00
May.	-0.40	3.10	-3.80	13.00	-13.00	18.0	0.00
Jun.	10.20	15.50	5.70	24.00	-2.00	47.0	123.52
Jul.	13.50	18.80	9.20	28.00	2.00	63.0	145.90
Aug.	10.40	15.50	6.70	26.00	0.00	57.0	104.42
Sep.	2.90	7.00	-0.30	17.00	-8.00	35.0	33.89
Oct.	-11.10	-8.30	-13.60	3.00	-23.00	21.0	0.00
Nov.	-22.90	-20.60	-25.00	-10.00	-33.00	18.0	0.00
Dec.	-28.00	-25.30	-30.50	-16.00	-38.00	17.0	0.00
Year	-9.71	-6.12	-12.87	3.75	-20.67	320	407.74

BIOCLIMATIC INDICES AND DIAGNOSIS

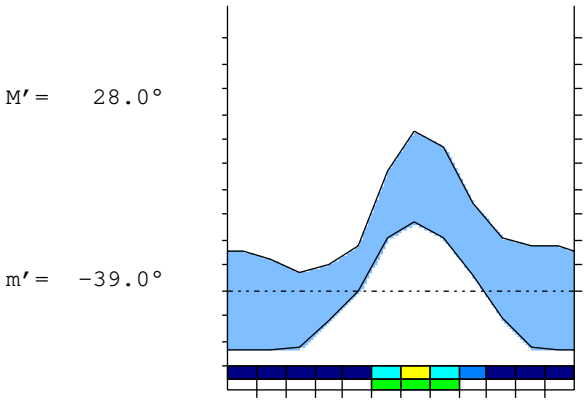
Thermicity index.....(It): -692
Compensated thermicity index.....(Itc): -197
Simple continentality index.....(Ic): 43.0
Diurnality index.....(Id): 9.8
Annual ombrothermic index.....(Io): 5.46
Monthly estival ombrothermic index.....(Ios1): 4.67
Bimonthly estival ombrothermic index.....(Ios2): 5.02
Threemonthly estival ombrothermic index.....(Ios3): 4.90
Fourmonthly estival ombrothermic index.....(Ios4): 5.49
Annual ombro-evaporation index.....(Ioe): 0.78
Annual positive temperature.....(Tp): 370
Annual negative temperature.....(Tn): 1535
Estival temperature.....(Ts): 341
Positive precipitation.....(Pp): 202

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

Latitudinal Belt...: High Subtemperate
Continentality.....: Continental - High Eucontinental
Bioclimate.....: BOREAL CONTINENTAL
Bioclimatic Belt...: LOW CRYOROBOREAL UPPER SUBHUMID

JATYNNAJ (RUSSIA) 782 m

P= 320 62° 41'N 150° 30'E 26/30 y.
T= -9.7 ° Ic= 43.0 Tp= 370 Tn= 1535
m= -32.0 ° M= -27.5 ° Itc= -197 Io= 5.5



BOREAL CONTINENTAL
LOW CRYOROBOREAL UPPER SUBHUMID

WATER INDEX CARD JATYNNAJ (RUSSIA)
Altitude: 782 m. Latitude: 62° 41'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	-29.5	0	15	15	72	0	0	0	0	*
Feb.	-27.5	0	12	12	84	0	0	0	0	*
Mar.	-21.9	0	7	7	91	0	0	0	0	*
Apr.	-12.2	0	10	9	100	0	0	1	1	*
May.	-0.4	0	18	0	100	0	0	18	9	*
Jun.	10.2	124	47	-77	23	124	0	0	5	-0.6
Jul.	13.5	146	63	-23	0	86	59	0	2	-0.5
Aug.	10.4	104	57	0	0	57	47	0	1	-0.4
Sep.	2.9	34	35	1	1	34	0	0	1	0.0
Oct.	-11.1	0	21	21	22	0	0	0	0	*
Nov.	-22.9	0	18	18	40	0	0	0	0	*
Dec.	-28.0	0	17	17	57	0	0	0	0	*
Year	-9.7	408	320	*	*	301	107	19	19	*

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

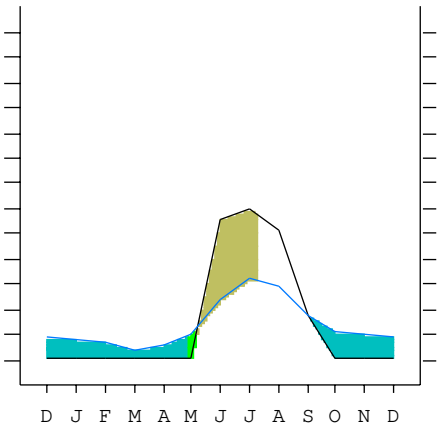
JATYNNAJ (RUSSIA)

62°41'N 150°30'E 782 m 26/30 y.

T= -9.7 Ic= 43.0
m= -32.0 Tp= 370
M= -27.5 Tn= 1535
M'= 28.0 Itc= -197
m'= -39.0 Io= 5.5
P= 320 mm
PE= 408 mm

BOREAL CONTINENTAL
LOW CRYOROBOREAL
UPPER SUBHUMID

Imbibing	30 Aug.
Saturation	27 Apr.
Reserve Use	6 May.
Deficit	9 Jul.



JATYNNAJ (RUSSIA)

Latitude: 62°41'N Longitude: 150°30'E Altitude: 782 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

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

Thermic types [B2.D8]
- + Latitudinal zone ....: B. Temperate
- + Latitudinal belt ....: 2. High Subtemperate
- + Thermic type .....: D. Gelid
- + Thermic subtype .....: 8. Ultramicrothermic

Bioclimatic types [D3.6b.6a]
- + Macrobioclimate .....: D. BOREAL
- + Bioclimate .....: 3. CONTINENTAL
- + Bioclimatic variant .:
- + Thermic type.....: 6. CRYOROBOREAL
- + Thermic subtype.....: b. LOW
- + Ombrothermic type ...: 6. SUBHUMID
- + Ombrothermic subtype : a. UPPER

Bioclimatic Classification .....Boco.Cbo.Shu.Euc

JATYNNAJ (RUSSIA)

Latitude: 62°41'N Longitude: 150°30'E Altitude: 782 m

PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 241
Coldest semester of the year.....(Psw): 79
Warmest four months period of the year.....(Pcm1): 202
Following warmest four months period.....(Pcm2): 71
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): 167
Positive precipitation warmest 2 months.....(Pps2): 120
Positive precipitation warmest 1 month.....(Pps1): 63
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	44	35	167	74

Seasonal rainfall rhythms: S > F > W > P

JATYNNAJ (RUSSIA)

Latitude: 62°41'N Longitude: 150°30'E Altitude: 782 m

TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 13.5
Average coldest month [T].....(Tmin): -29.5
Maximum temp. warmest month [M].....(Tmmax): 18.8
Minimum temp. coldest month [m].....(Tmmin): -32.0
Absolute Max.temp. warmest month [M'].....(Tamax): 28.0
Absolute Min.temp. coldest month [m'].....(Tamin): -39.0
First warmest contrasted month [M].....(Tcmax): 15.5 (6)
First coldest contrasted month [m].....(Tcmin): 5.7 (6)
Estival temperature.....(Ts): 341
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): 341
Positive temperature warmest 2 months.....(Tps2): 239
Positive temperature warmest 1 month.....(Tps1): 135
Positive temperature coldest 3 months.....(Tpw): 0
Positive temperature coldest 2 months.....(Tpw2): 0
Positive temperature coldest 1 month.....(Tpw1): 0

JATYNNAJ (RUSSIA)

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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	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
Agelid.....[m'> 0](Pf)							o					
HiperAgelid..[all>0](Pf)							o					

JATYNNAJ (RUSSIA)

Latitude: 62°41'N Longitude: 150°30'E Altitude: 782 m

OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 1.27
Mediterranean index of July.[PE/P].....(Im1): 2.32
Mediterranean index of July & August.....(Im2): 2.09
Mediterranean index of June, July & August....(Im3): 2.24

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	*	*	*	*	*	*	470	630	570	350	*	*
Tp	*	*	*	*	*	*	102	135	104	29	*	*
Io (Iom)	*	*	*	*	*	*	4.61	4.67	5.48	12.1	*	*
Seasons	Winter			Spring			Summer			Automn		
Pp(x10)/Tp	*/*			*/*			1670 / 341			*/*		
Io (Iot)	*			*			4.897			*		
Semesters	December-May						June-November					
Pp(x10)/Tp	*/*						*/*					
Io (Iosm)	*						*					

JATYNNAJ (RUSSIA)

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 2020/370=5.46 There is No Yearly Aridity

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	*	*	*	*	*	*	470	630	570	350	*	*
Tp [T*10]	*	*	*	*	*	*	102	135	104	29	*	*
Iom [Pp/Tp]	!!	!!	!!	!!	!!	!!	461	467	548	$$	!!	!!
Avm [200-Iom]	***	***	***	***	***	***	***	***	***	***	***	***
Seasons	Winter			Spring			Summer			Automn		
Pp / Tp	* / *			* / *			1670 / 341			* / *		
Iot [Pp/Tp]	**			**			490			**		
Avs E[Avm<200]	***			***			***			***		

JATYNNAJ (RUSSIA)

Latitude: 62°41'N Longitude: 150°30'E Altitude: 782 m

BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....(Sp): 43.00
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....: 61.87
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....: 62.57
  + Continental (60<CI<80)
CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....: 1.96
  + Continental (1.7<CI<2.3)
Rainfall Index of Lang (1925) [R=P/T] .....: -32.96
  +
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....:1097.14
  + Perhumid (Ia>60)
I of Emberger (1930) [Q=100*P/(Tmmax²-Tmmin²)] .....: -47.72
  +
I of Dantin & Revenga (1940) [DR=100*T/P] .....: -3.03
  +
Aridity Index of UNEP [I=P/PE] .....: 0.78
  + Humid (I>0.65)
Potencial Erosion I of Fournier (1960) [K=Pi²/P].....: 12.40
  + Very low (K<60)

JATYNNAJ (RUSSIA)

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BIOCLIMATIC INDICES II

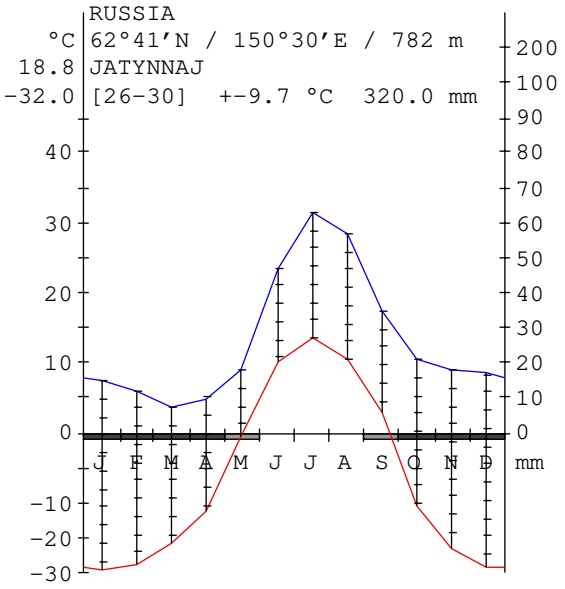
Bioclimatic classification of Gaussen & Bagnouls (1957)
  + Climate ....: B. Cold and temperate cold
  + Region .....: 11. Psicroaxeric (Axeric cold)
  + Thermic type: 8. Ultramicrothermic

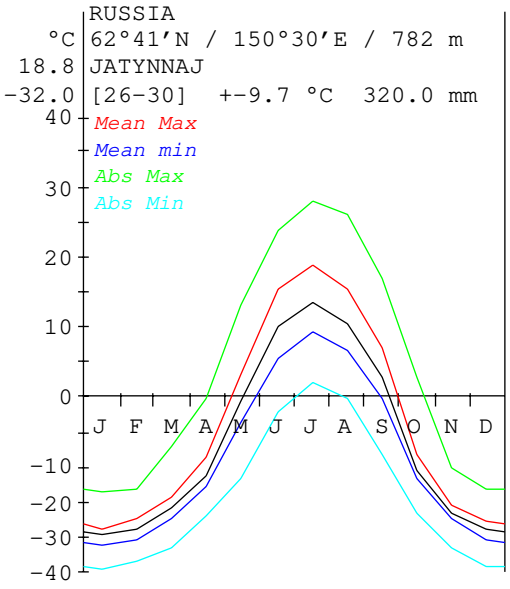
Thornthwaite (1948)

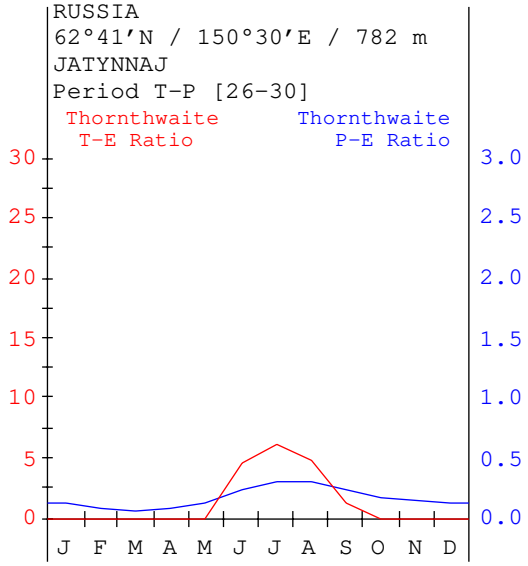
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.11	0.09	0.05	0.07	0.13	0.24	0.30	0.29	0.23	0.16	0.14	0.13
T-E ratio	0.00	0.00	0.00	0.00	0.00	4.59	6.07	4.68	1.31	0.00	0.00	0.00

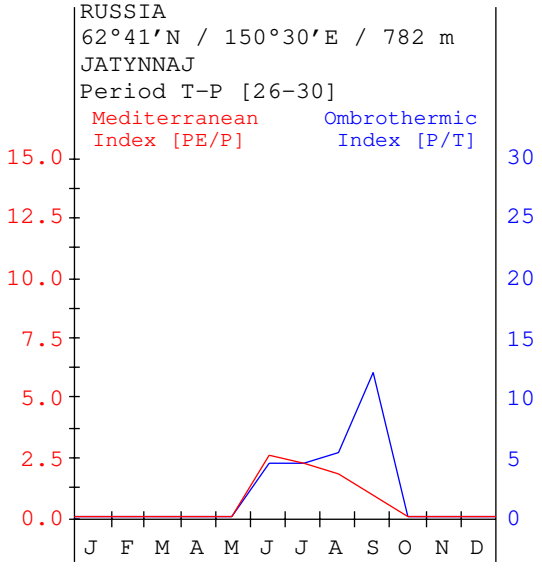
Precipitation-effectiveness: 19.27 Temperature-efficiency ....: 16.65

Moisture Index [MI=100*(P-PE)/PE] .....: -21.52
  + C1.Subhumid dry (-33.3<MI<0)
Index of dryness [DI=100*d/PE] .....: 26.19
  + Moderate deficit (16.7<DI<33.3)
Index of humidity [HI=100*s/PE] .....: 4.68
  + No surplus (0<HI<10)
Potential Evapotranspiration PE .....: 407.74
  + First microthermic (285<PE<427)




RUSSIA
°C
62°41'N / 150°30'E / 782 m
18.8
JATYNNAJ
-32.0
[26-30] +-9.7 °C 320.0 mm
40
Mean Max
Mean min
Abs Max
Abs Min
30
20
10
0
-10
-20
-30
-40
J F M A M J J A S O N D


RUSSIA
62°41'N / 150°30'E / 782 m
JATYNNAJ
Period T-P [26-30]
Thornthwaite T-E Ratio
Thornthwaite P-E Ratio
30
25
20
15
10
5
0
3.0
2.5
2.0
1.5
1.0
0.5
0.0
J F M A M J J A S O N D


RUSSIA
62°41'N / 150°30'E / 782 m
JATYNNAJ
Period T-P [26-30]
Mediterranean Index [PE/P]
Ombrothermic Index [P/T]
15.0
12.5
10.0
7.5
5.0
2.5
0.0
30
25
20
15
10
5
0
J F M A M J J A S O N D