Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 14/02/2020)

KUJBYSEV (RUSSIA) Altitude: 44 m.

Latitude: 53°15'N Longitude: 50°27'E
Temperature observation period.: 1972-1980 (9)
Rainfall observation period....: 1972-1980 (9)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPi
Jan.	-13.80	-10.30	-17.40	4.00	-43.00	33.0	0.00
Feb.	-13.00	-8.80	-16.50	4.00	-37.00	24.0	0.00
Mar.	-6.80	-1.70	-8.60	13.00	-29.00	30.0	0.00
Apr.	4.60	11.00	1.80	31.00	-25.00	32.0	25.72
May.	14.00	20.70	9.50	34.00	-8.00	43.0	94.81
Jun.	18.70	23.10	12.30	38.00	0.00	40.0	130.83
Jul.	20.70	25.60	15.20	39.00	5.00	50.0	146.42
Aug.	19.00	24.60	13.70	38.00	2.00	44.0	120.57
Sep.	12.40	18.60	8.30	37.00	-7.00	41.0	65.16
Oct.	4.20	8.90	1.30	26.00	-21.00	46.0	18.20
Nov.	-4.10	0.60	-4.10	15.00	-37.00	33.0	0.00
Dec.	-10.70	-6.40	-12.30	6.00	-38.00	33.0	0.00
Year	3.77	8.82	0.27	23.75	-19.83	449	601.71

BIOCLIMATIC INDICES AND DIAGNOSIS

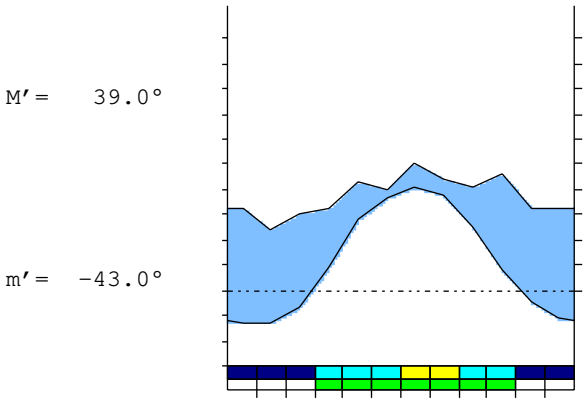
Thermicity index.....(It): -239
Compensated thermicity index.....(Itc): 43
Simple continentality index.....(Ic): 34.5
Diurnality index.....(Id): 11.2
Annual ombrothermic index.....(Io): 3.16
Monthly estival ombrothermic index.....(Ios1): 2.14
Bimonthly estival ombrothermic index.....(Ios2): 2.37
Threemonthly estival ombrothermic index.....(Ios3): 2.29
Fourmonthly estival ombrothermic index.....(Ios4): 2.44
Annual ombro-evaporation index.....(Ioe): 0.75
Annual positive temperature.....(Tp): 936
Annual negative temperature.....(Tn): 484
Estival temperature.....(Ts): 584
Positive precipitation.....(Pp): 296

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

Latitudinal Belt...: Low Subtemperate
Continentality.....: Continental - Low Eucontinental
Bioclimate(Variant): TEMPERATE XERIC (STEPPIC)
Bioclimatic Belt...: UPPER SUPRATEMPERATE UPPER DRY

KUJBYSEV (RUSSIA) 44 m

P= 449 53° 15'N 50° 27'E 9/9 y.
T= 3.8 ° Ic= 34.5 Tp= 936 Tn= 484
m= -17.4 ° M= -10.3 ° Itc= 43 Io= 3.2



TEMPERATE XERIC (STEPPIC)
UPPER SUPRATEMPERATE UPPER DRY

WATER INDEX CARD KUJBYSEV (RUSSIA)
Altitude: 44 m. Latitude: 53° 15'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	-13.8	0	33	6	100	0	0	27	13	*
Feb.	-13.0	0	24	0	100	0	0	24	19	*
Mar.	-6.8	0	30	0	100	0	0	30	24	*
Apr.	4.6	26	32	0	100	26	0	6	15	0.2
May.	14.0	95	43	-52	48	95	0	0	8	-0.5
Jun.	18.7	131	40	-48	0	88	43	0	4	-0.6
Jul.	20.7	146	50	0	0	50	96	0	2	-0.6
Aug.	19.0	121	44	0	0	44	77	0	1	-0.6
Sep.	12.4	65	41	0	0	41	24	0	0	-0.3
Oct.	4.2	18	46	28	28	18	0	0	0	1.5
Nov.	-4.1	0	33	33	61	0	0	0	0	*
Dec.	-10.7	0	33	33	94	0	0	0	0	*
Year	3.8	602	449	*	*	362	240	87	87	*

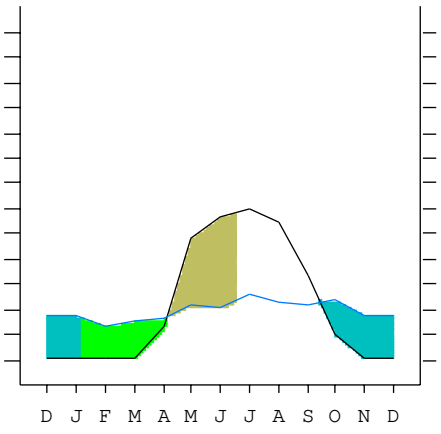
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
DR = Drainage HC = Humidity coeficient DF = Deficit SP = Superavit

KUJBYSEV (RUSSIA)

53°15'N 50°27'E 44 m 9/9 y.

T= 3.8 Ic= 34.5 TEMPERATE XERIC (STEPPIC)
m= -17.4 Tp= 936 UPPER SUPRATEMPERATE
M= -10.3 Tn= 484 UPPER DRY
M'= 39.0 Itc= 43
m'= -43.0 Io= 3.2
P= 449 mm
PE= 602 mm

Imbibing	14 Sep.
Saturation	6 Jan.
Reserve Use	4 Apr.
Deficit	16 Jun.



KUJBYSEV (RUSSIA)

Latitude: 53°15'N Longitude: 50°27'E Altitude: 44 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 [C1a.4a.5a]
- + Macrobioclimate .....: C. TEMPERATE
- + Bioclimate .....: 1. XERIC
- + Bioclimatic variant .: STEPPIC
- + Thermic type.....: 4. SUPRATEMPERATE
- + Thermic subtype.....: a. UPPER
- + Ombrothermic type ...: 5. DRY
- + Ombrothermic subtype : a. UPPER

Bioclimatic Classification .....Texe(Stp).Ste.Dry.Euc

KUJBYSEV (RUSSIA)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 250
Coldest semester of the year.....(Psw): 199
Warmest four months period of the year.....(Pcm1): 177
Following warmest four months period.....(Pcm2): 153
Positive precipitation dryest 3 months.....(Ppd): 32
Positive precipitation dryest 2 months.....(Ppd2): 0
Positive precipitation dryest 1 month.....(Ppd1): 0
Positive precipitation warmest 3 months.....(Pps): 134
Positive precipitation warmest 2 months.....(Pps2): 94
Positive precipitation warmest 1 month.....(Pps1): 50
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	90	105	134	120

Seasonal rainfall rhythms: S > F > P > W

KUJBYSEV (RUSSIA)

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 20.7
Average coldest month [T].....(Tmin): -13.8
Maximum temp. warmest month [M].....(Tmmax): 25.6
Minimum temp. coldest month [m].....(Tmmin): -17.4
Absolute Max.temp. warmest month [M'].....(Tamax): 39.0
Absolute Min.temp. coldest month [m'].....(Tamin): -43.0
First warmest contrasted month [M].....(Tcmax): 20.7 (5)
First coldest contrasted month [m].....(Tcmin): 9.5 (5)
Estival temperature.....(Ts): 584
Positive temperature dryest 3 months.....(Tpd): 46
Positive temperature dryest 2 months.....(Tpd2): 0
Positive temperature dryest 1 month.....(Tpd1): 0
Positive temperature warmest 3 months.....(Tps): 584
Positive temperature warmest 2 months.....(Tps2): 397
Positive temperature warmest 1 month.....(Tps1): 207
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									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	o
Agelid.....[m'> 0](Pf)							o	o				
HiperAgelid..[all>0](Pf)							o	o				

KUJBYSEV (RUSSIA)

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 1.34
Mediterranean index of July.[PE/P].....(Im1): 2.93
Mediterranean index of July & August.....(Im2): 2.84
Mediterranean index of June, July & August....(Im3): 2.97

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	*	*	*	*	320	430	400	500	440	410	460	*
Tp	*	*	*	*	46	140	187	207	190	124	42	*
Io (Iom)	*	*	*	*	6.96	3.07	2.14	2.42	2.32	3.31	11.0	*
Seasons	Winter			Spring			Summer			Automn		
Pp(x10)/Tp	*/*			*/*			1340 / 584			*/*		
Io (Iot)	*			*			2.295			*		
Semesters	December-May						June-November					
Pp(x10)/Tp	*/*						*/*					
Io (Iosm)	*						*					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 2960/936=3.16 There is No Yearly Aridity

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	*	*	*	*	320	430	400	500	440	410	460	*
Tp [T*10]	*	*	*	*	46	140	187	207	190	124	42	*
Iom [Pp/Tp]	!!	!!	!!	!!	696	307	214	242	232	331	$$	!!
Avm [200-Iom]	***	***	***	***	***	***	***	***	***	***	***	***
Seasons	Winter			Spring			Summer			Automn		
Pp / Tp	* / *			* / *			1340 / 584			* / *		
Iot [Pp/Tp]	**			**			229			**		
Avs E[Avm<200]	***			***			***			***		

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....(Sp): 34.50
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....: 52.80
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....: 51.68
  + Subcontinental (40<CI<60)
CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....: 1.84
  + Continental (1.7<CI<2.3)
Rainfall Index of Lang (1925) [R=P/T] .....: 119.20
  + Temperate humid (160>R>100)
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....: 32.62
  + Humid (60>Ia>30)
I of Emberger (1930) [Q=100*P/(Tmmax²-Tmmin²)] .....: 127.34
  + Humid (Q>90)
I of Dantin & Revenga (1940) [DR=100*T/P] .....: 0.84
  + Humid (2>DR>0)
Aridity Index of UNEP [I=P/PE] .....: 0.75
  + Humid (I>0.65)
Potencial Erosion I of Fournier (1960) [K=Pi²/P].....: 5.57
  + Very low (K<60)

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BIOCLIMATIC INDICES II

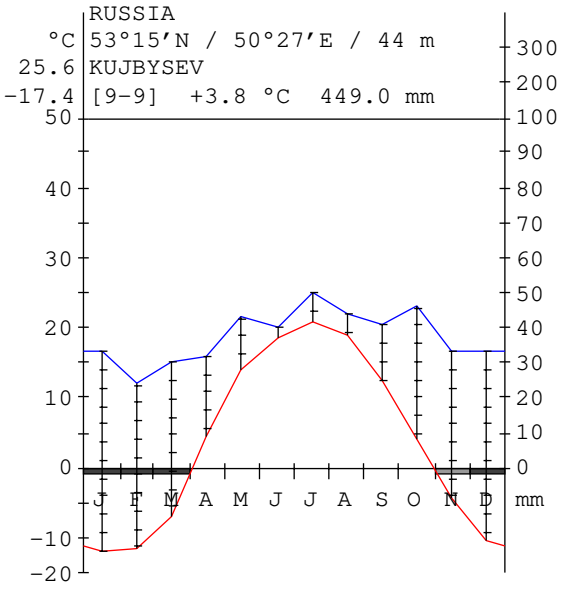
Bioclimatic classification of Gaussen & Bagnouls (1957)
  + Climate ....: B. Cold and temperate cold
  + Region .....: 11. Psicroaxeric (Axeric cold)
  + Thermic type: 6. Microthermic

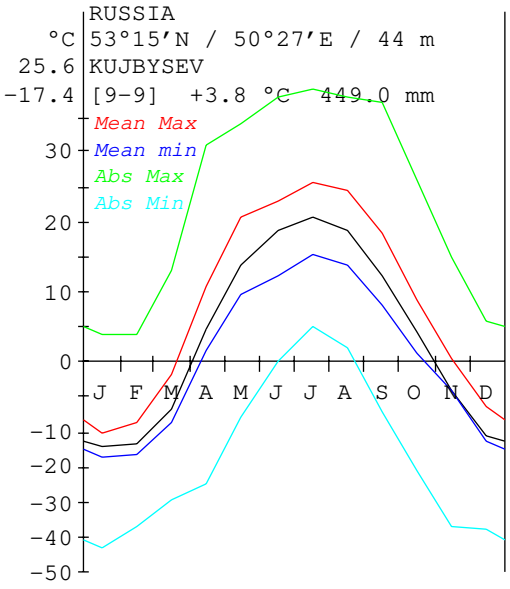
Thornthwaite (1948)

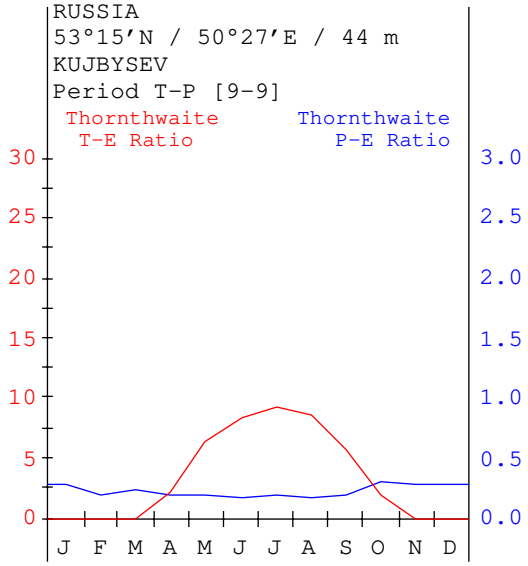
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.27	0.19	0.24	0.19	0.19	0.16	0.19	0.17	0.19	0.29	0.27	0.27
T-E ratio	0.00	0.00	0.00	2.07	6.30	8.42	9.32	8.55	5.58	1.89	0.00	0.00

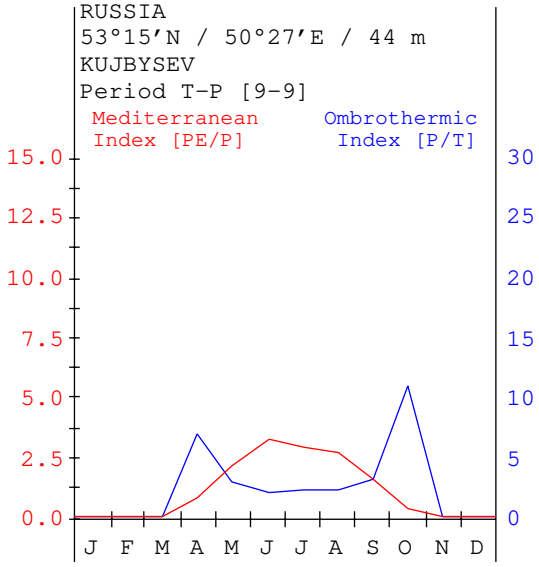
Precipitation-effectiveness: 26.12 Temperature-efficiency ....: 42.12

Moisture Index [MI=100*(P-PE)/PE] .....: -25.38
  + C1.Subhumid dry (-33.3<MI<0)
Index of dryness [DI=100*d/PE] .....: 39.84
  + Strong deficit (33.3<DI)
Index of humidity [HI=100*s/PE] .....: 14.46
  + Moderate surplus (10<HI<20)
Potential Evapotranspiration PE .....: 601.71
  + First mesothermic (570<PE<712)




RUSSIA
°C
53°15'N / 50°27'E / 44 m
25.6
KUJBYSEV
-17.4
[9-9] +3.8 °C 449.0 mm
Mean Max
Mean min
Abs Max
Abs Min
30
20
10
0
-10
-20
-30
-40
-50
J F M A M J J A S O N D


RUSSIA
53°15'N / 50°27'E / 44 m
KUJBYSEV
Period T-P [9-9]
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
53°15'N / 50°27'E / 44 m
KUJBYSEV
Period T-P [9-9]
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