

Phytosociological Research Center

www.globalbioclimatics.org

Worldwide Bioclimatic Classification System

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

(Adapted to Synoptical Table 14/02/2020)

UFA (RUSSIA)

Altitude: 197 m.

Latitude: 54°45'N Longitude: 56°0'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.	-14.60	-11.50	-20.40	4.00	-43.00	22.0	0.00
Feb.	-13.70	-8.50	-20.00	9.00	-39.00	16.0	0.00
Mar.	-7.40	-1.60	-11.90	14.00	-34.00	19.0	0.00
Apr.	3.20	10.10	-1.50	31.00	-30.00	27.0	20.85
May.	12.50	19.70	6.90	36.00	-10.00	33.0	91.05
Jun.	17.70	22.60	10.40	38.00	-1.00	48.0	130.87
Jul.	19.00	25.30	13.70	39.00	4.00	57.0	141.08
Aug.	17.00	22.80	10.30	36.00	0.00	44.0	112.69
Sep.	10.90	17.60	5.70	32.00	-5.00	44.0	61.44
Oct.	2.70	7.20	-0.50	25.00	-22.00	47.0	13.50
Nov.	-5.60	-0.20	-7.00	14.00	-38.00	32.0	0.00
Dec.	-11.90	-7.70	-16.10	5.00	-44.00	30.0	0.00
Year	2.48	7.98	-2.53	23.58	-21.83	419	571.48

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	-294
Compensated thermicity index.....(Itc):	-34
Simple continentality index.....(Ic):	33.6
Diurnality index.....(Id):	12.8
Annual ombrothermic index.....(Io):	3.61
Monthly estival ombrothermic index.....(Ios1):	2.59
Bimonthly estival ombrothermic index.....(Ios2):	2.81
Threemonthly estival ombrothermic index.....(Ios3):	2.77
Fourmonthly estival ombrothermic index.....(Ios4):	2.75
Annual ombro-evaporation index.....(Ioe):	0.73
Annual positive temperature.....(Tp):	830
Annual negative temperature.....(Tn):	532
Estival temperature.....(Ts):	537
Positive precipitation.....(Pp):	300

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

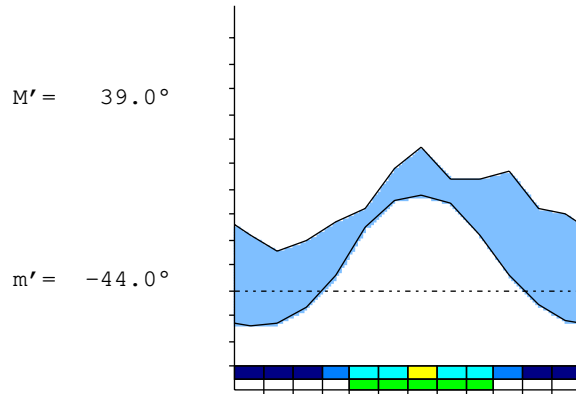
Bioclimate(Variant): TEMPERATE CONTINENTAL (STEPPIIC, HEMIBOREAL)

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

UFA (RUSSIA)

197 m

P= 419 54° 45'N 56° 0'E 9/9 y.
 T= 2.5 ° Ic= 33.6 Tp= 830 Tn= 532
 m= -20.4 ° M= -11.5 ° Itc= -34 Io= 3.6



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

WATER INDEX CARD UFA (RUSSIA)
 Altitude: 197 m. Latitude: 54° 45'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	-14.6	0	22	5	100	0	0	17	9	*
Feb.	-13.7	0	16	0	100	0	0	16	12	*
Mar.	-7.4	0	19	0	100	0	0	19	16	*
Apr.	3.2	21	27	0	100	21	0	6	11	0.2
May.	12.5	91	33	-58	42	91	0	0	5	-0.6
Jun.	17.7	131	48	-42	0	90	41	0	3	-0.6
Jul.	19.0	141	57	0	0	57	84	0	1	-0.5
Aug.	17.0	113	44	0	0	44	69	0	1	-0.6
Sep.	10.9	61	44	0	0	44	17	0	0	-0.2
Oct.	2.7	14	47	33	33	14	0	0	0	2.4
Nov.	-5.6	0	32	32	65	0	0	0	0	*
Dec.	-11.9	0	30	30	95	0	0	0	0	*
Year	2.5	571	419	*	*	360	211	59	59	*

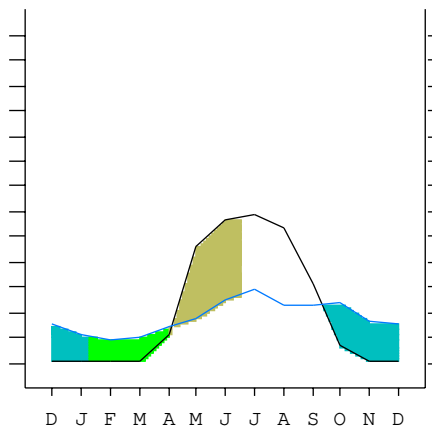
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

UFA (RUSSIA)

54°45'N 56°0'E 197 m 9/9 y.

T= 2.5 Ic= 33.6 TEMPERATE CONTINENTAL (STEPPIC)
 m= -20.4 Tp= 830 UPPER SUPRATEMPERATE (HEMIBOREAL)
 M= -11.5 Tn= 532 LOW SUBHUMID
 M' = 39.0 Itc= -34
 m' = -44.0 Io= 3.6
 P= 419 mm ———
 PE= 571 mm ———

Imbibing	11 Sep.
Saturation	7 Jan.
Reserve Use	3 Apr.
Deficit	16 Jun.



UFA (RUSSIA)

Latitude: 54°45'N Longitude: 56°0'E Altitude: 197 m

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. Low Subtemperate
 + Thermic type: C. Cold
 + Thermic subtype: 7. Cold

Bioclimatic types [C2a.4a.6b]
 + Macrobioclimate: C. TEMPERATE
 + Bioclimate: 2. CONTINENTAL
 + Bioclimatic variant .: STEPPIC,HEMIBOREAL
 + Thermic type.....: 4. SUPRATEMPERATE (HEMIBOREAL)
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 6. SUBHUMID
 + Ombrothermic subtype : b. LOW

Bioclimatic ClassificationTeco(Stp).Ste.Shu.Euc

UFA (RUSSIA)

Latitude: 54°45'N Longitude: 56°0'E Altitude: 197 m

PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 253
 Coldest semester of the year.....(Psw): 166
 Warmest four months period of the year.....(Pcm1): 182
 Following warmest four months period.....(Pcm2): 153
 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): 149
 Positive precipitation warmest 2 months.....(Pps2): 105
 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	68	79	149	123

Seasonal rainfall rhythms: S > F > P > W

UFA (RUSSIA)

Latitude: 54°45'N Longitude: 56°0'E Altitude: 197 m

TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 19.0
 Average coldest month [T].....(Tmin): -14.6
 Maximum temp. warmest month [M].....(Tmax): 25.3
 Minimum temp. coldest month [m].....(Tmin): -20.4
 Absolute Max.temp. warmest month [M'].....(Tamax): 39.0
 Absolute Min.temp. coldest month [m'].....(Tamin): -44.0
 First warmest contrasted month [M].....(Tcmax): 19.7 (5)
 First coldest contrasted month [m].....(Tcmin): 6.9 (5)
 Estival temperature.....(Ts): 537
 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): 537
 Positive temperature warmest 2 months.....(Tps2): 367
 Positive temperature warmest 1 month.....(Tps1): 190
 Positive temperature coldest 3 months.....(Tpw): 0
 Positive temperature coldest 2 months.....(Tpw2): 0
 Positive temperature coldest 1 month.....(Tpw1): 0

UFA (RUSSIA)

Latitude: 54°45'N Longitude: 56°0'E Altitude: 197 m

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					

UFA (RUSSIA)

Latitude: 54°45'N Longitude: 56°0'E Altitude: 197 m

OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 1.36
 Mediterranean index of July.[PE/P].....(Im1): 2.48
 Mediterranean index of July & August.....(Im2): 2.51
 Mediterranean index of June, July & August....(Im3): 2.58

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	*	*	*	*	270	330	480	570	440	440	470	*
Tp	*	*	*	*	32	125	177	190	170	109	27	*
Io (Iom)	*	*	*	*	8.44	2.64	2.71	3.00	2.59	4.04	17.4	*
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	*/*			*/*			1490 / 537			*/*		
Io (Iot)	*			*			2.775			*		
Semesters	December-May						June-November					
Pp(x10)/Tp	*/*						*/*					
Io (Iosm)	*						*					

UFA (RUSSIA)

Latitude: 54°45'N Longitude: 56°0'E Altitude: 197 m

Aridity Value Index (AVI)

[10xPP/TP=IO]: 3000/830=3.61 There is No Yearly Aridity

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	*	*	*	*	270	330	480	570	440	440	470	*
Tp [T*10]	*	*	*	*	32	125	177	190	170	109	27	*
Iom [Pp/Tp]	!!	!!	!!	!!	844	264	271	300	259	404	\$\$!!
Avm [200-Iom]	***	***	***	***	***	***	***	***	***	***	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	* / *			* / *			1490 / 537			* / *		
Iot [Pp/Tp]	**			**			277			**		
Avs E [Avm<200]	***			***			***			***		

UFA (RUSSIA)

Latitude: 54°45'N Longitude: 56°0'E Altitude: 197 m

BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin](Sp): 33.60
 CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]: 49.55
 CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]: 49.15
 + Subcontinental (40<CI<60)
 CI of Currey (1974) [CI=Sp/(1+Lat/3)]: 1.75
 + Continental (1.7<CI<2.3)
 Rainfall Index of Lang (1925) [R=P/T]: 168.72
 + Humid (R>160)
 Aridity Index of Martonne (1926) [Ia=P/(T+10)]: 33.56
 + Humid (60>Ia>30)
 I of Emberger (1930) [Q=100*P/(Tmmax²-Tmmin²)]: 187.11
 + Humid (Q>90)
 I of Dantin & Revenga (1940) [DR=100*T/P]: 0.59
 + Humid (2>DR>0)
 Aridity Index of UNEP [I=P/PE]: 0.73
 + Humid (I>0.65)
 Potencial Erosion I of Fournier (1960) [K=Pi²/P].....: 7.75
 + Very low (K<60)

UFA (RUSSIA)

Latitude: 54°45'N Longitude: 56°0'E Altitude: 197 m

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	0.17	0.12	0.14	0.17	0.15	0.20	0.23	0.18	0.22	0.32	0.26	0.24
T-E ratio	0.00	0.00	0.00	1.44	5.63	7.97	8.55	7.65	4.90	1.22	0.00	0.00
Precipitation-effectiveness: 23.91						Temperature-efficiency: 37.35						
Moisture Index [MI=100*(P-PE)/PE]: -26.68 + C1.Subhumid dry (-33.3<MI<0)												
Index of dryness [DI=100*d/PE]: 36.94 + Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE]: 10.25 + Moderate surplus (10<HI<20)												
Potential Evapotranspiration PE: 571.48 + First mesothermic (570<PE<712)												

