

# Phytosociological Research Center

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## Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 14/02/2020)

ROUSSE (BULGARIA)

Altitude: 46 m.

Latitude: 43°52'N Longitude: 25°58'E

Temperature observation period.: 1979-1994 (16)

Rainfall observation period....: 1979-1994 (16)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	-1.39	1.11	-3.89	17.22	-20.00	62.7	0.00
Feb.	0.83	4.44	-2.78	22.22	-23.89	36.3	0.82
Mar.	6.12	10.56	1.67	27.78	-12.78	42.2	17.38
Apr.	12.78	17.78	7.78	30.00	0.00	56.6	54.00
May.	18.06	23.33	12.78	33.89	5.00	74.4	99.79
Jun.	21.67	27.22	16.11	37.78	7.22	93.0	131.12
Jul.	24.17	30.00	18.33	38.89	11.11	66.0	154.17
Aug.	23.89	30.00	17.78	40.00	12.22	45.7	139.99
Sep.	20.00	26.11	13.89	37.22	2.22	35.3	94.39
Oct.	14.44	19.44	9.44	32.22	0.00	25.1	54.43
Nov.	7.50	10.56	4.44	27.78	-8.89	44.2	18.17
Dec.	1.94	4.44	-0.56	22.78	-18.89	53.1	2.56
Year	12.50	17.08	7.92	30.65	-3.89	635	766.81

### BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	97
Compensated thermicity index.....(Itc):	181
Simple continentality index.....(Ic):	25.6
Diurnality index.....(Id):	12.2
Annual ombrothermic index.....(Io):	3.78
Monthly estival ombrothermic index.....(Ios1):	1.91
Bimonthly estival ombrothermic index.....(Ios2):	2.32
Threemonthly estival ombrothermic index.....(Ios3):	2.94
Fourmonthly estival ombrothermic index.....(Ios4):	3.18
Annual ombro-evaporation index.....(Ioe):	0.83
Annual positive temperature.....(Tp):	1514
Annual negative temperature.....(Tn):	14
Estival temperature.....(Ts):	697
Positive precipitation.....(Pp):	572

N. of Months	P>4T	P:2T-4T	PT-2T	P<T	T<0
	7	1	3	0	1

Latitudinal Belt...: High Eutemperate

Continentality.....: Continental - High Subcontinental

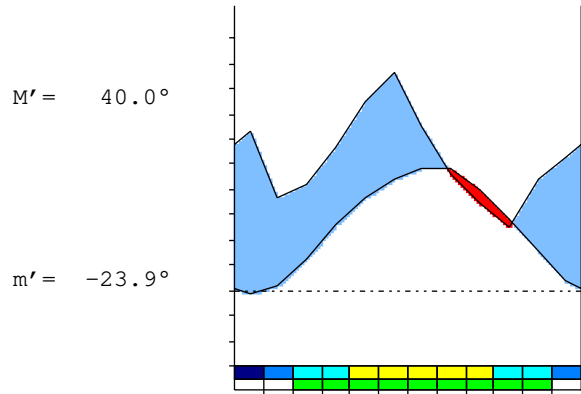
Bioclimate(Variant): TEMPERATE CONTINENTAL (STEPPIC)

Bioclimatic Belt...: UPPER MESOTEMPERATE LOW SUBHUMID

ROUSSE (BULGARIA)

46 m

P= 635      43° 52'N      25° 58'E      16/16 y.  
 T= 12.5 °    Ic= 25.6      Tp= 1514      Tn= 14  
 m= -3.9 °    M= 1.1 °      Itc= 181      Io= 3.8



TEMPERATE CONTINENTAL (STEPPIC)  
 UPPER MESOTEMPERATE LOW SUBHUMID

WATER INDEX CARD      ROUSSE (BULGARIA)  
 Altitude: 46 m.      Latitude: 43° 52'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	-1.4	0	63	23	100	0	0	39	20	*
Feb.	0.8	1	36	0	100	1	0	35	28	*
Mar.	6.1	17	42	0	100	17	0	25	26	1.4
Apr.	12.8	54	57	0	100	54	0	3	14	0.0
May.	18.1	100	74	-25	75	100	0	0	7	-0.2
Jun.	21.7	131	93	-38	36	131	0	0	4	-0.2
Jul.	24.2	154	66	-36	0	102	52	0	2	-0.5
Aug.	23.9	140	46	0	0	46	94	0	1	-0.6
Sep.	20.0	94	35	0	0	35	59	0	0	-0.6
Oct.	14.4	54	25	0	0	25	29	0	0	-0.5
Nov.	7.5	18	44	26	26	18	0	0	0	1.4
Dec.	1.9	3	53	51	77	3	0	0	0	19.7
Year	12.5	767	635	*	*	532	234	102	102	*

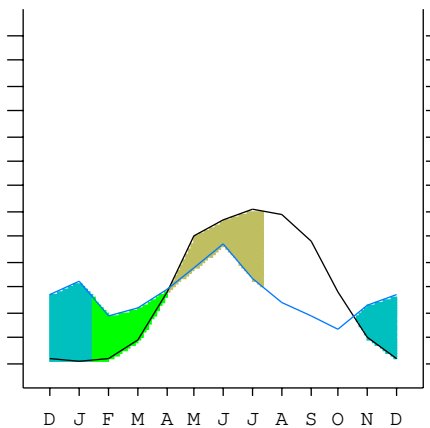
R = Reserve    VR = Variation of the reserve    RE = Real evapotranspiration  
 DR = Drainage    HC = Humidity coefficient    DF = Deficit    SP = Superavit

ROUSSE (BULGARIA)

43°52'N    25°58'E      46 m 16/16 y.

T= 12.5    Ic= 25.6      TEMPERATE CONTINENTAL (STEPPIC)  
 m= -3.9    Tp= 1514      UPPER MESOTEMPERATE  
 M= 1.1    Tn= 14      LOW SUBHUMID  
 M' = 40.0    Itc= 181  
 m' = -23.9    Io= 3.8  
 P= 635      mm ———  
 PE= 767      mm ———

Imbibing	16 Oct.
Saturation	12 Jan.
Reserve Use	3 Apr.
Deficit	13 Jul.



ROUSSE (BULGARIA)

Latitude: 43°52'N Longitude: 25°58'E Altitude: 46 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

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

Thermic types [B1.B4]  
 + Latitudinal zone ....: B. Temperate  
 + Latitudinal belt ....: 1. High Eutemperate  
 + Thermic type .....: B. Temperate  
 + Thermic subtype .....: 4. Temperate

Bioclimatic types [C2a.3a.6b]  
 + Macrobioclimate .....: C. TEMPERATE  
 + Bioclimate .....: 2. CONTINENTAL  
 + Bioclimatic variant .: STEPPIC  
 + Thermic type.....: 3. MESOTEMPERATE  
 + Thermic subtype.....: a. UPPER  
 + Ombrothermic type ...: 6. SUBHUMID  
 + Ombrothermic subtype : b. LOW

Bioclimatic Classification .....Teco(Stp).Mte.Shu.Suc

ROUSSE (BULGARIA)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 340  
 Coldest semester of the year.....(Psw): 295  
 Warmest four months period of the year.....(Pcm1): 240  
 Following warmest four months period.....(Pcm2): 185  
 Positive precipitation dryest 3 months.....(Ppd): 105  
 Positive precipitation dryest 2 months.....(Ppd2): 60  
 Positive precipitation dryest 1 month.....(Ppd1): 25  
 Positive precipitation warmest 3 months.....(Pps): 205  
 Positive precipitation warmest 2 months.....(Pps2): 112  
 Positive precipitation warmest 1 month.....(Pps1): 66  
 Positive precipitation coldest 3 months.....(Ppw): 89  
 Positive precipitation coldest 2 months.....(Ppw2): 36  
 Positive precipitation coldest 1 month.....(Ppw1): 0

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	152	173	204	104

Seasonal rainfall rhythms: S > P > W > F

ROUSSE (BULGARIA)

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 24.2  
 Average coldest month [T].....(Tmin): -1.4  
 Maximum temp. warmest month [M].....(Tmax): 30.0  
 Minimum temp. coldest month [m].....(Tmin): -3.9  
 Absolute Max.temp. warmest month [M'].....(Tamax): 40.0  
 Absolute Min.temp. coldest month [m'].....(Tamin): -23.9  
 First warmest contrasted month [M].....(Tcmax): 30.0 (8)  
 First coldest contrasted month [m].....(Tcmin): 17.8 (8)  
 Estival temperature.....(Ts): 697  
 Positive temperature dryest 3 months.....(Tpd): 419  
 Positive temperature dryest 2 months.....(Tpd2): 344  
 Positive temperature dryest 1 month.....(Tpd1): 144  
 Positive temperature warmest 3 months.....(Tps): 697  
 Positive temperature warmest 2 months.....(Tps2): 481  
 Positive temperature warmest 1 month.....(Tps1): 242  
 Positive temperature coldest 3 months.....(Tpw): 28  
 Positive temperature coldest 2 months.....(Tpw2): 8  
 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	o	o	
Ultragelid... [M' <=0] (Pf)												
Hypergelid... [M <=0] (Pf)												
Gelid... [T <=0] (Pf)	o											
Subgelid... [m <=0] (Pf)	o	o										o
Pregelid... [m' <=0] (Pf)	o	o	o	o						o	o	o
Agelid... [m' > 0] (Pf)					o	o	o	o	o			
HiperAgelid... [all >0] (Pf)					o	o	o	o	o			

ROUSSE (BULGARIA)

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OMBROTHERMIC PARAMETERS

Annual aridity index. [PE/P]..... (Iar): 1.21  
 Mediterranean index of July. [PE/P]..... (Im1): 2.34  
 Mediterranean index of July & August..... (Im2): 2.63  
 Mediterranean index of June, July & August.... (Im3): 2.08

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp (x10)	531	*	363	422	566	744	930	660	457	353	251	442
Tp	19	*	8	61	128	181	217	242	239	200	144	75
Io (Iom)	27.4	*	43.7	6.90	4.43	4.12	4.29	2.73	1.91	1.77	1.74	5.89
Seasons	Winter			Spring			Summer			Autumn		
Pp (x10) / Tp	* / *			1732 / 370			2047 / 697			1046 / 419		
Io (Iot)	*			4.686			2.936			2.494		
Semesters	December-May						June-November					
Pp (x10) / Tp	* / *						3093 / 1117					
Io (Iosm)	*						2.770					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 5719/1514=3.78 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	531	*	363	422	566	744	930	660	457	353	251	442
Tp [T*10]	19	*	8	61	128	181	217	242	239	200	144	75
Iom [Pp/Tp]	\$\$	!!	\$\$	690	443	412	429	273	191	177	174	589
Avm [200-Iom]	***	***	***	***	***	***	***	***	9	24	26	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	* / *			1732 / 370			2047 / 697			1046 / 419		
Iot [Pp/Tp]	**			469			294			249		
Avs E [Avm < 200]	***			***			***			***		
Weak upper semiarid [3]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....	(Sp): 25.56
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....	42.30
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....	39.80
+ Oceanic (20<CI<40)	
CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....	1.64
+ Subcontinental (1.1<CI<1.7)	
Rainfall Index of Lang (1925) [R=P/T] .....	50.76
+ Semiarid (60>R>40)	
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....	28.20
+ Subhumid (30>Ia>20)	
I of Emberger (1930) [Q=100*P/(Tmmax <sup>2</sup> -Tmmin <sup>2</sup> )] .....	71.72
+ Subhumid (90>Q>50)	
I of Dantin & Revenga (1940) [DR=100*T/P] .....	1.97
+ Humid (2>DR>0)	
Aridity Index of UNEP [I=P/PE] .....	0.83
+ Humid (I>0.65)	
Potencial Erosion I of Fournier (1960) [K=Pi <sup>2</sup> /P].....	13.63
+ Very low (K<60)	

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)  
 + Climate ..... B. Cold and temperate cold  
 + Region ..... 10. Psicroxeroterico (Submediterranean)  
 + Thermic type: 4. Mesothermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.53	0.26	0.25	0.27	0.32	0.37	0.24	0.16	0.13	0.10	0.25	0.38
T-E ratio	0.00	0.37	2.75	5.75	8.13	9.75	10.88	10.75	9.00	6.50	3.38	0.87
Precipitation-effectiveness: 32.39						Temperature-efficiency .....: 68.13						
Moisture Index [MI=100*(P-PE)/PE] .....: -17.24												
+ C1.Subhumid dry (-33.3<MI<0)												
Index of dryness [DI=100*d/PE] .....: 30.55												
+ Moderate deficit (16.7<DI<33.3)												
Index of humidity [HI=100*s/PE] .....: 13.31												
+ Moderate surplus (10<HI<20)												
Potential Evapotranspiration PE .....: 766.81												
+ Second mesothermic (712<PE<855)												

