

# Phytosociological Research Center

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## Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

JEREVAN (ARMENIA)

Altitude: 907 m.

Latitude: 40°8'N Longitude: 44°28'E

Temperature observation period.: 1984-1994 (11)

Rainfall observation period....: 1984-1994 (11)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	-1.67	2.22	-5.56	20.00	-22.22	19.1	0.00
Feb.	0.83	5.56	-3.89	17.78	-16.11	24.1	0.74
Mar.	6.39	11.67	1.11	22.22	-15.00	16.5	17.65
Apr.	12.50	18.33	6.67	27.78	-6.11	34.5	50.36
May.	18.06	24.44	11.67	35.00	0.00	45.2	95.95
Jun.	21.94	29.44	14.44	38.89	2.78	21.8	128.29
Jul.	25.84	32.78	18.89	42.22	5.00	16.0	165.27
Aug.	25.00	32.22	17.78	40.00	12.22	7.9	146.36
Sep.	20.56	27.78	13.33	35.00	5.00	20.6	97.14
Oct.	14.17	20.56	7.78	31.11	-3.89	24.1	52.25
Nov.	8.06	13.33	2.78	22.22	-6.11	19.3	19.92
Dec.	1.67	5.56	-2.22	13.89	-12.22	12.2	1.98
Year	12.78	18.66	6.90	28.84	-4.72	261	775.91

### BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	94
Compensated thermicity index.....(Itc):	207
Simple continentality index.....(Ic):	27.5
Diurnality index.....(Id):	15.0
Annual ombrothermic index.....(Io):	1.56
Monthly estival ombrothermic index.....(Ios1):	0.32
Bimonthly estival ombrothermic index.....(Ios2):	0.47
Threemonthly estival ombrothermic index.....(Ios3):	0.63
Fourmonthly estival ombrothermic index.....(Ios4):	1.00
Annual ombro-evaporation index.....(Ioe):	1.08
Annual positive temperature.....(Tp):	1550
Annual negative temperature.....(Tn):	17
Estival temperature.....(Ts):	728
Positive precipitation.....(Pp):	242

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

Latitudinal Belt...: Low eutemperate

Continentality.....: Continental - High Subcontinental

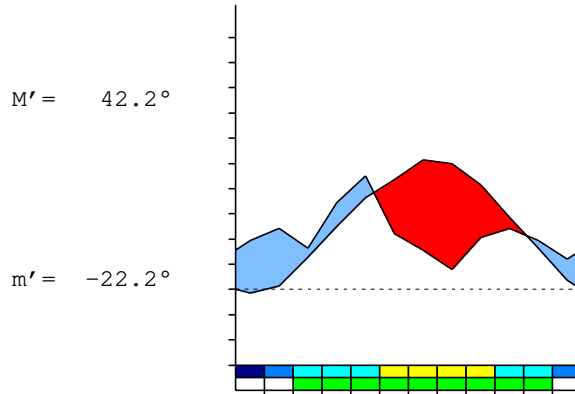
Bioclimate.....: MEDITERRANEAN XERIC-CONTINENTAL

Bioclimatic Belt...: UPPER MESOMEDITERRANEAN UPPER SEMIARID

JEREVAN (ARMENIA)

907 m

P= 261      40° 8'N      44° 28'E      11/11 y.  
 T= 12.8°    Ic= 27.5      Tp= 1550      Tn= 17  
 m= -5.6°    M= 2.2°      Itc= 207      Io= 1.6



MEDITERRANEAN XERIC-CONTINENTAL  
 UPPER MESOMEDITERRANEAN UPPER SEMIARID

WATER INDEX CARD      JEREVAN (ARMENIA)  
 Altitude: 907 m.      Latitude: 40° 8'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	-1.7	0	19	19	29	0	0	0	0	*
Feb.	0.8	1	24	23	53	1	0	0	0	*
Mar.	6.4	18	17	-1	52	18	0	0	0	0.0
Apr.	12.5	50	35	-16	36	50	0	0	0	-0.3
May.	18.1	96	45	-36	0	81	15	0	0	-0.5
Jun.	21.9	128	22	0	0	22	106	0	0	-0.8
Jul.	25.8	165	16	0	0	16	149	0	0	-0.9
Aug.	25.0	146	8	0	0	8	138	0	0	-0.9
Sep.	20.6	97	21	0	0	21	77	0	0	-0.7
Oct.	14.2	52	24	0	0	24	28	0	0	-0.5
Nov.	8.1	20	19	0	0	19	1	0	0	0.0
Dec.	1.7	2	12	10	10	2	0	0	0	5.1
Year	12.8	776	261	*	*	261	515	0	0	*

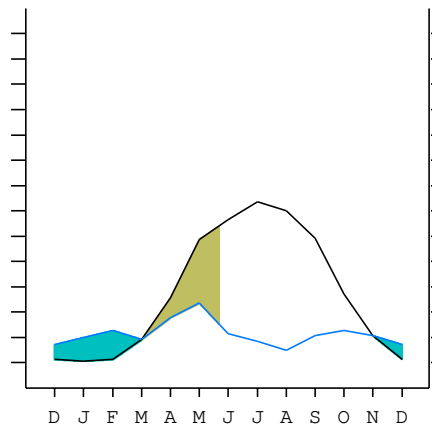
R = Reserve    VR = Variation of the reserve    RE = Real evapotranspiration  
 DR = Drainage    HC = Humidity coefficient    DF = Deficit    SP = Superavit

JEREVAN (ARMENIA)

40°8'N    44°28'E    907 m 11/11 y.

T= 12.8    Ic= 27.5    MEDITERRANEAN XERIC-CONTINENTAL  
 m= -5.6    Tp= 1550    UPPER MESOMEDITERRANEAN  
 M= 2.2    Tn= 17    UPPER SEMIARID  
 M' = 42.2    Itc= 207  
 m' = -22.2    Io= 1.6  
 P= 261    mm    ———  
 PE= 776    mm    ———

Imbibing	2 Nov.
Saturation	29 Feb.
Reserve Use	22 May.
Deficit	



JEREVAN (ARMENIA)

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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [C2b]  
 + Type .....: C. Continental  
 + Subtype .....: 2. Subcontinental  
 + Variant .....: b. High  
 Thermic types [B1.B4]  
 + Latitudinal zone .....: B. Temperate  
 + Latitudinal belt .....: 1. Low eutemperate  
 + Thermic type .....: B. Temperate  
 + Thermic subtype .....: 4. Temperate  
 Bioclimatic types [B5.3a.4a]  
 + Macrobioclimate .....: B. MEDITERRANEAN  
 + Bioclimate .....: 5. XERIC-CONTINENTAL  
 + Bioclimatic variant ..:  
 + Thermic type.....: 3. MESOMEDITERRANEAN  
 + Thermic subtype.....: a. UPPER  
 + Ombrothermic type ...: 4. SEMIARID  
 + Ombrothermic subtype : a. UPPER  
 Bioclimatic Classification .....: Medo.Mme.Sar

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 136  
 Coldest semester of the year.....(Psw): 126  
 Warmest four months period of the year.....(Pcm1): 66  
 Following warmest four months period.....(Pcm2): 75  
 Positive precipitation dryest 3 months.....(Ppd): 45  
 Positive precipitation dryest 2 months.....(Ppd2): 24  
 Positive precipitation dryest 1 month.....(Ppd1): 8  
 Positive precipitation warmest 3 months.....(Pps): 46  
 Positive precipitation warmest 2 months.....(Pps2): 24  
 Positive precipitation warmest 1 month.....(Pps1): 16  
 Positive precipitation coldest 3 months.....(Ppw): 36  
 Positive precipitation coldest 2 months.....(Ppw2): 24  
 Positive precipitation coldest 1 month.....(Ppw1): 0

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	55	96	45	64

Seasonal rainfall rhythms: P > F > W > S

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 25.8  
 Average coldest month [T].....(Tmin): -1.7  
 Maximum temp. warmest month [M].....(Tmmax): 32.8  
 Minimum temp. coldest month [m].....(Tmmin): -5.6  
 Absolute Max.temp. warmest month [M'].....(Tamax): 42.2  
 Absolute Min.temp. coldest month [m'].....(Tamin): -22.2  
 First warmest contrasted month [M].....(Tcmax): 29.4 (6)  
 First coldest contrasted month [m].....(Tcmin): 14.4 (6)  
 Estival temperature.....(Ts): 728  
 Positive temperature dryest 3 months.....(Tpd): 714  
 Positive temperature dryest 2 months.....(Tpd2): 508  
 Positive temperature dryest 1 month.....(Tpd1): 250  
 Positive temperature warmest 3 months.....(Tps): 728  
 Positive temperature warmest 2 months.....(Tps2): 508  
 Positive temperature warmest 1 month.....(Tps1): 258  
 Positive temperature coldest 3 months.....(Tpw): 25  
 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	o
Agelid.....[m' > 0] (Pf)						o	o	o	o			
HiperAgelid..[all>0] (Pf)						o	o	o	o			

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 2.97  
 Mediterranean index of July.[PE/P].....(Im1): 10.33  
 Mediterranean index of July & August.....(Im2): 13.04  
 Mediterranean index of June, July & August....(Im3): 9.63

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	122	*	241	165	345	452	218	160	79	206	241	193
Tp	17	*	8	64	125	181	219	258	250	206	142	81
Io (Iom)	7.31	*	29.0	2.58	2.76	2.50	0.99	0.62	0.32	1.00	1.70	2.39
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	*/*			962 / 370			457 / 728			640 / 428		
Io (Iot)	*			2.604			0.628			1.496		
Semesters	December-May						June-November					
Pp(x10)/Tp	*/*						1097 / 1156					
Io (Iosm)	*						0.949					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 2422/1550=1.56 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	122	*	241	165	345	452	218	160	79	206	241	193
Tp [T*10]	17	*	8	64	125	181	219	258	250	206	142	81
Iom [Pp/Tp]	731	!!	\$\$	258	276	250	99	62	32	100	170	239
Avm [200-Iom]	***	***	***	***	***	***	101	138	168	100	30	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	* / *			962 / 370			457 / 728			640 / 428		
Iot [Pp/Tp]	**			260			63			150		
Avs E[Avm<200]	***			***			407			***		
Upper hyperarid [1]							Weak lower arid [2]					
Weak upper arid [1]							Strong lower semiarid [1]					
Weak upper semiarid [1]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....	(Sp):	27.51
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....		52.16
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....		46.93
+ Subcontinental (40<CI<60)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....		1.91
+ Continental (1.7<CI<2.3)		
Rainfall Index of Lang (1925) [R=P/T] .....		20.45
+ Steppic (40>R>0)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....		11.47
+ Arid -steppic- (15>Ia>5)		
I of Emberger (1930) [Q=100*P/(Tmax <sup>2</sup> -Tmin <sup>2</sup> )] .....		25.04
+ Arid (30>Q>0)		
I of Dantin & Revenga (1940) [DR=100*T/P] .....		4.89
+ Arid (6>DR>3)		
Aridity Index of UNEP [I=P/PE] .....		0.34
+ Semiarid (0.5>Im>0.2)		
Potential Erosion I of Fournier (1960) [K=Pi <sup>2</sup> /P] .....		7.82
+ Very low (K<60)		

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)  
 + Climate .....

- + Climate .....
- + Region .....
- + Thermic type: 4. Mesothermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.14	0.16	0.09	0.16	0.18	0.07	0.05	0.02	0.07	0.10	0.10	0.07
T-E ratio	0.00	0.37	2.88	5.63	8.13	9.87	11.63	11.25	9.25	6.38	3.63	0.75
Precipitation-effectiveness: 12.15						Temperature-efficiency .....						69.76
Moisture Index [MI=100*(P-PE)/PE] .....												-66.32
+ D.Semiarid (-66.7<MI<-33.3)												
Index of dryness [DI=100*d/PE] .....												66.32
+ Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE] .....												0.00
+ No surplus (0<HI<10)												
Potential Evapotranspiration PE .....												775.91
+ Second mesothermic (712<PE<855)												

