

# Phytosociological Research Center

www.globalbioclimatics.org

## Worldwide Bioclimatic Classification System

Prof.Dr. Salvador Rivas-Martinez

(Adapted to Synoptical Table 30/08/2017)

BONE-LES SALINES (ALGERIA)

Altitude: 4 m.

Latitude: 36°50'N Longitude: 7°49'E

Temperature observation period.: 1968-1994 (27)

Rainfall observation period....: 1968-1994 (27)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPi
Jan.	11.39	15.00	7.78	27.78	0.00	142.2	23.55
Feb.	11.95	15.56	8.33	29.44	0.00	104.1	25.48
Mar.	13.61	17.78	9.44	32.22	0.56	73.7	39.46
Apr.	15.28	19.44	11.11	32.22	1.67	55.9	52.42
May.	18.34	22.78	13.89	40.00	6.11	38.1	82.03
Jun.	21.95	26.11	17.78	42.22	12.22	15.2	116.07
Jul.	25.00	29.44	20.56	45.00	15.00	2.5	150.76
Aug.	25.56	30.00	21.11	46.11	13.89	7.6	147.14
Sep.	23.61	27.78	19.44	42.22	11.11	30.5	111.52
Oct.	20.00	23.89	16.11	38.33	7.78	76.2	76.80
Nov.	16.11	20.00	12.22	34.44	5.00	109.2	44.76
Dec.	12.78	16.67	8.89	26.11	0.00	132.1	28.24
Year	17.97	22.04	13.89	36.34	6.11	787	898.24

### BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	407
Compensated thermicity index.....(Itc):	407
Simple continentality index.....(Ic):	14.2
Diurnality index.....(Id):	8.9
Annual ombrothermic index.....(Io):	3.65
Monthly estival ombrothermic index.....(Ios1):	0.10
Bimonthly estival ombrothermic index.....(Ios2):	0.20
Threemonthly estival ombrothermic index.....(Ios3):	0.35
Fourmonthly estival ombrothermic index.....(Ios4):	0.70
Annual ombro-evaporation index.....(Ioe):	0.28
Annual positive temperature.....(Tp):	2156
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	725
Positive precipitation.....(Pp):	787

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	5	3	1	3	0

Latitudinal Belt...: Low eutemperate

Continentality.....: Oceanic - High Euoceanic

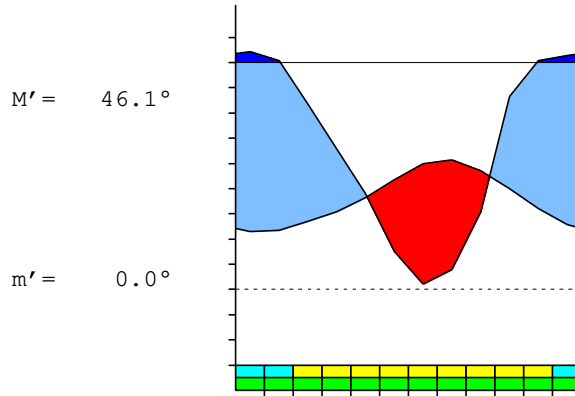
Bioclimate.....: MEDITERRANEAN PLUVISEASONAL-OCEANIC

Bioclimatic Belt...: LOW THERMOMEDITERRANEAN LOW SUBHUMID

BONE-LES SALINES (ALGERIA)

4 m

P= 787      36° 50'N      7° 49'E      27/27 y.  
 T= 18.0°    Ic= 14.2      Tp= 2156      Tn= 0  
 m= 7.8°      M= 15.0°      Itc= 407      Io= 3.7



MEDITERRANEAN PLUVISEASONAL-OCEANIC  
 LOW THERMOMEDITERRANEAN LOW SUBHUMID

WATER INDEX CARD

BONE-LES SALINES (ALGERIA)

Altitude: 4 m.

Latitude: 36° 50'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	11.4	24	142	0	100	24	0	119	76	5.0
Feb.	11.9	25	104	0	100	25	0	79	78	3.0
Mar.	13.6	39	74	0	100	39	0	34	56	0.8
Apr.	15.3	52	56	0	100	52	0	3	30	0.0
May.	18.3	82	38	-44	56	82	0	0	15	-0.5
Jun.	22.0	116	15	-56	0	71	45	0	7	-0.8
Jul.	25.0	151	3	0	0	3	148	0	4	-0.9
Aug.	25.6	147	8	0	0	8	140	0	2	-0.9
Sep.	23.6	112	31	0	0	31	81	0	1	-0.7
Oct.	20.0	77	76	0	0	76	1	0	0	0.0
Nov.	16.1	45	109	64	64	45	0	0	0	1.4
Dec.	12.8	28	132	36	100	28	0	68	34	3.6
Year	18.0	898	787	*	*	484	414	303	303	*

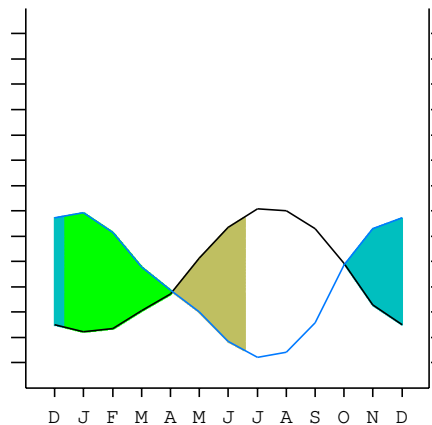
R = Reserve    VR = Variation of the reserve    RE = Real evapotranspiration  
 DR = Drainage    HC = Humidity coefficient    DF = Deficit    SP = Superavit

BONE-LES SALINES (ALGERIA)

36°50'N    7°49'E    4 m 27/27 y.

T= 18.0    Ic= 14.2    MEDITERRANEAN PLUVISEASONAL-OCEANIC  
 m= 7.8    Tp= 2156    LOW THERMOMEDITERRANEAN  
 M= 15.0    Tn= 0    LOW SUBHUMID  
 M' = 46.1    Itc= 407  
 m' = 0.0    Io= 3.7  
 P= 787    mm    ———  
 PE= 898    mm    ———

Imbibing	1 Oct.
Saturation	11 Dec.
Reserve Use	3 Apr.
Deficit	17 Jun.



BONE-LES SALINES (ALGERIA)

Latitude: 36°50'N Longitude: 7°49'E Altitude: 4 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [B2a]  
 + Type .....: B. Oceanic  
 + Subtype .....: 2. Euoceanic  
 + Variant .....: a. High  
 Thermic types [B1.A3]  
 + Latitudinal zone ....: B. Temperate  
 + Latitudinal belt ....: 1. Low eutemperate  
 + Thermic type .....: A. Warm  
 + Thermic subtype .....: 3. Subwarm  
 Bioclimatic types [B8.2b.6b]  
 + Macrobioclimate .....: B. MEDITERRANEAN  
 + Bioclimate .....: 8. PLUVISEASONAL-OCEANIC  
 + Bioclimatic variant ..:  
 + Thermic type.....: 2. THERMOMEDITERRANEAN  
 + Thermic subtype.....: b. LOW  
 + Ombrothermic type ...: 6. SUBHUMID  
 + Ombrothermic subtype : b. LOW  
 Bioclimatic Classification .....: Mehc.Tme.Shu

BONE-LES SALINES (ALGERIA)

Latitude: 36°50'N Longitude: 7°49'E Altitude: 4 m

PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 170  
 Coldest semester of the year.....(Psw): 617  
 Warmest four months period of the year.....(Pcm1): 56  
 Following warmest four months period.....(Pcm2): 460  
 Positive precipitation dryest 3 months.....(Ppd): 25  
 Positive precipitation dryest 2 months.....(Ppd2): 10  
 Positive precipitation dryest 1 month.....(Ppd1): 3  
 Positive precipitation warmest 3 months.....(Pps): 41  
 Positive precipitation warmest 2 months.....(Pps2): 10  
 Positive precipitation warmest 1 month.....(Pps1): 8  
 Positive precipitation coldest 3 months.....(Ppw): 378  
 Positive precipitation coldest 2 months.....(Ppw2): 246  
 Positive precipitation coldest 1 month.....(Ppw1): 142

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	378	167	25	215

Seasonal rainfall rhythms: W > F > P > S

BONE-LES SALINES (ALGERIA)

Latitude: 36°50'N Longitude: 7°49'E Altitude: 4 m

TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 25.6  
 Average coldest month [T].....(Tmin): 11.4  
 Maximum temp. warmest month [M].....(Tmmax): 30.0  
 Minimum temp. coldest month [m].....(Tmmin): 7.8  
 Absolute Max.temp. warmest month [M'].....(Tamax): 46.1  
 Absolute Min.temp. coldest month [m'].....(Tamin): 0.0  
 First warmest contrasted month [M].....(Tcmax): 22.8 (5)  
 First coldest contrasted month [m].....(Tcmin): 13.9 (5)  
 Estival temperature.....(Ts): 725  
 Positive temperature dryest 3 months.....(Tpd): 725  
 Positive temperature dryest 2 months.....(Tpd2): 506  
 Positive temperature dryest 1 month.....(Tpd1): 250  
 Positive temperature warmest 3 months.....(Tps): 742  
 Positive temperature warmest 2 months.....(Tps2): 506  
 Positive temperature warmest 1 month.....(Tps1): 256  
 Positive temperature coldest 3 months.....(Tpw): 361  
 Positive temperature coldest 2 months.....(Tpw2): 233  
 Positive temperature coldest 1 month.....(Tpw1): 114

BONE-LES SALINES (ALGERIA)

Latitude: 36°50'N Longitude: 7°49'E Altitude: 4 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	o	o	o	o	o	o	o
Ultragelid...[M' <=0] (Pf)												
Hypergelid...[M <=0] (Pf)												
Gelid.....[T <=0] (Pf)												
Subgelid.....[m <=0] (Pf)												
Pregelid.....[m' <=0] (Pf)	o	o										o
Agelid.....[m' > 0] (Pf)			o	o	o	o	o	o	o	o	o	
HiperAgelid..[all>0] (Pf)			o	o	o	o	o	o	o	o	o	

BONE-LES SALINES (ALGERIA)

Latitude: 36°50'N Longitude: 7°49'E Altitude: 4 m

OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 1.14  
 Mediterranean index of July.[PE/P].....(Im1): 60.31  
 Mediterranean index of July & August.....(Im2): 29.50  
 Mediterranean index of June, July & August....(Im3): 16.36

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	1321	1422	1041	737	559	381	152	25	76	305	762	1092
Tp	128	114	120	136	153	183	220	250	256	236	200	161
Io (Iom)	10.3	12.5	8.71	5.42	3.66	2.08	0.69	0.10	0.30	1.29	3.81	6.78
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	3784 / 361			1677 / 472			253 / 725			2159 / 597		
Io (Iot)	10.48			3.551			0.349			3.615		
Semesters	December-May						June-November					
Pp(x10)/Tp	5461 / 834						2412 / 1322					
Io (Iosm)	6.552						1.824					

BONE-LES SALINES (ALGERIA)

Latitude: 36°50'N Longitude: 7°49'E Altitude: 4 m

Aridity Value Index (AVI)

[10xPP/TP=IO]: 7873/2156=3.65 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	1321	1422	1041	737	559	381	152	25	76	305	762	1092
Tp [T*10]	128	114	120	136	153	183	220	250	256	236	200	161
Iom [Pp/Tp]	\$\$	\$\$	871	542	366	208	69	10	30	129	381	678
Avm [200-Iom]	***	***	***	***	***	***	131	190	170	71	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	3784 / 361			1677 / 472			253 / 725			2159 / 597		
Iot [Pp/Tp]	1048			355			35			362		
Avs E[Avm<200]	***			***			491			***		
Lower ultrahyperarid [1]							Lower hyperarid [1]					
Upper hyperarid [1]							Weak lower arid [1]					
Weak lower semiarid [1]												

BONE-LES SALINES (ALGERIA)

Latitude: 36°50'N Longitude: 7°49'E Altitude: 4 m

BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....	(Sp): 14.17
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....	19.78
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....	19.03
+ Hyperoceanic (-20<CI<20)	
CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....	1.07
+ Oceanic (0.6<CI<1.1)	
Rainfall Index of Lang (1925) [R=P/T] .....	43.82
+ Semiarid (60>R>40)	
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....	28.15
+ Subhumid (30>Ia>20)	
I of Emberger (1930) [Q=100*P/(Tmax <sup>2</sup> -Tmin <sup>2</sup> )] .....	93.79
+ Humid (Q>90)	
I of Dantin & Revenga (1940) [DR=100*T/P] .....	2.28
+ Semiarid (3>DR>2)	
Aridity Index of UNEP [I=P/PE] .....	0.88
+ Humid (I>0.65)	
Potential Erosion I of Fournier (1960) [K=Pi <sup>2</sup> /P] .....	25.68
+ Very low (K<60)	

BONE-LES SALINES (ALGERIA)

Latitude: 36°50'N Longitude: 7°49'E Altitude: 4 m

BIOCLIMATIC INDICES II

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

- + Climate .....
- + Region .....
- + Thermic type: 3. Macro-mesothermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.79	0.55	0.35	0.25	0.15	0.05	0.01	0.02	0.10	0.31	0.51	0.69
T-E ratio	5.13	5.38	6.12	6.88	8.25	9.88	11.25	11.50	10.62	9.00	7.25	5.75
Precipitation-effectiveness: 37.77						Temperature-efficiency .....						97.01
Moisture Index [MI=100*(P-PE)/PE] .....												-12.35
+ C1.Subhumid dry (-33.3<MI<0)												
Index of dryness [DI=100*d/PE] .....												46.11
+ Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE] .....												33.76
+ Strong surplus (20<HI)												
Potential Evapotranspiration PE .....												898.24
+ Third mesothermic (855<PE<997)												

