

# Phytosociological Research Center

www.globalbioclimatics.org

## Worldwide Bioclimatic Classification System

Prof.Dr. Salvador Rivas-Martinez

(Adapted to Synoptical Table 30/08/2017)

MERIDJA (ALGERIA)

Altitude: 840 m.

Latitude: 31°34'N Longitude: 2°57'W

Temperature observation period.: 1968-1994 (27)

Rainfall observation period....: 1964-1994 (31)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	Epi
Jan.	8.62	15.56	1.67	23.89	-4.44	7.1	8.66
Feb.	11.67	18.89	4.44	27.78	-3.33	8.9	17.01
Mar.	15.27	22.22	8.33	31.67	-1.11	13.0	38.27
Apr.	19.73	26.67	12.78	34.44	2.78	8.1	73.17
May.	23.62	30.56	16.67	38.33	7.22	3.0	122.93
Jun.	28.62	35.56	21.67	42.78	10.00	2.0	179.91
Jul.	32.78	40.00	25.56	45.00	17.78	0.0	224.77
Aug.	31.95	38.89	25.00	45.00	16.67	4.1	205.99
Sep.	27.23	33.89	20.56	41.11	9.44	7.1	145.58
Oct.	20.56	27.22	13.89	36.11	3.89	14.0	73.13
Nov.	13.89	20.00	7.78	29.44	-0.56	13.0	26.19
Dec.	9.73	16.67	2.78	26.11	-6.11	9.9	11.24
Year	20.31	27.18	13.43	35.14	4.35	90	1126.9

### BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	375
Compensated thermicity index.....(Itc):	438
Simple continentality index.....(Ic):	24.2
Diurnality index.....(Id):	14.4
Annual ombrothermic index.....(Io):	0.37
Monthly estival ombrothermic index.....(Ios1):	No
Bimonthly estival ombrothermic index.....(Ios2):	0.06
Threemonthly estival ombrothermic index.....(Ios3):	0.07
Fourmonthly estival ombrothermic index.....(Ios4):	0.08
Annual ombro-evaporation index.....(Ioe):	0.50
Annual positive temperature.....(Tp):	2437
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	934
Positive precipitation.....(Pp):	90

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	0	0	1	11	0

Latitudinal Belt...: Subtropical

Continentality.....: Continental - High Subcontinental

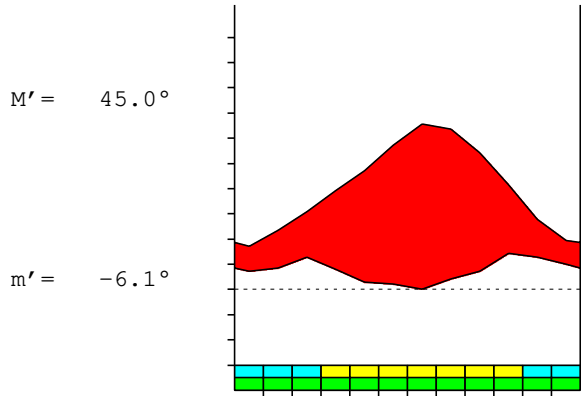
Bioclimate.....: MEDITERRANEAN DESERTIC-CONTINENTAL

Bioclimatic Belt...: UPPER INFRAMEDITERRANEAN UPPER HYPERARID

MERIDJA (ALGERIA)

840 m

P= 90 31° 34'N 2° 57'W 27/31 y.  
 T= 20.3° Ic= 24.2 Tp= 2437 Tn= 0  
 m= 1.7° M= 15.6° Itc= 438 Io= 0.4



MEDITERRANEAN DESERTIC-CONTINENTAL  
 UPPER INFRAMEDITERRANEAN UPPER HYPERARID

WATER INDEX CARD MERIDJA (ALGERIA)  
 Altitude: 840 m. Latitude: 31° 34'N

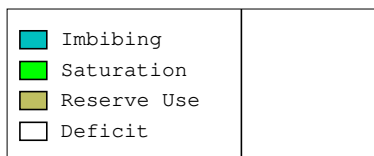
(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	8.6	9	7	0	0	7	2	0	0	-0.1
Feb.	11.7	17	9	0	0	9	8	0	0	-0.4
Mar.	15.3	38	13	0	0	13	25	0	0	-0.6
Apr.	19.7	73	8	0	0	8	65	0	0	-0.8
May.	23.6	123	3	0	0	3	120	0	0	-0.9
Jun.	28.6	180	2	0	0	2	178	0	0	-0.9
Jul.	32.8	225	0	0	0	0	225	0	0	-1.0
Aug.	32.0	206	4	0	0	4	202	0	0	-0.9
Sep.	27.2	146	7	0	0	7	138	0	0	-0.9
Oct.	20.6	73	14	0	0	14	59	0	0	-0.8
Nov.	13.9	26	13	0	0	13	13	0	0	-0.5
Dec.	9.7	11	10	0	0	10	1	0	0	-0.1
Year	20.3	1127	90	*	*	90	1037	0	0	*

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

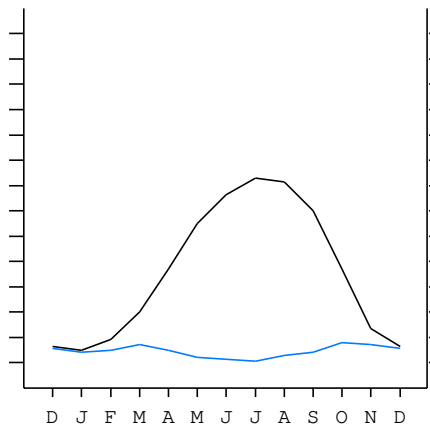
MERIDJA (ALGERIA)

31°34'N 2°57'W 840 m 27/31 y.

T= 20.3 Ic= 24.2 MEDITERRANEAN DESERTIC-CONTINENTAL  
 m= 1.7 Tp= 2437 UPPER INFRAMEDITERRANEAN  
 M= 15.6 Tn= 0 UPPER HYPERARID  
 M' = 45.0 Itc= 438  
 m' = -6.1 Io= 0.4  
 P= 90 mm  
 PE= 1127 mm



All over the year,  
 there is hydric deficit



MERIDJA (ALGERIA)

Latitude: 31°34'N Longitude: 2°57'W Altitude: 840 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [C2b]  
 + Type .....: C. Continental  
 + Subtype .....: 2. Subcontinental  
 + Variant .....: b. High  
 Thermic types [A3.A2]  
 + Latitudinal zone .....: A. Warm  
 + Latitudinal belt .....: 3. Subtropical  
 + Thermic type .....: A. Warm  
 + Thermic subtype .....: 2. Warm  
 Bioclimatic types [B3.1a.2a]  
 + Macrobioclimate .....: B. MEDITERRANEAN  
 + Bioclimate .....: 3. DESERTIC-CONTINENTAL  
 + Bioclimatic variant ..:  
 + Thermic type.....: 1. INFRAMEDITERRANEAN  
 + Thermic subtype.....: a. UPPER  
 + Ombrothermic type ...: 2. HYPERARID  
 + Ombrothermic subtype : a. UPPER  
 Bioclimatic Classification .....: Mexo.Ime.Har

MERIDJA (ALGERIA)

Latitude: 31°34'N Longitude: 2°57'W Altitude: 840 m

PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 30  
 Coldest semester of the year.....(Psw): 60  
 Warmest four months period of the year.....(Pcm1): 13  
 Following warmest four months period.....(Pcm2): 44  
 Positive precipitation dryest 3 months.....(Ppd): 5  
 Positive precipitation dryest 2 months.....(Ppd2): 2  
 Positive precipitation dryest 1 month.....(Ppd1): 0  
 Positive precipitation warmest 3 months.....(Pps): 6  
 Positive precipitation warmest 2 months.....(Pps2): 4  
 Positive precipitation warmest 1 month.....(Pps1): 0  
 Positive precipitation coldest 3 months.....(Ppw): 26  
 Positive precipitation coldest 2 months.....(Ppw2): 17  
 Positive precipitation coldest 1 month.....(Ppw1): 7

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	25	24	6	34

Seasonal rainfall rhythms: F > W > P > S

MERIDJA (ALGERIA)

Latitude: 31°34'N Longitude: 2°57'W Altitude: 840 m

TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 32.8  
 Average coldest month [T].....(Tmin): 8.6  
 Maximum temp. warmest month [M].....(Tmmax): 40.0  
 Minimum temp. coldest month [m].....(Tmmin): 1.7  
 Absolute Max.temp. warmest month [M'].....(Tamax): 45.0  
 Absolute Min.temp. coldest month [m'].....(Tamin): -6.1  
 First warmest contrasted month [M].....(Tcmax): 18.9 (2)  
 First coldest contrasted month [m].....(Tcmin): 4.4 (2)  
 Estival temperature.....(Ts): 934  
 Positive temperature dryest 3 months.....(Tpd): 850  
 Positive temperature dryest 2 months.....(Tpd2): 614  
 Positive temperature dryest 1 month.....(Tpd1): 328  
 Positive temperature warmest 3 months.....(Tps): 934  
 Positive temperature warmest 2 months.....(Tps2): 647  
 Positive temperature warmest 1 month.....(Tps1): 328  
 Positive temperature coldest 3 months.....(Tpw): 300  
 Positive temperature coldest 2 months.....(Tpw2): 184  
 Positive temperature coldest 1 month.....(Tpw1): 86

MERIDJA (ALGERIA)

Latitude: 31°34'N Longitude: 2°57'W Altitude: 840 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								o	o
Agelid.....[m' > 0] (Pf)				o	o	o	o	o	o	o		
HiperAgelid..[all>0] (Pf)				o	o	o	o	o	o	o		

MERIDJA (ALGERIA)

Latitude: 31°34'N Longitude: 2°57'W Altitude: 840 m

OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 12.49  
 Mediterranean index of July.[PE/P].....(Im1): No  
 Mediterranean index of July & August.....(Im2): 105.06  
 Mediterranean index of June, July & August....(Im3): 100.11

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	99	71	89	130	81	30	20	0	41	71	140	130
Tp	97	86	117	153	197	236	286	328	320	272	206	139
Io (Iom)	1.02	0.82	0.76	0.85	0.41	0.13	0.07	0.00	0.13	0.26	0.68	0.94
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	259 / 300			241 / 586			61 / 934			341 / 617		
Io (Iot)	0.863			0.411			0.065			0.553		
Semesters	December-May						June-November					
Pp(x10)/Tp	500 / 886						402 / 1550					
Io (Iosm)	0.564						0.259					

MERIDJA (ALGERIA)

Latitude: 31°34'N Longitude: 2°57'W Altitude: 840 m

Aridity Value Index (AVI)

[10xPP/TP=IO]: 902/2437=0.37 Weak lower arid (6) [1793]

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	99	71	89	130	81	30	20	0	41	71	140	130
Tp [T*10]	97	86	117	153	197	236	286	328	320	272	206	139
Iom [Pp/Tp]	102	82	76	85	41	13	7	0	13	26	68	94
Avm [200-Iom]	98	118	124	115	159	187	193	200	187	174	132	106
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	259 / 300			241 / 586			61 / 934			341 / 617		
Iot [Pp/Tp]	86			41			7			55		
Avs E[Avm<200]	340			461			580			412		
Lower ultrahyperarid [3]							Upper ultrahyperarid [2]					
Lower hyperarid [1]							Strong lower arid [2]					
Weak lower arid [2]							Strong upper arid [1]					
Weak upper arid [4]							Strong lower semiarid [1]					

MERIDJA (ALGERIA)

Latitude: 31°34'N Longitude: 2°57'W Altitude: 840 m

BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....	(Sp):	24.16
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....		58.06
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....		47.90
+ Subcontinental (40<CI<60)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....		2.10
+ Continental (1.7<CI<2.3)		
Rainfall Index of Lang (1925) [R=P/T] .....		4.44
+ Steppic (40>R>0)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....		2.98
+ Extremely arid -desert- (5>Ia>0)		
I of Emberger (1930) [Q=100*P/(Tmax <sup>2</sup> -Tmin <sup>2</sup> )] .....		5.65
+ Arid (30>Q>0)		
I of Dantin & Revenga (1940) [DR=100*T/P] .....		22.51
+ Extremely arid (DR>6)		
Aridity Index of UNEP [I=P/PE] .....		0.08
+ Arid (0.2>Im>0.05)		
Potential Erosion I of Fournier (1960) [K=Pi <sup>2</sup> /P] .....		2.17
+ Very low (K<60)		

MERIDJA (ALGERIA)

Latitude: 31°34'N Longitude: 2°57'W Altitude: 840 m

BIOCLIMATIC INDICES II

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

- A. Warm and temperate warm

+ Region .....

- 1. Termoeremic (Desertic warm)

+ Thermic type: 2. Macrothermic

Thornthwaite (1948)													
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	
P-E ratio	0.03	0.04	0.05	0.03	0.01	0.00	0.00	0.01	0.02	0.05	0.05	0.04	
T-E ratio	3.88	5.25	6.87	8.88	10.63	12.88	14.75	14.38	12.25	9.25	6.25	4.38	
Precipitation-effectiveness:	3.22					Temperature-efficiency .....							109.65
Moisture Index [MI=100*(P-PE)/PE] .....	-92.00												
+ E.Dry (-110<MI<-66.7)													
Index of dryness [DI=100*d/PE] .....	91.99												
+ Strong deficit (33.3<DI)													
Index of humidity [HI=100*s/PE] .....	0.00												
+ No surplus (0<HI<10)													
Potential Evapotranspiration PE .....	1126.85												
+ Forth mesothermic (997<PE<1440)													

