

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

OUARGLA (ALGERIA)

Altitude: 150 m.

Latitude: 31°55'N Longitude: 5°24'E

Temperature observation period.: 1973-1994 (22)

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

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	10.83	17.22	4.44	28.89	-6.67	5.1	10.33
Feb.	13.34	20.00	6.67	32.22	-3.89	2.5	17.70
Mar.	16.38	23.33	9.44	38.33	-1.11	5.1	37.27
Apr.	21.39	28.89	13.89	43.89	5.00	2.5	81.38
May.	25.28	32.78	17.78	46.67	7.78	2.5	141.94
Jun.	31.39	39.44	23.33	50.00	12.78	1.3	206.07
Jul.	34.17	42.78	25.56	52.78	16.67	0.0	238.24
Aug.	33.34	41.67	25.00	52.22	18.89	1.3	218.78
Sep.	29.72	37.22	22.22	51.67	10.00	1.3	166.11
Oct.	23.34	30.56	16.11	43.89	5.00	2.5	93.86
Nov.	16.67	23.33	10.00	34.44	-1.11	7.6	33.42
Dec.	12.22	18.33	6.11	29.44	-2.78	7.6	14.07
Year	22.34	29.63	15.05	42.04	5.05	39	1259.2

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	440
Compensated thermicity index.....(Itc):	490
Simple continentality index.....(Ic):	23.3
Diurnality index.....(Id):	17.2
Annual ombrothermic index.....(Io):	0.15
Monthly estival ombrothermic index.....(Ios1):	No
Bimonthly estival ombrothermic index.....(Ios2):	0.02
Threemonthly estival ombrothermic index.....(Ios3):	0.03
Fourmonthly estival ombrothermic index.....(Ios4):	0.04
Annual ombro-evaporation index.....(Ioe):	0.29
Annual positive temperature.....(Tp):	2681
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	989
Positive precipitation.....(Pp):	39

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	0	0	0	12	0

Latitudinal Belt...: Subtropical

Continentalty.....: Continental - Low Subcontinental

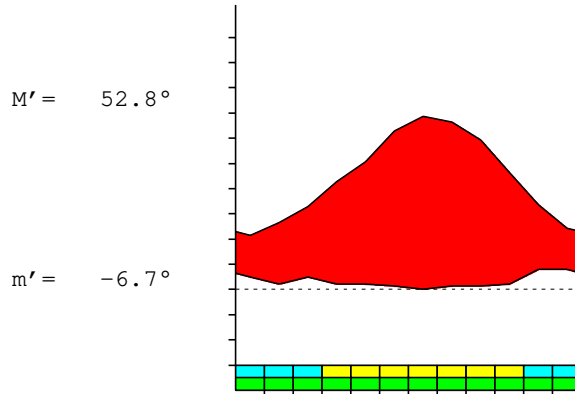
Bioclimate.....: MEDITERRANEAN HYPERDESERTIC CONTINENTAL

Bioclimatic Belt...: LOW INFRAMEDITERRANEAN UPPER ULTRAHYPERARID

OUARGLA (ALGERIA)

150 m

P= 39 31° 55'N 5° 24'E 22/16 y.
 T= 22.3° Ic= 23.3 Tp= 2681 Tn= 0
 m= 4.4° M= 17.2° Itc= 490 Io= 0.1



MEDITERRANEAN HYPERDESERTIC CONTINENTAL
 LOW INFRAMEDITERRANEAN UPPER ULTRAHYPERARID

WATER INDEX CARD OUARGLA (ALGERIA)
 Altitude: 150 m. Latitude: 31° 55'N

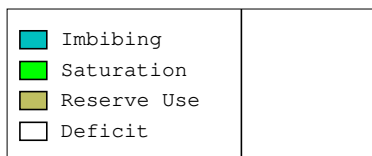
(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	10.8	10	5	0	0	5	5	0	0	-0.5
Feb.	13.3	18	3	0	0	3	15	0	0	-0.8
Mar.	16.4	37	5	0	0	5	32	0	0	-0.8
Apr.	21.4	81	3	0	0	3	79	0	0	-0.9
May.	25.3	142	3	0	0	3	139	0	0	-0.9
Jun.	31.4	206	1	0	0	1	205	0	0	-0.9
Jul.	34.2	238	0	0	0	0	238	0	0	-1.0
Aug.	33.3	219	1	0	0	1	217	0	0	-0.9
Sep.	29.7	166	1	0	0	1	165	0	0	-0.9
Oct.	23.3	94	3	0	0	3	91	0	0	-0.9
Nov.	16.7	33	8	0	0	8	26	0	0	-0.7
Dec.	12.2	14	8	0	0	8	6	0	0	-0.4
Year	22.3	1259	39	*	*	39	1220	0	0	*

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

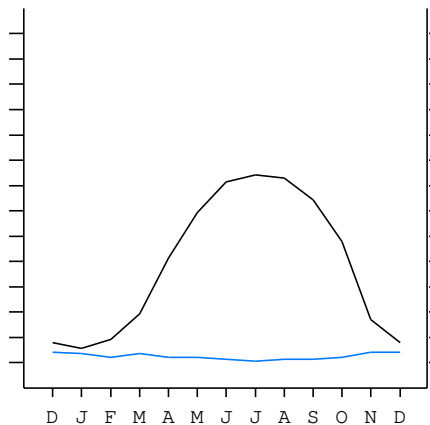
OUARGLA (ALGERIA)

31°55'N 5°24'E 150 m 22/16 y.

T= 22.3 Ic= 23.3 MEDITERRANEAN HYPERDESERTIC CONTINENTAL
 m= 4.4 Tp= 2681 LOW INFRAMEDITERRANEAN
 M= 17.2 Tn= 0 UPPER ULTRAHYPERARID
 M' = 52.8 Itc= 490
 m' = -6.7 Io= 0.1
 P= 39 mm ———
 PE= 1259 mm ———



All over the year,
 there is hydric deficit



OUARGLA (ALGERIA)

Latitude: 31°55'N Longitude: 5°24'E Altitude: 150 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [C2a]
+ Type: C. Continental
+ Subtype: 2. Subcontinental
+ Variant: a. Low
Thermic types [A3.A2]
+ Latitudinal zone: A. Warm
+ Latitudinal belt: 3. Subtropical
+ Thermic type: A. Warm
+ Thermic subtype: 2. Warm
Bioclimatic types [B1.1b.1a]
+ Macrobioclimate: B. MEDITERRANEAN
+ Bioclimate: 1. HYPERDESERTIC CONTINENTAL
+ Bioclimatic variant ..:
+ Thermic type.....: 1. INFRAMEDITERRANEAN
+ Thermic subtype.....: b. LOW
+ Ombrothermic type ...: 1. ULTRAHYPERARID
+ Ombrothermic subtype : a. UPPER
Bioclimatic Classification: Mepo.Ime.Uha

OUARGLA (ALGERIA)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 9
Coldest semester of the year.....(Psw): 30
Warmest four months period of the year.....(Pcm1): 4
Following warmest four months period.....(Pcm2): 23
Positive precipitation dryest 3 months.....(Ppd): 3
Positive precipitation dryest 2 months.....(Ppd2): 1
Positive precipitation dryest 1 month.....(Ppd1): 0
Positive precipitation warmest 3 months.....(Pps): 3
Positive precipitation warmest 2 months.....(Pps2): 1
Positive precipitation warmest 1 month.....(Pps1): 0
Positive precipitation coldest 3 months.....(Ppw): 15
Positive precipitation coldest 2 months.....(Ppw2): 13
Positive precipitation coldest 1 month.....(Ppw1): 5

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	15	10	2	11

Seasonal rainfall rhythms: W > F > P > S

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 34.2
Average coldest month [T].....(Tmin): 10.8
Maximum temp. warmest month [M].....(Tmmax): 42.8
Minimum temp. coldest month [m].....(Tmmin): 4.4
Absolute Max.temp. warmest month [M'].....(Tamax): 52.8
Absolute Min.temp. coldest month [m'].....(Tamin): -6.7
First warmest contrasted month [M].....(Tcmax): 42.8 (7)
First coldest contrasted month [m].....(Tcmin): 25.6 (7)
Estival temperature.....(Ts): 989
Positive temperature dryest 3 months.....(Tpd): 989
Positive temperature dryest 2 months.....(Tpd2): 656
Positive temperature dryest 1 month.....(Tpd1): 342
Positive temperature warmest 3 months.....(Tps): 989
Positive temperature warmest 2 months.....(Tps2): 675
Positive temperature warmest 1 month.....(Tps1): 342
Positive temperature coldest 3 months.....(Tpw): 364
Positive temperature coldest 2 months.....(Tpw2): 231
Positive temperature coldest 1 month.....(Tpw1): 108

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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	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		

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 32.04
 Mediterranean index of July.[PE/P].....(Im1): No
 Mediterranean index of July & August.....(Im2): 351.55
 Mediterranean index of June, July & August....(Im3): 255.04

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	76	51	25	51	25	25	13	0	13	13	25	76
Tp	122	108	133	164	214	253	314	342	333	297	233	167
Io (Iom)	0.62	0.47	0.19	0.31	0.12	0.10	0.04	0.00	0.04	0.04	0.11	0.46
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	152 / 364			101 / 631			26 / 989			114 / 697		
Io (Iot)	0.418			0.160			0.026			0.163		
Semesters	December-May						June-November					
Pp(x10)/Tp	253 / 994						140 / 1686					
Io (Iosm)	0.254						0.083					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 393/2681=0.15 Lower hyperarid (3) [2151]

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	76	51	25	51	25	25	13	0	13	13	25	76
Tp [T*10]	122	108	133	164	214	253	314	342	333	297	233	167
Iom [Pp/Tp]	62	47	19	31	12	10	4	0	4	4	11	46
Avm [200-Iom]	138	153	181	169	188	190	196	200	196	196	189	154
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	152 / 364			101 / 631			26 / 989			114 / 697		
Iot [Pp/Tp]	42			16			3			16		
Avs E[Avm<200]	472			547			592			539		
Lower ultrahyperarid [6]						Upper ultrahyperarid [4]						
Lower hyperarid [1]						Upper hyperarid [1]						
Strong lower arid [3]						Weak lower arid [1]						

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp):	23.34
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]		54.65
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]		45.39
+ Subcontinental (40<CI<60)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)]		2.01
+ Continental (1.7<CI<2.3)		
Rainfall Index of Lang (1925) [R=P/T]		1.76
+ Steppic (40>R>0)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)]		1.22
+ Extremely arid -desert- (5>Ia>0)		
I of Emberger (1930) [Q=100*P/(Tmmax ² -Tmmin ²)]		2.17
+ Arid (30>Q>0)		
I of Dantin & Revenga (1940) [DR=100*T/P]		56.84
+ Extremely arid (DR>6)		
Aridity Index of UNEP [I=P/PE]		0.03
+ Hyperarid (0.05>Im)		
Potential Erosion I of Fournier (1960) [K=Pi ² /P]		1.47
+ Very low (K<60)		

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)

- + Climate
- + Region
- + Thermic type: 2. Macrothermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.02	0.01	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.03	0.03
T-E ratio	4.87	6.00	7.37	9.63	11.38	14.13	15.38	15.00	13.37	10.50	7.50	5.50
Precipitation-effectiveness: 1.27						Temperature-efficiency						120.63
Moisture Index [MI=100*(P-PE)/PE]												-96.88
+ E.Dry (-110<MI<-66.7)												
Index of dryness [DI=100*d/PE]												96.87
+ Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE]												0.00
+ No surplus (0<HI<10)												
Potential Evapotranspiration PE												1259.16
+ Forth mesothermic (997<PE<1440)												

