

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

MONTALBAN (ESP TERUEL)

Altitude: 873 m.

Latitude: 40°50'N Longitude: 0°48'W

Temperature observation period.: 1958-1969 (12)

Rainfall observation period....: 1958-1969 (12)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	7.00	13.10	1.00	20.50	-6.80	21.0	15.46
Feb.	7.20	13.50	1.00	21.10	-6.30	38.0	16.12
Mar.	9.30	15.40	3.30	23.50	-4.20	28.0	29.28
Apr.	11.70	18.20	5.10	26.90	-0.80	38.0	44.39
May.	16.10	23.50	8.80	31.30	1.90	55.0	80.37
Jun.	20.00	27.30	12.60	35.60	6.20	57.0	111.86
Jul.	23.80	32.00	15.50	38.40	9.20	32.0	146.03
Aug.	23.20	31.50	15.00	37.50	8.80	34.0	131.74
Sep.	20.90	28.20	13.50	35.40	7.40	51.0	98.57
Oct.	15.70	22.50	8.90	28.40	2.50	55.0	59.46
Nov.	10.00	15.70	4.30	23.90	-1.50	38.0	25.97
Dec.	6.60	11.20	2.00	19.00	-5.30	37.0	13.66
Year	14.29	21.01	7.58	28.46	0.93	484	772.91

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	275
Compensated thermicity index.....(Itc):	275
Simple continentality index.....(Ic):	17.2
Diurnality index.....(Id):	16.5
Annual ombrothermic index.....(Io):	2.82
Monthly estival ombrothermic index.....(Ios1):	1.34
Bimonthly estival ombrothermic index.....(Ios2):	1.40
Threemonthly estival ombrothermic index.....(Ios3):	1.84
Fourmonthly estival ombrothermic index.....(Ios4):	2.14
Annual ombro-evaporation index.....(Ioe):	1.42
Annual positive temperature.....(Tp):	1715
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	670
Positive precipitation.....(Pp):	484

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	2	8	2	0	0

Latitudinal Belt...: Low eutemperate

Continentalty.....: Oceanic - Low Semicontinental

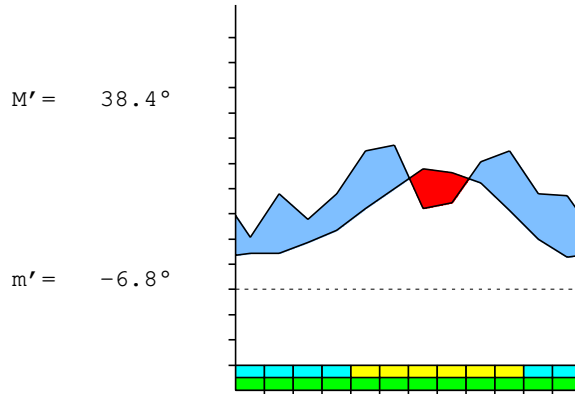
Bioclimate(Variant): MEDITERRANEAN PLUVISEASONAL-OCEANIC (STEPPIC)

Bioclimatic Belt...: UPPER MESOMEDITERRANEAN UPPER DRY

MONTALBAN (ESP TERUEL)

873 m

P= 484 40° 50'N 0° 48'W 12/12 y.
 T= 14.3° Ic= 17.2 Tp= 1715 Tn= 0
 m= 2.0° M= 11.2° Itc= 275 Io= 2.8



MEDITERRANEAN PLUVISEASONAL-OCEANIC (STEPPIC)
 UPPER MESOMEDITERRANEAN UPPER DRY

WATER INDEX CARD MONTALBAN (ESP TERUEL)
 Altitude: 873 m. Latitude: 40° 50'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	7.0	15	21	6	41	15	0	0	0	0.3
Feb.	7.2	16	38	22	63	16	0	0	0	1.3
Mar.	9.3	29	28	-1	62	29	0	0	0	0.0
Apr.	11.7	44	38	-6	55	44	0	0	0	-0.1
May.	16.1	80	55	-25	30	80	0	0	0	-0.3
Jun.	20.0	112	57	-30	0	87	25	0	0	-0.4
Jul.	23.8	146	32	0	0	32	114	0	0	-0.7
Aug.	23.2	132	34	0	0	34	98	0	0	-0.7
Sep.	20.9	99	51	0	0	51	48	0	0	-0.4
Oct.	15.7	59	55	0	0	55	4	0	0	0.0
Nov.	10.0	26	38	12	12	26	0	0	0	0.4
Dec.	6.6	14	37	23	35	14	0	0	0	1.7
Year	14.3	773	484	*	*	484	289	0	0	*

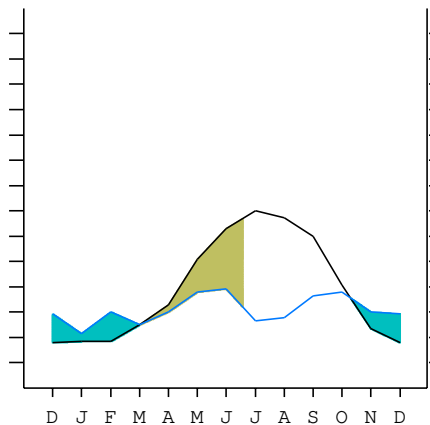
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

MONTALBAN (ESP TERUEL)

40°50'N 0°48'W 873 m 12/12 y.

T= 14.3 Ic= 17.2 MEDITERRANEAN PLUVISEASONAL-OCEANIC (STEPPIC)
 m= 2.0 Tp= 1715 UPPER MESOMEDITERRANEAN
 M= 11.2 Tn= 0 UPPER DRY
 M' = 38.4 Itc= 275
 m' = -6.8 Io= 2.8
 P= 484 mm
 PE= 773 mm

Imbibing	9 Oct.
Saturation	29 Feb.
Reserve Use	17 Jun.
Deficit	



MONTALBAN (ESP TERUEL)

Latitude: 40°50'N Longitude: 0°48'W Altitude: 873 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [B1a]
 + Type: B. Oceanic
 + Subtype: 1. Semicontinental
 + Variant: a. Low

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

Bioclimatic types [B8a.3a.5a]
 + Macrobioclimate: B. MEDITERRANEAN
 + Bioclimate: 8. PLUVISEASONAL-OCEANIC
 + Bioclimatic variant ..: a. STEPPIC
 + Thermic type.....: 3. MESOMEDITERRANEAN
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 5. DRY
 + Ombrothermic subtype : a. UPPER
 Bioclimatic Classification: Meh(c)Stp).Mme.Dry

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 284
 Coldest semester of the year.....(Psw): 200
 Warmest four months period of the year.....(Pcm1): 174
 Following warmest four months period.....(Pcm2): 151
 Positive precipitation dryest 3 months.....(Ppd): 87
 Positive precipitation dryest 2 months.....(Ppd2): 58
 Positive precipitation dryest 1 month.....(Ppd1): 21
 Positive precipitation warmest 3 months.....(Pps): 117
 Positive precipitation warmest 2 months.....(Pps2): 66
 Positive precipitation warmest 1 month.....(Pps1): 32
 Positive precipitation coldest 3 months.....(Ppw): 96
 Positive precipitation coldest 2 months.....(Ppw2): 58
 Positive precipitation coldest 1 month.....(Ppw1): 37

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	96	121	123	144

Seasonal rainfall rhythms: F > S > P > W

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 23.8
 Average coldest month [T].....(Tmin): 6.6
 Maximum temp. warmest month [M].....(Tmmax): 32.0
 Minimum temp. coldest month [m].....(Tmmin): 1.0
 Absolute Max.temp. warmest month [M'].....(Tamax): 38.4
 Absolute Min.temp. coldest month [m'].....(Tamin): -6.8
 First warmest contrasted month [M].....(Tcmax): 32.0 (7)
 First coldest contrasted month [m].....(Tcmin): 15.5 (7)
 Estival temperature.....(Ts): 670
 Positive temperature dryest 3 months.....(Tpd): 235
 Positive temperature dryest 2 months.....(Tpd2): 136
 Positive temperature dryest 1 month.....(Tpd1): 70
 Positive temperature warmest 3 months.....(Tps): 679
 Positive temperature warmest 2 months.....(Tps2): 470
 Positive temperature warmest 1 month.....(Tps1): 238
 Positive temperature coldest 3 months.....(Tpw): 208
 Positive temperature coldest 2 months.....(Tpw2): 136
 Positive temperature coldest 1 month.....(Tpw1): 66

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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	o
Agelid.....[m' > 0] (Pf)					o	o	o	o	o	o		
HiperAgelid..[all>0] (Pf)					o	o	o	o	o	o		

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 1.60
 Mediterranean index of July.[PE/P].....(Im1): 4.56
 Mediterranean index of July & August.....(Im2): 4.21
 Mediterranean index of June, July & August....(Im3): 3.17

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	370	210	380	280	380	550	570	320	340	510	550	380
Tp	66	70	72	93	117	161	200	238	232	209	157	100
Io (Iom)	5.61	3.00	5.28	3.01	3.25	3.42	2.85	1.34	1.47	2.44	3.50	3.80
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	960 / 208			1210 / 371			1230 / 670			1440 / 466		
Io (Iot)	4.615			3.261			1.836			3.090		
Semesters	December-May						June-November					
Pp(x10)/Tp	2170 / 579						2670 / 1136					
Io (Iosm)	3.748						2.350					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 4840/1715=2.82 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	370	210	380	280	380	550	570	320	340	510	550	380
Tp [T*10]	66	70	72	93	117	161	200	238	232	209	157	100
Iom [Pp/Tp]	561	300	528	301	325	342	285	134	147	244	350	380
Avm [200-Iom]	***	***	***	***	***	***	***	66	53	***	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	960 / 208			1210 / 371			1230 / 670			1440 / 466		
Iot [Pp/Tp]	462			326			184			309		
Avs E[Avm<200]	***			***			***			***		
Weak lower semiarid [2]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp):	17.20
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]		24.32
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]		23.71
+ Oceanic (20<CI<40)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)]		1.18
+ Subcontinental (1.1<CI<1.7)		
Rainfall Index of Lang (1925) [R=P/T]		33.87
+ Steppic (40>R>0)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)]		19.92
+ Semiarid -mediterranean- (20>Ia>15)		
I of Emberger (1930) [Q=100*P/(Tmmax ² -Tmmin ²)]		47.31
+ Semiarid (50>Q>30)		
I of Dantin & Revenga (1940) [DR=100*T/P]		2.95
+ Semiarid (3>DR>2)		
Aridity Index of UNEP [I=P/PE]		0.63
+ Subhumid - dry (0.65>I>0.5)		
Potential Erosion I of Fournier (1960) [K=Pi ² /P]		6.71
+ 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	0.11	0.21	0.14	0.18	0.24	0.22	0.11	0.12	0.19	0.24	0.19	0.21
T-E ratio	3.15	3.24	4.19	5.26	7.25	9.00	10.71	10.44	9.40	7.06	4.50	2.97
Precipitation-effectiveness: 21.54						Temperature-efficiency						77.17
Moisture Index [MI=100*(P-PE)/PE]												-37.38
+ D.Semiarid (-66.7<MI<-33.3)												
Index of dryness [DI=100*d/PE]												37.38
+ Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE]												0.00
+ No surplus (0<HI<10)												
Potential Evapotranspiration PE												772.91
+ Second mesothermic (712<PE<855)												

