

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

MONTEAGUDO (ESP NAVARRA)

Altitude: 404 m.

Latitude: 41°58'N Longitude: 1°41'W

Temperature observation period.: 1935-1950 (16)

Rainfall observation period....: 1935-1950 (16)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	4.40	8.40	0.40	16.50	-6.20	21.0	8.36
Feb.	6.40	11.20	1.70	17.70	-5.60	21.0	14.34
Mar.	9.90	15.70	4.10	22.90	-1.50	23.0	33.73
Apr.	13.40	19.90	7.00	28.30	2.00	42.0	56.70
May.	15.50	22.20	8.80	31.50	2.50	57.0	78.65
Jun.	21.10	29.10	13.10	37.00	7.50	35.0	123.54
Jul.	23.20	31.50	15.00	40.10	8.70	32.0	142.72
Aug.	22.60	30.70	14.60	39.00	9.80	29.0	127.77
Sep.	19.40	26.20	12.70	33.40	7.40	34.0	89.65
Oct.	13.90	20.30	7.50	26.40	1.60	23.0	50.69
Nov.	9.00	14.10	4.00	21.20	-2.40	35.0	23.42
Dec.	5.90	9.60	2.10	15.70	-4.20	33.0	12.29
Year	13.72	19.91	7.58	27.48	1.63	385	761.86

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	225
Compensated thermicity index.....(Itc):	229
Simple continentality index.....(Ic):	18.8
Diurnality index.....(Id):	16.5
Annual ombrothermic index.....(Io):	2.34
Monthly estival ombrothermic index.....(Ios1):	1.28
Bimonthly estival ombrothermic index.....(Ios2):	1.33
Three monthly estival ombrothermic index.....(Ios3):	1.43
Four monthly estival ombrothermic index.....(Ios4):	1.86
Annual ombro-evaporation index.....(Ioe):	1.20
Annual positive temperature.....(Tp):	1647
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	669
Positive precipitation.....(Pp):	385

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

Latitudinal Belt...: Low eutemperate

Continentalty.....: Oceanic - Low Semicontinental

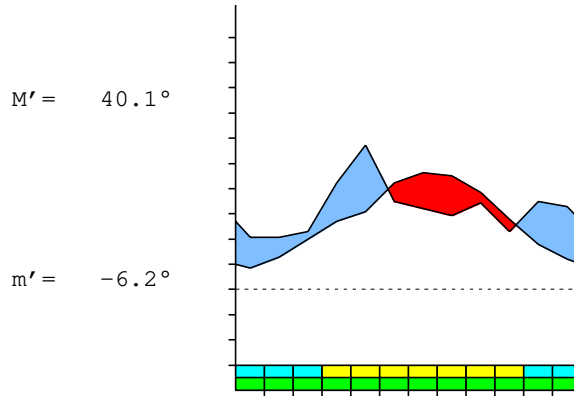
Bioclimate(Variant): MEDITERRANEAN PLUVISEASONAL-OCEANIC (STEPPIC)

Bioclimatic Belt...: UPPER MESOMEDITERRANEAN LOW DRY

MONTEAGUDO (ESP NAVARRA)

404 m

P= 385 41° 58'N 1° 41'W 16/16 y.
 T= 13.7° Ic= 18.8 Tp= 1647 Tn= 0
 m= 0.4° M= 8.4° Itc= 229 Io= 2.3



MEDITERRANEAN PLUVISEASONAL-OCEANIC (STEPPIC)
 UPPER MESOMEDITERRANEAN LOW DRY

WATER INDEX CARD MONTEAGUDO (ESP NAVARRA)

Altitude: 404 m. Latitude: 41° 58'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	4.4	8	21	13	45	8	0	0	0	1.5
Feb.	6.4	14	21	7	52	14	0	0	0	0.4
Mar.	9.9	34	23	-11	41	34	0	0	0	-0.3
Apr.	13.4	57	42	-15	26	57	0	0	0	-0.2
May.	15.5	79	57	-22	5	79	0	0	0	-0.2
Jun.	21.1	124	35	-5	0	40	84	0	0	-0.7
Jul.	23.2	143	32	0	0	32	111	0	0	-0.7
Aug.	22.6	128	29	0	0	29	99	0	0	-0.7
Sep.	19.4	90	34	0	0	34	56	0	0	-0.6
Oct.	13.9	51	23	0	0	23	28	0	0	-0.5
Nov.	9.0	23	35	12	12	23	0	0	0	0.4
Dec.	5.9	12	33	21	32	12	0	0	0	1.6
Year	13.7	762	385	*	*	385	377	0	0	*

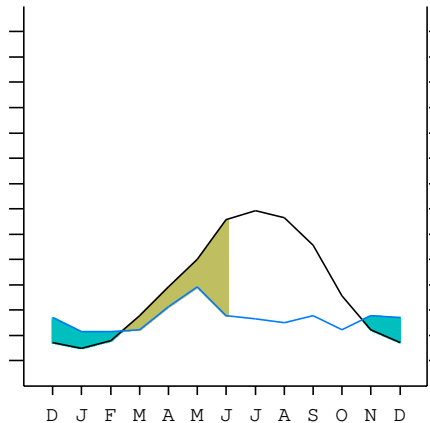
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

MONTEAGUDO (ESP NAVARRA)

41°58'N 1°41'W 404 m 16/16 y.

T= 13.7 Ic= 18.8 MEDITERRANEAN PLUVISEASONAL-OCEANIC (STEPPIC)
 m= 0.4 Tp= 1647 UPPER MESOMEDITERRANEAN
 M= 8.4 Tn= 0 LOW DRY
 M' = 40.1 Itc= 229
 m' = -6.2 Io= 2.3
 P= 385 mm
 PE= 762 mm

Imbibing	22 Oct.
Saturation	12 Feb.
Reserve Use	2 Jun.
Deficit	



MONTEAGUDO (ESP NAVARRA)

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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.5b]
 + 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 : b. LOW
 Bioclimatic Classification: Mehc(Stp).Mme.Dry

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 210
 Coldest semester of the year.....(Psw): 175
 Warmest four months period of the year.....(Pcm1): 130
 Following warmest four months period.....(Pcm2): 112
 Positive precipitation dryest 3 months.....(Ppd): 65
 Positive precipitation dryest 2 months.....(Ppd2): 42
 Positive precipitation dryest 1 month.....(Ppd1): 21
 Positive precipitation warmest 3 months.....(Pps): 96
 Positive precipitation warmest 2 months.....(Pps2): 61
 Positive precipitation warmest 1 month.....(Pps1): 32
 Positive precipitation coldest 3 months.....(Ppw): 75
 Positive precipitation coldest 2 months.....(Ppw2): 54
 Positive precipitation coldest 1 month.....(Ppw1): 21

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	75	122	96	92

Seasonal rainfall rhythms: P > S > F > W

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 23.2
 Average coldest month [T].....(Tmin): 4.4
 Maximum temp. warmest month [M].....(Tmmax): 31.5
 Minimum temp. coldest month [m].....(Tmmin): 0.4
 Absolute Max.temp. warmest month [M'].....(Tamax): 40.1
 Absolute Min.temp. coldest month [m'].....(Tamin): -6.2
 First warmest contrasted month [M].....(Tcmax): 31.5 (7)
 First coldest contrasted month [m].....(Tcmin): 15.0 (7)
 Estival temperature.....(Ts): 669
 Positive temperature dryest 3 months.....(Tpd): 207
 Positive temperature dryest 2 months.....(Tpd2): 108
 Positive temperature dryest 1 month.....(Tpd1): 44
 Positive temperature warmest 3 months.....(Tps): 669
 Positive temperature warmest 2 months.....(Tps2): 458
 Positive temperature warmest 1 month.....(Tps1): 232
 Positive temperature coldest 3 months.....(Tpw): 167
 Positive temperature coldest 2 months.....(Tpw2): 103
 Positive temperature coldest 1 month.....(Tpw1): 44

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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): 1.98
 Mediterranean index of July.[PE/P].....(Im1): 4.46
 Mediterranean index of July & August.....(Im2): 4.43
 Mediterranean index of June, July & August....(Im3): 4.10

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	330	210	210	230	420	570	350	320	290	340	230	350
Tp	59	44	64	99	134	155	211	232	226	194	139	90
Io (Iom)	5.59	4.77	3.28	2.32	3.13	3.68	1.66	1.38	1.28	1.75	1.65	3.89
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	750 / 167			1220 / 388			960 / 669			920 / 423		
Io (Iot)	4.491			3.144			1.435			2.175		
Semesters	December-May						June-November					
Pp(x10)/Tp	1970 / 555						1880 / 1092					
Io (Iosm)	3.550						1.722					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 3850/1647=2.34 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	330	210	210	230	420	570	350	320	290	340	230	350
Tp [T*10]	59	44	64	99	134	155	211	232	226	194	139	90
Iom [Pp/Tp]	559	477	328	232	313	368	166	138	128	175	165	389
Avm [200-Iom]	***	***	***	***	***	***	34	62	72	25	35	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	750 / 167			1220 / 388			960 / 669			920 / 423		
Iot [Pp/Tp]	449			314			143			217		
Avs E[Avm<200]	***			***			168			***		
Weak lower semiarid [3]						Strong upper semiarid [2]						
Weak upper semiarid [1]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp): 18.80
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]	27.39
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]	26.58
+ Oceanic (20<CI<40)	
CI of Currey (1974) [CI=Sp/(1+Lat/3)]	1.25
+ Subcontinental (1.1<CI<1.7)	
Rainfall Index of Lang (1925) [R=P/T]	28.05
+ Steppic (40>R>0)	
Aridity Index of Martonne (1926) [Ia=P/(T+10)]	16.23
+ Semiarid -mediterranean- (20>Ia>15)	
I of Emberger (1930) [Q=100*P/(Tmmax ² -Tmmin ²)]	38.81
+ Semiarid (50>Q>30)	
I of Dantin & Revenga (1940) [DR=100*T/P]	3.56
+ Arid (6>DR>3)	
Aridity Index of UNEP [I=P/PE]	0.51
+ Subhumid - dry (0.65>I>0.5)	
Potential Erosion I of Fournier (1960) [K=Pi ² /P]	8.44
+ 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	0.12	0.11	0.11	0.19	0.25	0.13	0.11	0.10	0.13	0.10	0.18	0.19
T-E ratio	1.98	2.88	4.45	6.03	6.97	9.50	10.44	10.17	8.73	6.25	4.05	2.66
Precipitation-effectiveness: 17.10						Temperature-efficiency						74.12
Moisture Index [MI=100*(P-PE)/PE]												-49.47
+ D.Semiarid (-66.7<MI<-33.3)												
Index of dryness [DI=100*d/PE]												49.46
+ Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE]												0.00
+ No surplus (0<HI<10)												
Potential Evapotranspiration PE												761.86
+ Second mesothermic (712<PE<855)												

