

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

RASCAFRIA (ESP MADRID)

Altitude: 1159 m.

Latitude: 40°53'N Longitude: 3°53'W

Temperature observation period.: 1960-1970 (11)

Rainfall observation period....: 1960-1970 (11)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	3.30	8.40	-1.80	14.70	-9.70	122.0	10.98
Feb.	3.80	8.90	-1.30	15.20	-7.90	74.0	12.85
Mar.	5.90	11.40	0.40	18.40	-6.90	87.0	26.06
Apr.	8.40	13.40	3.10	20.90	-3.30	75.0	41.65
May.	12.50	18.60	6.40	26.30	-0.20	74.0	73.10
Jun.	15.60	22.40	8.80	30.10	2.40	46.0	94.35
Jul.	19.00	26.90	11.20	31.50	5.60	21.0	118.51
Aug.	18.10	26.10	10.10	31.30	4.40	24.0	105.19
Sep.	15.30	22.20	8.40	28.50	2.90	54.0	76.21
Oct.	10.80	16.50	5.00	22.60	-0.40	70.0	47.69
Nov.	5.70	10.70	0.70	17.50	-5.70	120.0	19.96
Dec.	2.90	8.00	-2.20	14.70	-11.30	128.0	9.16
Year	10.11	16.13	4.07	22.64	-2.51	895	635.69

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	159
Compensated thermicity index.....(Itc):	159
Simple continentality index.....(Ic):	16.1
Diurnality index.....(Id):	16.0
Annual ombrothermic index.....(Io):	7.38
Monthly estival ombrothermic index.....(Ios1):	1.11
Bimonthly estival ombrothermic index.....(Ios2):	1.21
Threemonthly estival ombrothermic index.....(Ios3):	1.73
Fourmonthly estival ombrothermic index.....(Ios4):	2.53
Annual ombro-evaporation index.....(Ioe):	0.48
Annual positive temperature.....(Tp):	1213
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	527
Positive precipitation.....(Pp):	895

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

Latitudinal Belt...: Low eutemperate

Continentalty.....: Oceanic - Low Euoceanic

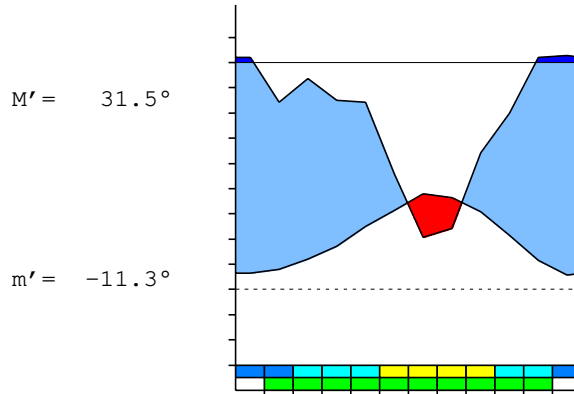
Bioclimate.....: MEDITERRANEAN PLUVISEASONAL-OCEANIC

Bioclimatic Belt...: LOW SUPRAMEDITERRANEAN LOW HUMID

RASCAFRIA (ESP MADRID)

1159 m

P= 895 40° 53'N 3° 53'W 11/11 y.
 T= 10.1° Ic= 16.1 Tp= 1213 Tn= 0
 m= -2.2° M= 8.0° Itc= 159 Io= 7.4



MEDITERRANEAN PLUVISEASONAL-OCEANIC
 LOW SUPRAMEDITERRANEAN LOW HUMID

WATER INDEX CARD RASCAFRIA (ESP MADRID)

Altitude: 1159 m. Latitude: 40° 53'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	3.3	11	122	0	100	11	0	111	88	10.1
Feb.	3.8	13	74	0	100	13	0	61	75	4.7
Mar.	5.9	26	87	0	100	26	0	61	68	2.3
Apr.	8.4	42	75	0	100	42	0	33	51	0.8
May.	12.5	73	74	0	100	73	0	1	26	0.0
Jun.	15.6	94	46	-48	52	94	0	0	13	-0.5
Jul.	19.0	119	21	-52	0	73	46	0	6	-0.8
Aug.	18.1	105	24	0	0	24	81	0	3	-0.7
Sep.	15.3	76	54	0	0	54	22	0	2	-0.2
Oct.	10.8	48	70	22	22	48	0	0	1	0.4
Nov.	5.7	20	120	78	100	20	0	22	12	5.0
Dec.	2.9	9	128	0	100	9	0	119	65	12.9
Year	10.1	636	895	*	*	486	149	409	409	*

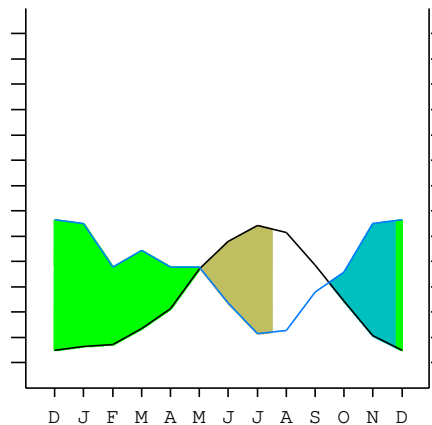
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

RASCAFRIA (ESP MADRID)

40°53'N 3°53'W 1159 m 11/11 y.

T= 10.1 Ic= 16.1 MEDITERRANEAN PLUVISEASONAL-OCEANIC
 m= -2.2 Tp= 1213 LOW SUPRAMEDITERRANEAN
 M= 8.0 Tn= 0 LOW HUMID
 M' = 31.5 Itc= 159
 m' = -11.3 Io= 7.4
 P= 895 mm ———
 PE= 636 mm ———

Imbibing	15 Sep.
Saturation	24 Nov.
Reserve Use	1 May.
Deficit	16 Jul.



RASCAFRIA (ESP MADRID)

Latitude: 40°53'N Longitude: 3°53'W Altitude: 1159 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [B2b]
 + Type: B. Oceanic
 + Subtype: 2. Euoceanic
 + Variant: b. Low

Thermic types [B1.B5]
 + Latitudinal zone: B. Temperate
 + Latitudinal belt: 1. Low eutemperate
 + Thermic type: B. Temperate
 + Thermic subtype: 5. Subtemperate

Bioclimatic types [B8.4b.7b]
 + Macrobioclimate: B. MEDITERRANEAN
 + Bioclimate: 8. PLUVISEASONAL-OCEANIC
 + Bioclimatic variant ..:
 + Thermic type.....: 4. SUPRAMEDITERRANEAN
 + Thermic subtype.....: b. LOW
 + Ombrothermic type ...: 7. HUMID
 + Ombrothermic subtype : b. LOW
 Bioclimatic Classification: Mehc.Sme.Hum

RASCAFRIA (ESP MADRID)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 289
 Coldest semester of the year.....(Psw): 606
 Warmest four months period of the year.....(Pcm1): 145
 Following warmest four months period.....(Pcm2): 440
 Positive precipitation dryest 3 months.....(Ppd): 91
 Positive precipitation dryest 2 months.....(Ppd2): 45
 Positive precipitation dryest 1 month.....(Ppd1): 21
 Positive precipitation warmest 3 months.....(Pps): 91
 Positive precipitation warmest 2 months.....(Pps2): 45
 Positive precipitation warmest 1 month.....(Pps1): 21
 Positive precipitation coldest 3 months.....(Ppw): 324
 Positive precipitation coldest 2 months.....(Ppw2): 250
 Positive precipitation coldest 1 month.....(Ppw1): 128

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	324	236	91	244

Seasonal rainfall rhythms: W > F > P > S

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 19.0
 Average coldest month [T].....(Tmin): 2.9
 Maximum temp. warmest month [M].....(Tmmax): 26.9
 Minimum temp. coldest month [m].....(Tmmin): -2.2
 Absolute Max.temp. warmest month [M'].....(Tamax): 31.5
 Absolute Min.temp. coldest month [m'].....(Tamin): -11.3
 First warmest contrasted month [M].....(Tcmax): 26.1 (8)
 First coldest contrasted month [m].....(Tcmin): 10.1 (8)
 Estival temperature.....(Ts): 527
 Positive temperature dryest 3 months.....(Tpd): 527
 Positive temperature dryest 2 months.....(Tpd2): 371
 Positive temperature dryest 1 month.....(Tpd1): 190
 Positive temperature warmest 3 months.....(Tps): 527
 Positive temperature warmest 2 months.....(Tps2): 371
 Positive temperature warmest 1 month.....(Tps1): 190
 Positive temperature coldest 3 months.....(Tpw): 100
 Positive temperature coldest 2 months.....(Tpw2): 62
 Positive temperature coldest 1 month.....(Tpw1): 29

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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	
Ultragelid...[M' <=0] (Pf)												
Hypergelid...[M <=0] (Pf)												
Gelid.....[T <=0] (Pf)												
Subgelid.....[m <=0] (Pf)	o	o										o
Pregelid.....[m' <=0] (Pf)	o	o	o	o	o					o	o	o
Agelid.....[m' > 0] (Pf)						o	o	o	o			
HiperAgelid..[all>0] (Pf)						o	o	o	o			

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 0.71
 Mediterranean index of July.[PE/P].....(Im1): 5.64
 Mediterranean index of July & August.....(Im2): 4.97
 Mediterranean index of June, July & August....(Im3): 3.50

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	1280	1220	740	870	750	740	460	210	240	540	700	1200
Tp	29	33	38	59	84	125	156	190	181	153	108	57
Io (Iom)	44.1	37.0	19.5	14.7	8.93	5.92	2.95	1.11	1.33	3.53	6.48	21.1
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	3240 / 100			2360 / 268			910 / 527			2440 / 318		
Io (Iot)	32.40			8.806			1.727			7.673		
Semesters	December-May						June-November					
Pp(x10)/Tp	5600 / 368						3350 / 845					
Io (Iosm)	15.22						3.964					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 8950/1213=7.38 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	1280	1220	740	870	750	740	460	210	240	540	700	1200
Tp [T*10]	29	33	38	59	84	125	156	190	181	153	108	57
Iom [Pp/Tp]	\$\$	\$\$	\$\$	\$\$	893	592	295	111	133	353	648	\$\$
Avm [200-Iom]	***	***	***	***	***	***	***	89	67	***	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	3240 / 100			2360 / 268			910 / 527			2440 / 318		
Iot [Pp/Tp]	\$\$			881			173			767		
Avs E[Avm<200]	***			***			***			***		
Strong lower semiarid [1]							Weak lower semiarid [1]					

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin](Sp): 16.10
 CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]: 21.42
 CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]: 21.28
 + Oceanic (20<CI<40)
 CI of Currey (1974) [CI=Sp/(1+Lat/3)]: 1.10
 + Subcontinental (1.1<CI<1.7)
 Rainfall Index of Lang (1925) [R=P/T]: 88.54
 + Temperate warm (100>R>60)
 Aridity Index of Martonne (1926) [Ia=P/(T+10)]: 44.51
 + Humid (60>Ia>30)
 I of Emberger (1930) [Q=100*P/(Tmax²-Tmin²)]: 124.52
 + Humid (Q>90)
 I of Dantin & Revenga (1940) [DR=100*T/P]: 1.13
 + Humid (2>DR>0)
 Aridity Index of UNEP [I=P/PE]: 1.41
 + Humid (I>0.65)
 Potential Erosion I of Fournier (1960) [K=Pi²/P].....: 18.31
 + Very low (K<60)

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)
 + Climate: A. Warm and temperate warm
 + Region: 3. Termoxeroteric (Mediterranean warm)
 + Thermic type: 5. Meso-microthermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.89	0.50	0.55	0.43	0.37	0.20	0.08	0.09	0.24	0.37	0.80	0.96
T-E ratio	1.48	1.71	2.66	3.78	5.63	7.02	8.55	8.15	6.89	4.86	2.56	1.31
Precipitation-effectiveness: 54.63						Temperature-efficiency: 54.59						
Moisture Index [MI=100*(P-PE)/PE]: 40.79 + B2.Humid medium-humid (40<MI<60)												
Index of dryness [DI=100*d/PE]: 23.47 + Moderate deficit (16.7<DI<33.3)												
Index of humidity [HI=100*s/PE]: 64.26 + Strong surplus (20<HI)												
Potential Evapotranspiration PE: 635.69 + First mesothermic (570<PE<712)												

