

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

GETAFE (ESP MADRID)

Altitude: 623 m.

Latitude: 40°18'N Longitude: 3°43'W

Temperature observation period.: 1948-1969 (22)

Rainfall observation period....: 1948-1969 (22)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	5.60	9.90	1.20	15.40	-4.50	40.0	11.10
Feb.	6.70	11.60	1.70	17.60	-4.20	49.0	14.34
Mar.	9.70	15.20	4.20	22.50	-1.50	47.0	30.94
Apr.	12.30	18.30	6.30	25.90	0.90	50.0	47.55
May.	16.50	22.90	10.10	30.10	4.30	42.0	82.39
Jun.	20.90	27.80	14.00	35.50	7.80	27.0	118.26
Jul.	25.00	32.50	17.50	37.90	12.40	6.0	157.03
Aug.	24.00	31.20	16.90	37.00	12.20	15.0	137.27
Sep.	20.20	26.80	13.70	33.40	8.50	33.0	93.51
Oct.	14.90	20.40	9.30	26.40	2.80	37.0	54.77
Nov.	9.10	13.90	4.40	19.80	-1.40	52.0	22.66
Dec.	5.90	10.00	1.70	15.10	-4.00	47.0	11.57
Year	14.23	20.04	8.42	26.38	2.77	445	781.39

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	253
Compensated thermicity index.....(Itc):	260
Simple continentality index.....(Ic):	19.4
Diurnality index.....(Id):	15.0
Annual ombrothermic index.....(Io):	2.61
Monthly estival ombrothermic index.....(Ios1):	0.24
Bimonthly estival ombrothermic index.....(Ios2):	0.43
Threemonthly estival ombrothermic index.....(Ios3):	0.69
Fourmonthly estival ombrothermic index.....(Ios4):	1.04
Annual ombro-evaporation index.....(Ioe):	0.56
Annual positive temperature.....(Tp):	1708
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	699
Positive precipitation.....(Pp):	445

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	6	2	2	2	0

Latitudinal Belt...: Low eutemperate

Continentality.....: Oceanic - High Semicontinental

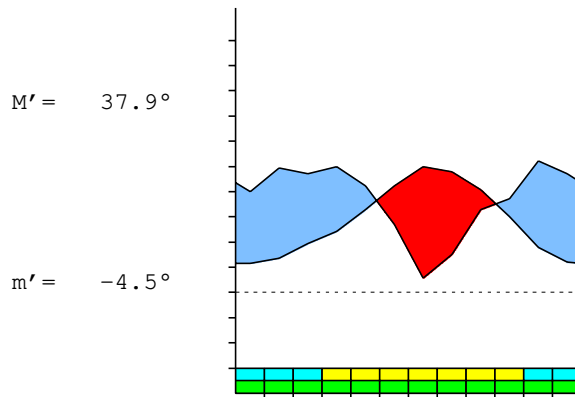
Bioclimate.....: MEDITERRANEAN PLUVISEASONAL-OCEANIC

Bioclimatic Belt...: UPPER MESOMEDITERRANEAN LOW DRY

GETAFE (ESP MADRID)

623 m

P= 445 40° 18'N 3° 43'W 22/22 y.
 T= 14.2° Ic= 19.4 Tp= 1708 Tn= 0
 m= 1.2° M= 9.9° Itc= 260 Io= 2.6



MEDITERRANEAN PLUVISEASONAL-OCEANIC
 UPPER MESOMEDITERRANEAN LOW DRY

WATER INDEX CARD
 Altitude: 623 m.

GETAFE (ESP MADRID)
 Latitude: 40° 18'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	5.6	11	40	29	94	11	0	0	0	2.6
Feb.	6.7	14	49	6	100	14	0	28	14	2.4
Mar.	9.7	31	47	0	100	31	0	16	15	0.5
Apr.	12.3	48	50	0	100	48	0	2	9	0.0
May.	16.5	82	42	-40	60	82	0	0	4	-0.4
Jun.	20.9	118	27	-60	0	87	32	0	2	-0.7
Jul.	25.0	157	6	0	0	6	151	0	1	-0.9
Aug.	24.0	137	15	0	0	15	122	0	1	-0.8
Sep.	20.2	94	33	0	0	33	61	0	0	-0.6
Oct.	14.9	55	37	0	0	37	18	0	0	-0.3
Nov.	9.1	23	52	29	29	23	0	0	0	1.2
Dec.	5.9	12	47	35	65	12	0	0	0	3.0
Year	14.2	781	445	*	*	398	383	47	47	*

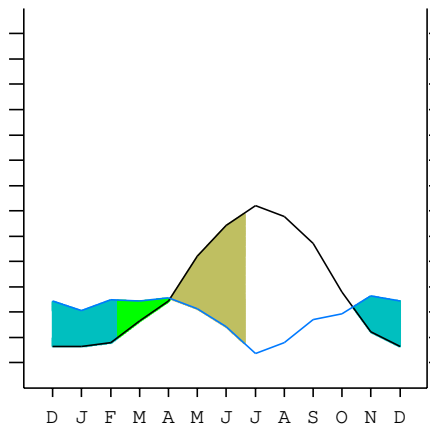
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

GETAFE (ESP MADRID)

40°18'N 3°43'W 623 m 22/22 y.

T= 14.2 Ic= 19.4 MEDITERRANEAN PLUVISEASONAL-OCEANIC
 m= 1.2 Tp= 1708 UPPER MESOMEDITERRANEAN
 M= 9.9 Tn= 0 LOW DRY
 M' = 37.9 Itc= 260
 m' = -4.5 Io= 2.6
 P= 445 mm ———
 PE= 781 mm ———

Imbibing	12 Oct.
Saturation	6 Feb.
Reserve Use	2 Apr.
Deficit	20 Jun.



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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [B1b]
 + Type: B. Oceanic
 + Subtype: 1. Semicontinental
 + Variant: b. High

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

Bioclimatic types [B8.3a.5b]
 + Macrobioclimate: B. MEDITERRANEAN
 + Bioclimate: 8. PLUVISEASONAL-OCEANIC
 + Bioclimatic variant ..:
 + Thermic type.....: 3. MESOMEDITERRANEAN
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 5. DRY
 + Ombrothermic subtype : b. LOW
 Bioclimatic Classification: Mehc.Mme.Dry

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 160
 Coldest semester of the year.....(Psw): 285
 Warmest four months period of the year.....(Pcm1): 81
 Following warmest four months period.....(Pcm2): 176
 Positive precipitation dryest 3 months.....(Ppd): 48
 Positive precipitation dryest 2 months.....(Ppd2): 21
 Positive precipitation dryest 1 month.....(Ppd1): 6
 Positive precipitation warmest 3 months.....(Pps): 48
 Positive precipitation warmest 2 months.....(Pps2): 21
 Positive precipitation warmest 1 month.....(Pps1): 6
 Positive precipitation coldest 3 months.....(Ppw): 136
 Positive precipitation coldest 2 months.....(Ppw2): 87
 Positive precipitation coldest 1 month.....(Ppw1): 40

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	136	139	48	122

Seasonal rainfall rhythms: P > W > F > S

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 25.0
 Average coldest month [T].....(Tmin): 5.6
 Maximum temp. warmest month [M].....(Tmmax): 32.5
 Minimum temp. coldest month [m].....(Tmmin): 1.2
 Absolute Max.temp. warmest month [M'].....(Tamax): 37.9
 Absolute Min.temp. coldest month [m'].....(Tamin): -4.5
 First warmest contrasted month [M].....(Tcmax): 32.5 (7)
 First coldest contrasted month [m].....(Tcmin): 17.5 (7)
 Estival temperature.....(Ts): 699
 Positive temperature dryest 3 months.....(Tpd): 699
 Positive temperature dryest 2 months.....(Tpd2): 490
 Positive temperature dryest 1 month.....(Tpd1): 250
 Positive temperature warmest 3 months.....(Tps): 699
 Positive temperature warmest 2 months.....(Tps2): 490
 Positive temperature warmest 1 month.....(Tps1): 250
 Positive temperature coldest 3 months.....(Tpw): 182
 Positive temperature coldest 2 months.....(Tpw2): 115
 Positive temperature coldest 1 month.....(Tpw1): 56

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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): 1.76
 Mediterranean index of July.[PE/P].....(Im1): 26.17
 Mediterranean index of July & August.....(Im2): 14.01
 Mediterranean index of June, July & August....(Im3): 8.59

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	470	400	490	470	500	420	270	60	150	330	370	520
Tp	59	56	67	97	123	165	209	250	240	202	149	91
Io (Iom)	7.97	7.14	7.31	4.85	4.07	2.55	1.29	0.24	0.63	1.63	2.48	5.71
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	1360 / 182			1390 / 385			480 / 699			1220 / 442		
Io (Iot)	7.473			3.610			0.687			2.760		
Semesters	December-May						June-November					
Pp(x10)/Tp	2750 / 567						1700 / 1141					
Io (Iosm)	4.850						1.490					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 4450/1708=2.61 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	470	400	490	470	500	420	270	60	150	330	370	520
Tp [T*10]	59	56	67	97	123	165	209	250	240	202	149	91
Iom [Pp/Tp]	797	714	731	485	407	255	129	24	63	163	248	571
Avm [200-Iom]	***	***	***	***	***	***	71	176	138	37	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	1360 / 182			1390 / 385			480 / 699			1220 / 442		
Iot [Pp/Tp]	747			361			69			276		
Avs E[Avm<200]	***			***			384			***		
Lower hyperarid [1]							Weak lower arid [1]					
Strong upper arid [1]							Weak lower semiarid [1]					
Strong upper semiarid [1]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin](Sp): 19.40
 CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]: 30.59
 CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]: 28.86
 + Oceanic (20<CI<40)
 CI of Currey (1974) [CI=Sp/(1+Lat/3)]: 1.34
 + Subcontinental (1.1<CI<1.7)
 Rainfall Index of Lang (1925) [R=P/T]: 31.26
 + Steppic (40>R>0)
 Aridity Index of Martonne (1926) [Ia=P/(T+10)]: 18.36
 + Semiarid -mediterranean- (20>Ia>15)
 I of Emberger (1930) [Q=100*P/(Tmax²-Tmin²)]: 42.19
 + Semiarid (50>Q>30)
 I of Dantin & Revenga (1940) [DR=100*T/P]: 3.20
 + Arid (6>DR>3)
 Aridity Index of UNEP [I=P/PE]: 0.57
 + Subhumid - dry (0.65>I>0.5)
 Potential Erosion I of Fournier (1960) [K=Pi²/P].....: 6.08
 + 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: 4. Mesothermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.24	0.28	0.24	0.24	0.17	0.10	0.02	0.05	0.12	0.16	0.28	0.28
T-E ratio	2.52	3.01	4.36	5.54	7.43	9.40	11.25	10.80	9.09	6.70	4.10	2.66
Precipitation-effectiveness: 21.70						Temperature-efficiency: 76.86						
Moisture Index [MI=100*(P-PE)/PE]: -43.05 + D.Semiarid (-66.7<MI<-33.3)												
Index of dryness [DI=100*d/PE]: 49.04 + Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE]: 5.99 + No surplus (0<HI<10)												
Potential Evapotranspiration PE: 781.39 + Second mesothermic (712<PE<855)												

