

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

BOBADILLA (ESP MALAGA)

Altitude: 384 m.

Latitude: 37°2'N Longitude: 4°41'W

Temperature observation period.: 1955-1970 (16)

Rainfall observation period....: 1955-1970 (16)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	Epi
Jan.	8.60	13.20	4.00	17.20	-1.30	55.0	16.19
Feb.	9.90	15.10	4.60	20.10	-0.20	57.0	20.47
Mar.	12.60	18.00	7.10	24.00	1.30	55.0	37.81
Apr.	14.40	20.80	8.00	26.00	3.40	38.0	50.99
May.	18.50	25.50	11.50	31.20	6.90	30.0	87.63
Jun.	21.40	28.50	14.30	34.90	9.60	11.0	113.95
Jul.	26.10	34.70	17.50	39.50	13.20	1.0	163.84
Aug.	26.30	33.80	18.80	39.00	14.40	4.0	155.41
Sep.	22.60	29.50	15.80	36.30	10.90	19.0	104.97
Oct.	18.80	22.30	11.20	28.90	5.40	43.0	71.66
Nov.	12.20	17.30	7.20	22.90	1.60	68.0	29.49
Dec.	8.70	14.10	3.30	19.40	-0.80	64.0	15.95
Year	16.68	22.73	10.28	28.28	5.37	445	868.35

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	339
Compensated thermicity index.....(Itc):	339
Simple continentality index.....(Ic):	17.7
Diurnality index.....(Id):	17.2
Annual ombrothermic index.....(Io):	2.22
Monthly estival ombrothermic index.....(Ios1):	0.04
Bimonthly estival ombrothermic index.....(Ios2):	0.10
Threemonthly estival ombrothermic index.....(Ios3):	0.22
Fourmonthly estival ombrothermic index.....(Ios4):	0.50
Annual ombro-evaporation index.....(Ioe):	0.32
Annual positive temperature.....(Tp):	2001
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	738
Positive precipitation.....(Pp):	445

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	5	2	1	4	0

Latitudinal Belt...: Low eutemperate

Continentalty.....: Oceanic - Low Semicontinental

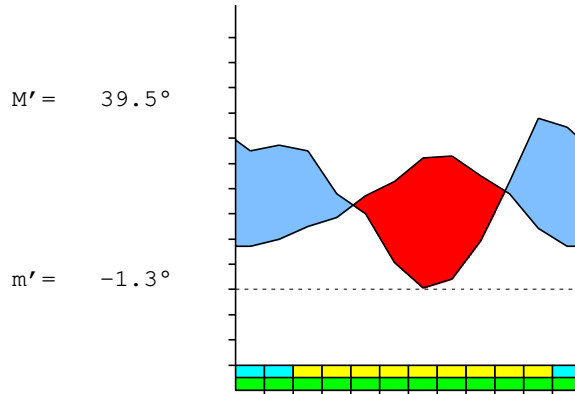
Bioclimate.....: MEDITERRANEAN PLUVISEASONAL-OCEANIC

Bioclimatic Belt...: LOW MESOMEDITERRANEAN LOW DRY

BOBADILLA (ESP MALAGA)

384 m

P= 445 37° 2'N 4° 41'W 16/16 y.
 T= 16.7° Ic= 17.7 Tp= 2001 Tn= 0
 m= 4.0° M= 13.2° Itc= 339 Io= 2.2



MEDITERRANEAN PLUVISEASONAL-OCEANIC
 LOW MESOMEDITERRANEAN LOW DRY

WATER INDEX CARD BOBADILLA (ESP MALAGA)
 Altitude: 384 m. Latitude: 37° 2'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	8.6	16	55	13	100	16	0	25	13	2.3
Feb.	9.9	20	57	0	100	20	0	37	25	1.7
Mar.	12.6	38	55	0	100	38	0	17	21	0.4
Apr.	14.4	51	38	-13	87	51	0	0	10	-0.2
May.	18.5	88	30	-58	29	88	0	0	5	-0.6
Jun.	21.4	114	11	-29	0	40	74	0	3	-0.9
Jul.	26.1	164	1	0	0	1	163	0	1	-0.9
Aug.	26.3	155	4	0	0	4	151	0	1	-0.9
Sep.	22.6	105	19	0	0	19	86	0	0	-0.8
Oct.	18.8	72	43	0	0	43	29	0	0	-0.3
Nov.	12.2	29	68	39	39	29	0	0	0	1.3
Dec.	8.7	16	64	48	87	16	0	0	0	3.0
Year	16.7	868	445	*	*	366	502	79	79	*

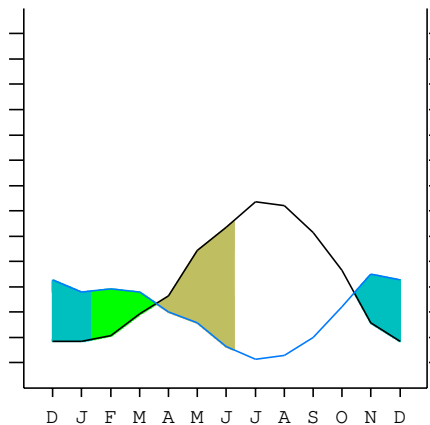
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

BOBADILLA (ESP MALAGA)

37°2'N 4°41'W 384 m 16/16 y.

T= 16.7 Ic= 17.7 MEDITERRANEAN PLUVISEASONAL-OCEANIC
 m= 4.0 Tp= 2001 LOW MESOMEDITERRANEAN
 M= 13.2 Tn= 0 LOW DRY
 M' = 39.5 Itc= 339
 m' = -1.3 Io= 2.2
 P= 445 mm
 PE= 868 mm

Imbibing	13 Oct.
Saturation	11 Jan.
Reserve Use	18 Mar.
Deficit	9 Jun.



BOBADILLA (ESP MALAGA)

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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [B1a]
+ Type: B. Oceanic
+ Subtype: 1. Semicontinental
+ Variant: a. Low
Thermic types [B1.A3]
+ Latitudinal zone: B. Temperate
+ Latitudinal belt: 1. Low eutemperate
+ Thermic type: A. Warm
+ Thermic subtype: 3. Subwarm
Bioclimatic types [B8.3b.5b]
+ Macrobioclimate: B. MEDITERRANEAN
+ Bioclimate: 8. PLUVISEASONAL-OCEANIC
+ Bioclimatic variant ..:
+ Thermic type.....: 3. MESOMEDITERRANEAN
+ Thermic subtype.....: b. LOW
+ 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): 108
Coldest semester of the year.....(Psw): 337
Warmest four months period of the year.....(Pcm1): 35
Following warmest four months period.....(Pcm2): 230
Positive precipitation dryest 3 months.....(Ppd): 16
Positive precipitation dryest 2 months.....(Ppd2): 5
Positive precipitation dryest 1 month.....(Ppd1): 1
Positive precipitation warmest 3 months.....(Pps): 24
Positive precipitation warmest 2 months.....(Pps2): 5
Positive precipitation warmest 1 month.....(Pps1): 4
Positive precipitation coldest 3 months.....(Ppw): 176
Positive precipitation coldest 2 months.....(Ppw2): 119
Positive precipitation coldest 1 month.....(Ppw1): 55

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	176	123	16	130

Seasonal rainfall rhythms: W > F > P > S

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 26.3
Average coldest month [T].....(Tmin): 8.6
Maximum temp. warmest month [M].....(Tmmax): 34.7
Minimum temp. coldest month [m].....(Tmmin): 3.3
Absolute Max.temp. warmest month [M'].....(Tamax): 39.5
Absolute Min.temp. coldest month [m'].....(Tamin): -1.3
First warmest contrasted month [M].....(Tcmax): 34.7 (7)
First coldest contrasted month [m].....(Tcmin): 17.5 (7)
Estival temperature.....(Ts): 738
Positive temperature dryest 3 months.....(Tpd): 738
Positive temperature dryest 2 months.....(Tpd2): 524
Positive temperature dryest 1 month.....(Tpd1): 261
Positive temperature warmest 3 months.....(Tps): 750
Positive temperature warmest 2 months.....(Tps2): 524
Positive temperature warmest 1 month.....(Tps1): 263
Positive temperature coldest 3 months.....(Tpw): 272
Positive temperature coldest 2 months.....(Tpw2): 173
Positive temperature coldest 1 month.....(Tpw1): 86

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

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 1.95
 Mediterranean index of July.[PE/P].....(Im1): 163.84
 Mediterranean index of July & August.....(Im2): 63.85
 Mediterranean index of June, July & August....(Im3): 27.08

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	640	550	570	550	380	300	110	10	40	190	430	680
Tp	87	86	99	126	144	185	214	261	263	226	188	122
Io (Iom)	7.36	6.40	5.76	4.37	2.64	1.62	0.51	0.04	0.15	0.84	2.29	5.57
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	1760 / 272			1230 / 455			160 / 738			1300 / 536		
Io (Iot)	6.471			2.703			0.217			2.425		
Semesters	December-May						June-November					
Pp(x10)/Tp	2990 / 727						1460 / 1274					
Io (Iosm)	4.113						1.146					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 4450/2001=2.22 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	640	550	570	550	380	300	110	10	40	190	430	680
Tp [T*10]	87	86	99	126	144	185	214	261	263	226	188	122
Iom [Pp/Tp]	736	640	576	437	264	162	51	4	15	84	229	557
Avm [200-Iom]	***	***	***	***	***	38	149	196	185	116	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	1760 / 272			1230 / 455			160 / 738			1300 / 536		
Iot [Pp/Tp]	647			270			22			243		
Avs E[Avm<200]	***			***			530			***		
Lower ultrahyperarid [1]							Upper ultrahyperarid [1]					
Lower hyperarid [1]							Weak lower arid [1]					
Weak upper arid [1]							Strong upper semiarid [1]					

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp):	17.70
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]		29.56
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]		27.12
+ Oceanic (20<CI<40)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)]		1.33
+ Subcontinental (1.1<CI<1.7)		
Rainfall Index of Lang (1925) [R=P/T]		26.69
+ Steppic (40>R>0)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)]		16.68
+ Semiarid -mediterranean- (20>Ia>15)		
I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)]		37.29
+ Semiarid (50>Q>30)		
I of Dantin & Revenga (1940) [DR=100*T/P]		3.75
+ 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]		10.39
+ Very low (K<60)		

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)
 + Climate

- + Climate
- + Region
- + Thermic type: 3. Macro-mesothermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.30	0.30	0.26	0.17	0.11	0.03	0.00	0.01	0.06	0.17	0.34	0.35
T-E ratio	3.87	4.45	5.67	6.48	8.32	9.63	11.75	11.83	10.17	8.46	5.49	3.91
Precipitation-effectiveness: 21.14						Temperature-efficiency						90.04
Moisture Index [MI=100*(P-PE)/PE]												-48.75
+ D.Semiarid (-66.7<MI<-33.3)												
Index of dryness [DI=100*d/PE]												57.86
+ Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE]												9.10
+ No surplus (0<HI<10)												
Potential Evapotranspiration PE												868.35
+ Third mesothermic (855<PE<997)												

