

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

PUENTES EMB. (ESP MURCIA)

Altitude: 953 m.

Latitude: 37°44'N Longitude: 1°49'W

Temperature observation period.: 1942-1969 (28)

Rainfall observation period....: 1942-1969 (28)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	10.00	15.90	4.20	22.70	-0.40	19.0	18.25
Feb.	11.00	17.50	4.80	24.50	-0.20	14.0	21.58
Mar.	14.00	20.80	7.20	28.40	2.30	21.0	41.68
Apr.	16.20	23.40	9.00	30.20	4.70	40.0	58.60
May.	20.00	27.40	12.50	33.60	7.80	28.0	97.46
Jun.	23.70	31.50	15.90	37.10	11.70	14.0	135.27
Jul.	26.70	35.00	18.40	39.80	15.10	3.0	171.38
Aug.	26.40	34.60	18.30	39.20	14.80	9.0	156.39
Sep.	23.40	30.90	16.00	36.40	11.50	18.0	110.76
Oct.	18.20	24.40	12.00	30.40	6.70	43.0	63.68
Nov.	13.50	19.50	7.60	26.00	2.20	25.0	31.74
Dec.	10.40	15.70	5.10	22.30	0.30	31.0	19.19
Year	17.79	24.72	10.92	30.88	6.38	265	925.99

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	379
Compensated thermicity index.....(Itc):	379
Simple continentality index.....(Ic):	16.7
Diurnality index.....(Id):	16.6
Annual ombrothermic index.....(Io):	1.24
Monthly estival ombrothermic index.....(Ios1):	0.11
Bimonthly estival ombrothermic index.....(Ios2):	0.23
Threemonthly estival ombrothermic index.....(Ios3):	0.34
Fourmonthly estival ombrothermic index.....(Ios4):	0.56
Annual ombro-evaporation index.....(Ioe):	0.77
Annual positive temperature.....(Tp):	2135
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	768
Positive precipitation.....(Pp):	265

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	0	3	5	4	0

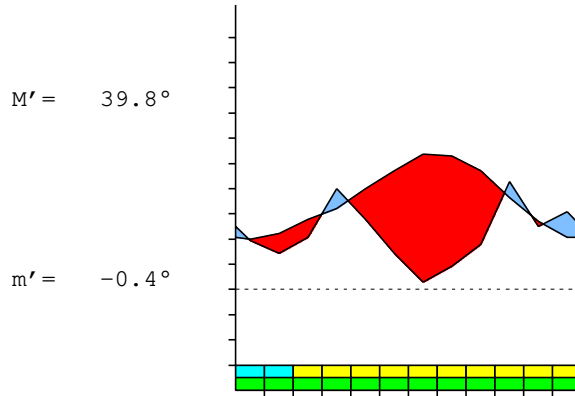
Latitudinal Belt...: Low eutemperate

Continentality.....: Oceanic - Low Euoceanic

Bioclimate.....: MEDITERRANEAN XERIC-OCEANIC

Bioclimatic Belt...: UPPER THERMOMEDITERRANEAN LOW SEMIARID

PUENTES EMB. (ESP MURCIA) 953 m
 P= 265 37° 44'N 1° 49'W 28/28 y.
 T= 17.8° Ic= 16.7 Tp= 2135 Tn= 0
 m= 4.2° M= 15.9° Itc= 379 Io= 1.2



MEDITERRANEAN XERIC-OCEANIC
 UPPER THERMOMEDITERRANEAN LOW SEMIARID

WATER INDEX CARD PUENTES EMB. (ESP MURCIA)
 Altitude: 953 m. Latitude: 37° 44'N

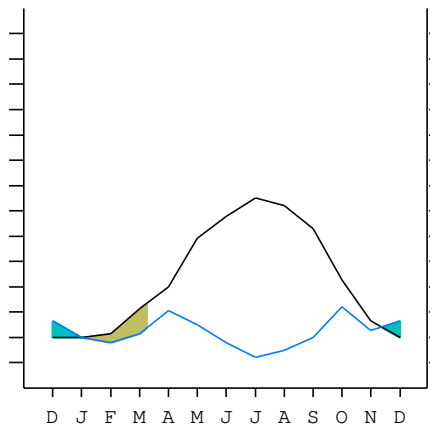
(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	10.0	18	19	1	13	18	0	0	0	0.0
Feb.	11.0	22	14	-8	5	22	0	0	0	-0.3
Mar.	14.0	42	21	-5	0	26	16	0	0	-0.4
Apr.	16.2	59	40	0	0	40	19	0	0	-0.3
May.	20.0	97	28	0	0	28	69	0	0	-0.7
Jun.	23.7	135	14	0	0	14	121	0	0	-0.8
Jul.	26.7	171	3	0	0	3	168	0	0	-0.9
Aug.	26.4	156	9	0	0	9	147	0	0	-0.9
Sep.	23.4	111	18	0	0	18	93	0	0	-0.8
Oct.	18.2	64	43	0	0	43	21	0	0	-0.3
Nov.	13.5	32	25	0	0	25	7	0	0	-0.2
Dec.	10.4	19	31	12	12	19	0	0	0	0.6
Year	17.8	926	265	*	*	265	661	0	0	*

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

PUENTES EMB. (ESP MURCIA) 37°44'N 1°49'W 953 m 28/28 y.

T= 17.8 Ic= 16.7 MEDITERRANEAN XERIC-OCEANIC
 m= 4.2 Tp= 2135 UPPER THERMOMEDITERRANEAN
 M= 15.9 Tn= 0 LOW SEMIARID
 M' = 39.8 Itc= 379
 m' = -0.4 Io= 1.2
 P= 265 mm —
 PE= 926 mm —

Imbibing	11 Nov.
Saturation	3 Jan.
Reserve Use	8 Mar.
Deficit	



PUENTES EMB. (ESP MURCIA)

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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

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

Thermic types [B1.A3]
 + Latitudinal zone: B. Temperate
 + Latitudinal belt: 1. Low eutemperate
 + Thermic type: A. Warm
 + Thermic subtype: 3. Subwarm

Bioclimatic types [B6.2a.4b]
 + Macrobioclimate: B. MEDITERRANEAN
 + Bioclimate: 6. XERIC-OCEANIC
 + Bioclimatic variant ..:
 + Thermic type.....: 2. THERMOMEDITERRANEAN
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 4. SEMIARID
 + Ombrothermic subtype : b. LOW

Bioclimatic Classification: MepDC.Tme.Sar

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 115
 Coldest semester of the year.....(Psw): 150
 Warmest four months period of the year.....(Pcm1): 44
 Following warmest four months period.....(Pcm2): 118
 Positive precipitation dryest 3 months.....(Ppd): 26
 Positive precipitation dryest 2 months.....(Ppd2): 12
 Positive precipitation dryest 1 month.....(Ppd1): 3
 Positive precipitation warmest 3 months.....(Pps): 26
 Positive precipitation warmest 2 months.....(Pps2): 12
 Positive precipitation warmest 1 month.....(Pps1): 3
 Positive precipitation coldest 3 months.....(Ppw): 64
 Positive precipitation coldest 2 months.....(Ppw2): 50
 Positive precipitation coldest 1 month.....(Ppw1): 19

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	64	89	26	86

Seasonal rainfall rhythms: P > F > W > S

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 26.7
 Average coldest month [T].....(Tmin): 10.0
 Maximum temp. warmest month [M].....(Tmmax): 35.0
 Minimum temp. coldest month [m].....(Tmmin): 4.2
 Absolute Max.temp. warmest month [M'].....(Tamax): 39.8
 Absolute Min.temp. coldest month [m'].....(Tamin): -0.4
 First warmest contrasted month [M].....(Tcmax): 35.0 (7)
 First coldest contrasted month [m].....(Tcmin): 18.4 (7)
 Estival temperature.....(Ts): 768
 Positive temperature dryest 3 months.....(Tpd): 768
 Positive temperature dryest 2 months.....(Tpd2): 531
 Positive temperature dryest 1 month.....(Tpd1): 267
 Positive temperature warmest 3 months.....(Tps): 768
 Positive temperature warmest 2 months.....(Tps2): 531
 Positive temperature warmest 1 month.....(Tps1): 267
 Positive temperature coldest 3 months.....(Tpw): 314
 Positive temperature coldest 2 months.....(Tpw2): 204
 Positive temperature coldest 1 month.....(Tpw1): 100

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

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 3.49
 Mediterranean index of July.[PE/P].....(Im1): 57.13
 Mediterranean index of July & August.....(Im2): 27.31
 Mediterranean index of June, July & August....(Im3): 17.81

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	310	190	140	210	400	280	140	30	90	180	430	250
Tp	104	100	110	140	162	200	237	267	264	234	182	135
Io (Iom)	2.98	1.90	1.27	1.50	2.47	1.40	0.59	0.11	0.34	0.77	2.36	1.85
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	640 / 314			890 / 502			260 / 768			860 / 551		
Io (Iot)	2.038			1.773			0.339			1.561		
Semesters	December-May						June-November					
Pp(x10)/Tp	1530 / 816						1120 / 1319					
Io (Iosm)	1.875						0.849					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 2650/2135=1.24 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	310	190	140	210	400	280	140	30	90	180	430	250
Tp [T*10]	104	100	110	140	162	200	237	267	264	234	182	135
Iom [Pp/Tp]	298	190	127	150	247	140	59	11	34	77	236	185
Avm [200-Iom]	***	10	73	50	***	60	141	189	166	123	***	15
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	640 / 314			890 / 502			260 / 768			860 / 551		
Iot [Pp/Tp]	204			177			34			156		
Avs E[Avm<200]	***			***			496			***		
Upper ultrahyperarid [1]						Upper hyperarid [2]						
Weak lower arid [1]						Strong upper arid [1]						
Weak lower semiarid [3]						Weak upper semiarid [2]						

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp): 16.70
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]	25.99
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]	24.36
+ Oceanic (20<CI<40)	
CI of Currey (1974) [CI=Sp/(1+Lat/3)]	1.23
+ Subcontinental (1.1<CI<1.7)	
Rainfall Index of Lang (1925) [R=P/T]	14.89
+ Steppic (40>R>0)	
Aridity Index of Martonne (1926) [Ia=P/(T+10)]	9.54
+ Arid -steppic- (15>Ia>5)	
I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)]	21.95
+ Arid (30>Q>0)	
I of Dantin & Revenga (1940) [DR=100*T/P]	6.71
+ Extremely arid (DR>6)	
Aridity Index of UNEP [I=P/PE]	0.29
+ Semiarid (0.5>Im>0.2)	
Potential Erosion I of Fournier (1960) [K=Pi ² /P]	6.98
+ 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	0.09	0.06	0.09	0.17	0.10	0.04	0.01	0.02	0.06	0.17	0.11	0.15
T-E ratio	4.50	4.95	6.30	7.29	9.00	10.67	12.02	11.88	10.53	8.19	6.07	4.68
Precipitation-effectiveness: 10.63						Temperature-efficiency						96.08
Moisture Index [MI=100*(P-PE)/PE]												-71.38
+ E.Dry (-110<MI<-66.7)												
Index of dryness [DI=100*d/PE]												71.37
+ Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE]												0.00
+ No surplus (0<HI<10)												
Potential Evapotranspiration PE												925.99
+ Third mesothermic (855<PE<997)												

