

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

VILCHES (ESP JAEN)

Altitude: 560 m.

Latitude: 38°12'N Longitude: 3°30'W

Temperature observation period.: 1958-1970 (13)

Rainfall observation period....: 1958-1970 (13)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	9.00	15.00	3.10	20.20	-1.90	64.0	14.15
Feb.	10.60	17.20	4.00	23.20	-2.00	88.0	19.19
Mar.	12.80	20.20	5.30	26.30	0.60	75.0	33.90
Apr.	15.80	23.60	7.90	30.60	3.50	55.0	54.43
May.	21.00	29.20	12.70	35.70	7.90	51.0	105.58
Jun.	25.20	33.50	17.00	40.10	11.20	11.0	151.48
Jul.	29.00	37.70	20.30	41.80	17.10	3.0	194.39
Aug.	28.00	36.70	19.20	40.60	15.50	1.0	172.58
Sep.	24.40	32.50	16.20	37.60	12.50	31.0	119.36
Oct.	18.80	25.70	11.90	32.00	7.10	42.0	66.51
Nov.	12.40	17.80	6.90	24.00	2.10	58.0	26.00
Dec.	8.20	13.80	2.70	19.10	-1.90	85.0	11.54
Year	17.93	25.24	10.60	30.93	5.97	564	969.11

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	344
Compensated thermicity index.....(Itc):	358
Simple continentality index.....(Ic):	20.8
Diurnality index.....(Id):	17.5
Annual ombrothermic index.....(Io):	2.62
Monthly estival ombrothermic index.....(Ios1):	0.04
Bimonthly estival ombrothermic index.....(Ios2):	0.07
Threemonthly estival ombrothermic index.....(Ios3):	0.18
Fourmonthly estival ombrothermic index.....(Ios4):	0.64
Annual ombro-evaporation index.....(Ioe):	0.33
Annual positive temperature.....(Tp):	2152
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	822
Positive precipitation.....(Pp):	564

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	5	3	1	3	0

Latitudinal Belt...: Low eutemperate

Continentalty.....: Oceanic - High Semicontinental

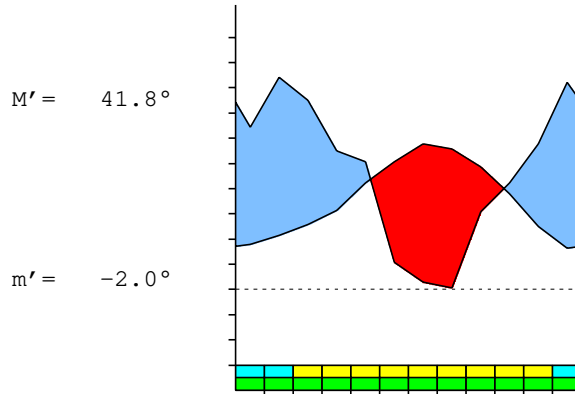
Bioclimate.....: MEDITERRANEAN PLUVISEASONAL-OCEANIC

Bioclimatic Belt...: UPPER THERMOMEDITERRANEAN LOW DRY

VILCHES (ESP JAEN)

560 m

P= 564 38° 12'N 3° 30'W 13/13 y.
 T= 17.9° Ic= 20.8 Tp= 2152 Tn= 0
 m= 2.7° M= 13.8° Itc= 358 Io= 2.6



MEDITERRANEAN PLUVISEASONAL-OCEANIC
 UPPER THERMOMEDITERRANEAN LOW DRY

WATER INDEX CARD

VILCHES (ESP JAEN)

Altitude: 560 m.

Latitude: 38° 12'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	9.0	14	64	0	100	14	0	50	26	3.5
Feb.	10.6	19	88	0	100	19	0	69	48	3.5
Mar.	12.8	34	75	0	100	34	0	41	44	1.2
Apr.	15.8	54	55	0	100	54	0	1	22	0.0
May.	21.0	106	51	-55	45	106	0	0	11	-0.5
Jun.	25.2	151	11	-45	0	56	95	0	6	-0.9
Jul.	29.0	194	3	0	0	3	191	0	3	-0.9
Aug.	28.0	173	1	0	0	1	172	0	1	-0.9
Sep.	24.4	119	31	0	0	31	88	0	1	-0.7
Oct.	18.8	67	42	0	0	42	25	0	0	-0.3
Nov.	12.4	26	58	32	32	26	0	0	0	1.2
Dec.	8.2	12	85	68	100	12	0	5	3	6.3
Year	17.9	969	564	*	*	398	571	166	166	*

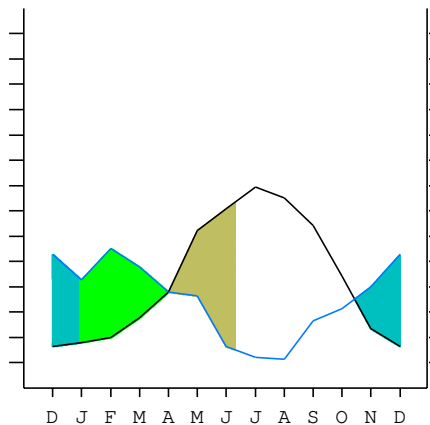
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

VILCHES (ESP JAEN)

38°12'N 3°30'W 560 m 13/13 y.

T= 17.9 Ic= 20.8 MEDITERRANEAN PLUVISEASONAL-OCEANIC
 m= 2.7 Tp= 2152 UPPER THERMOMEDITERRANEAN
 M= 13.8 Tn= 0 LOW DRY
 M' = 41.8 Itc= 358
 m' = -2.0 Io= 2.6
 P= 564 mm
 PE= 969 mm

Imbibing	14 Oct.
Saturation	28 Dec.
Reserve Use	1 Apr.
Deficit	10 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.A3]
 + Latitudinal zone: B. Temperate
 + Latitudinal belt: 1. Low eutemperate
 + Thermic type: A. Warm
 + Thermic subtype: 3. Subwarm

Bioclimatic types [B8.2a.5b]
 + Macrobioclimate: B. MEDITERRANEAN
 + Bioclimate: 8. PLUVISEASONAL-OCEANIC
 + Bioclimatic variant ..:
 + Thermic type.....: 2. THERMOMEDITERRANEAN
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 5. DRY
 + Ombrothermic subtype : b. LOW
 Bioclimatic Classification: Mehc.Tme.Dry

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 139
 Coldest semester of the year.....(Psw): 425
 Warmest four months period of the year.....(Pcm1): 46
 Following warmest four months period.....(Pcm2): 249
 Positive precipitation dryest 3 months.....(Ppd): 15
 Positive precipitation dryest 2 months.....(Ppd2): 4
 Positive precipitation dryest 1 month.....(Ppd1): 1
 Positive precipitation warmest 3 months.....(Pps): 15
 Positive precipitation warmest 2 months.....(Pps2): 4
 Positive precipitation warmest 1 month.....(Pps1): 3
 Positive precipitation coldest 3 months.....(Ppw): 237
 Positive precipitation coldest 2 months.....(Ppw2): 149
 Positive precipitation coldest 1 month.....(Ppw1): 85

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	237	181	15	131

Seasonal rainfall rhythms: W > P > F > S

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 29.0
 Average coldest month [T].....(Tmin): 8.2
 Maximum temp. warmest month [M].....(Tmmax): 37.7
 Minimum temp. coldest month [m].....(Tmmin): 2.7
 Absolute Max.temp. warmest month [M'].....(Tamax): 41.8
 Absolute Min.temp. coldest month [m'].....(Tamin): -2.0
 First warmest contrasted month [M].....(Tcmax): 36.7 (8)
 First coldest contrasted month [m].....(Tcmin): 19.2 (8)
 Estival temperature.....(Ts): 822
 Positive temperature dryest 3 months.....(Tpd): 822
 Positive temperature dryest 2 months.....(Tpd2): 570
 Positive temperature dryest 1 month.....(Tpd1): 280
 Positive temperature warmest 3 months.....(Tps): 822
 Positive temperature warmest 2 months.....(Tps2): 570
 Positive temperature warmest 1 month.....(Tps1): 290
 Positive temperature coldest 3 months.....(Tpw): 278
 Positive temperature coldest 2 months.....(Tpw2): 172
 Positive temperature coldest 1 month.....(Tpw1): 82

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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): 1.72
 Mediterranean index of July.[PE/P].....(Im1): 64.80
 Mediterranean index of July & August.....(Im2): 91.74
 Mediterranean index of June, July & August....(Im3): 34.56

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	850	640	880	750	550	510	110	30	10	310	420	580
Tp	82	90	106	128	158	210	252	290	280	244	188	124
Io (Iom)	10.4	7.11	8.30	5.86	3.48	2.43	0.44	0.10	0.04	1.27	2.23	4.68
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	2370 / 278			1810 / 496			150 / 822			1310 / 556		
Io (Iot)	8.525			3.649			0.182			2.356		
Semesters	December-May						June-November					
Pp(x10)/Tp	4180 / 774						1460 / 1378					
Io (Iosm)	5.401						1.060					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 5640/2152=2.62 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	850	640	880	750	550	510	110	30	10	310	420	580
Tp [T*10]	82	90	106	128	158	210	252	290	280	244	188	124
Iom [Pp/Tp]	\$\$	711	830	586	348	243	44	10	4	127	223	468
Avm [200-Iom]	***	***	***	***	***	***	156	190	196	73	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	2370 / 278			1810 / 496			150 / 822			1310 / 556		
Iot [Pp/Tp]	853			365			18			236		
Avs E[Avm<200]	***			***			542			***		
Lower ultrahyperarid [1]							Upper ultrahyperarid [2]					
Strong lower arid [1]							Weak lower semiarid [1]					

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin](Sp): 20.80
 CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]: 36.78
 CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]: 33.43
 + Oceanic (20<CI<40)
 CI of Currey (1974) [CI=Sp/(1+Lat/3)]: 1.51
 + Subcontinental (1.1<CI<1.7)
 Rainfall Index of Lang (1925) [R=P/T]: 31.45
 + Steppic (40>R>0)
 Aridity Index of Martonne (1926) [Ia=P/(T+10)]: 20.19
 + Subhumid (30>Ia>20)
 I of Emberger (1930) [Q=100*P/(Tmax²-Tmin²)]: 39.89
 + Semiarid (50>Q>30)
 I of Dantin & Revenga (1940) [DR=100*T/P]: 3.18
 + Arid (6>DR>3)
 Aridity Index of UNEP [I=P/PE]: 0.58
 + Subhumid - dry (0.65>I>0.5)
 Potential Erosion I of Fournier (1960) [K=Pi²/P].....: 13.73
 + 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: 3. Macro-mesothermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.35	0.47	0.37	0.24	0.19	0.03	0.01	0.00	0.10	0.16	0.28	0.50
T-E ratio	4.05	4.77	5.76	7.11	9.45	11.34	13.05	12.60	10.98	8.46	5.58	3.69
Precipitation-effectiveness:	27.11					Temperature-efficiency: 96.84						
Moisture Index [MI=100*(P-PE)/PE]: -41.80 + D.Semiarid (-66.7<MI<-33.3)												
Index of dryness [DI=100*d/PE]: 58.90 + Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE]: 17.10 + Moderate surplus (10<HI<20)												
Potential Evapotranspiration PE: 969.11 + Third mesothermic (855<PE<997)												

