

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

Prof.Dr. Salvador Rivas-Martinez

(Adapted to Synoptical Table 30/08/2017)

VILLANUEVA DE LOS INFANTES (ESP CIUDAD REAL) Altitude: 880 m.

Latitude: 38°44'N Longitude: 3°0'W

Temperature observation period.: 1944-1969 (26)

Rainfall observation period....: 1944-1969 (26)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	4.40	9.20	-0.30	17.00	-6.30	46.0	9.18
Feb.	5.80	11.40	0.10	19.30	-5.70	47.0	13.38
Mar.	8.30	14.20	2.50	22.60	-3.30	57.0	27.17
Apr.	11.00	17.30	4.80	24.70	-0.70	54.0	43.13
May.	15.00	21.70	8.30	29.60	2.20	56.0	74.60
Jun.	19.60	27.10	12.10	34.70	6.20	27.0	109.57
Jul.	24.20	32.70	15.80	37.20	11.40	11.0	149.78
Aug.	23.50	31.50	15.50	36.30	10.60	8.0	134.59
Sep.	19.40	26.70	12.20	32.80	6.50	30.0	90.58
Oct.	14.40	20.70	8.10	27.90	1.80	52.0	54.98
Nov.	9.00	14.40	3.50	21.30	-1.80	48.0	24.83
Dec.	4.90	9.60	0.10	16.40	-6.00	61.0	10.31
Year	13.29	19.71	6.89	26.65	1.24	497	742.11

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	222
Compensated thermicity index.....(Itc):	231
Simple continentality index.....(Ic):	19.8
Diurnality index.....(Id):	16.9
Annual ombrothermic index.....(Io):	3.12
Monthly estival ombrothermic index.....(Ios1):	0.34
Bimonthly estival ombrothermic index.....(Ios2):	0.40
Threemonthly estival ombrothermic index.....(Ios3):	0.68
Fourmonthly estival ombrothermic index.....(Ios4):	1.24
Annual ombro-evaporation index.....(Ioe):	0.59
Annual positive temperature.....(Tp):	1595
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	673
Positive precipitation.....(Pp):	497

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

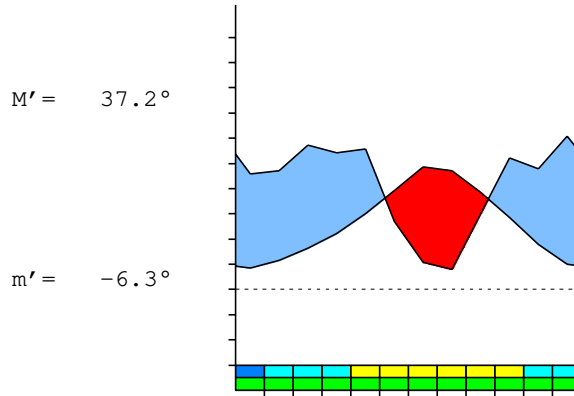
Latitudinal Belt...: Low eutemperate

Continentalty.....: Oceanic - High Semicontinental

Bioclimate.....: MEDITERRANEAN PLUVISEASONAL-OCEANIC

Bioclimatic Belt...: UPPER MESOMEDITERRANEAN UPPER DRY

VILLANUEVA DE LOS INFANTES (ESP CIUDAD REAL) 880 m
 P= 497 38° 44'N 3° 0'W 26/26 y.
 T= 13.3° Ic= 19.8 Tp= 1595 Tn= 0
 m= -0.3° M= 9.2° Itc= 231 Io= 3.1



MEDITERRANEAN PLUVISEASONAL-OCEANIC
 UPPER MESOMEDITERRANEAN UPPER DRY

WATER INDEX CARD VILLANUEVA DE LOS INFANTES (ESP CIUDAD REAL)
 Altitude: 880 m. Latitude: 38° 44'N

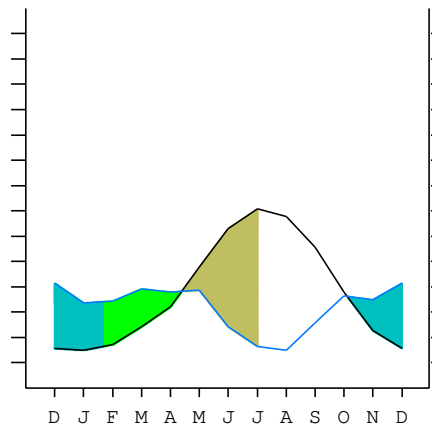
(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	4.4	9	46	26	100	9	0	11	5	4.0
Feb.	5.8	13	47	0	100	13	0	34	19	2.5
Mar.	8.3	27	57	0	100	27	0	30	25	1.0
Apr.	11.0	43	54	0	100	43	0	11	18	0.2
May.	15.0	75	56	-19	81	75	0	0	9	-0.2
Jun.	19.6	110	27	-81	0	108	1	0	4	-0.7
Jul.	24.2	150	11	0	0	11	139	0	2	-0.9
Aug.	23.5	135	8	0	0	8	127	0	1	-0.9
Sep.	19.4	91	30	0	0	30	61	0	1	-0.6
Oct.	14.4	55	52	0	0	52	3	0	0	0.0
Nov.	9.0	25	48	23	23	25	0	0	0	0.9
Dec.	4.9	10	61	51	74	10	0	0	0	4.9
Year	13.3	742	497	*	*	412	330	85	85	*

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

VILLANUEVA DE LOS INFANTES (ESP CIUDAD REAL)
 38°44'N 3°0'W 880 m 26/26 y.

T= 13.3 Ic= 19.8 MEDITERRANEAN PLUVISEASONAL-OCEANIC
 m= -0.3 Tp= 1595 UPPER MESOMEDITERRANEAN
 M= 9.2 Tn= 0 UPPER DRY
 M' = 37.2 Itc= 231
 m' = -6.3 Io= 3.1
 P= 497 mm
 PE= 742 mm

Imbibing	4 Oct.
Saturation	22 Jan.
Reserve Use	12 Apr.
Deficit	30 Jun.



VILLANUEVA DE LOS INFANTES (ESP CIUDAD REAL)
 Latitude: 38°44'N Longitude: 3°0'W Altitude: 880 m

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 eumperate
 + Thermic type: B. Temperate
 + Thermic subtype: 4. Temperate
 Bioclimatic types [B8.3a.5a]
 + Macrobioclimate: B. MEDITERRANEAN
 + Bioclimate: 8. PLUVISEASONAL-OCEANIC
 + Bioclimatic variant ..:
 + Thermic type.....: 3. MESOMEDITERRANEAN
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 5. DRY
 + Ombrothermic subtype : a. UPPER
 Bioclimatic Classification: Mehc.Mme.Dry

VILLANUEVA DE LOS INFANTES (ESP CIUDAD REAL)
 Latitude: 38°44'N Longitude: 3°0'W Altitude: 880 m

PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 184
 Coldest semester of the year.....(Psw): 313
 Warmest four months period of the year.....(Pcm1): 76
 Following warmest four months period.....(Pcm2): 207
 Positive precipitation dryest 3 months.....(Ppd): 46
 Positive precipitation dryest 2 months.....(Ppd2): 19
 Positive precipitation dryest 1 month.....(Ppd1): 8
 Positive precipitation warmest 3 months.....(Pps): 46
 Positive precipitation warmest 2 months.....(Pps2): 19
 Positive precipitation warmest 1 month.....(Pps1): 11
 Positive precipitation coldest 3 months.....(Ppw): 154
 Positive precipitation coldest 2 months.....(Ppw2): 107
 Positive precipitation coldest 1 month.....(Ppw1): 46

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	154	167	46	130

Seasonal rainfall rhythms: P > W > F > S

VILLANUEVA DE LOS INFANTES (ESP CIUDAD REAL)
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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 24.2
 Average coldest month [T].....(Tmin): 4.4
 Maximum temp. warmest month [M].....(Tmmax): 32.7
 Minimum temp. coldest month [m].....(Tmmin): -0.3
 Absolute Max.temp. warmest month [M'].....(Tamax): 37.2
 Absolute Min.temp. coldest month [m'].....(Tamin): -6.3
 First warmest contrasted month [M].....(Tcmax): 32.7 (7)
 First coldest contrasted month [m].....(Tcmin): 15.8 (7)
 Estival temperature.....(Ts): 673
 Positive temperature dryest 3 months.....(Tpd): 673
 Positive temperature dryest 2 months.....(Tpd2): 477
 Positive temperature dryest 1 month.....(Tpd1): 235
 Positive temperature warmest 3 months.....(Tps): 673
 Positive temperature warmest 2 months.....(Tps2): 477
 Positive temperature warmest 1 month.....(Tps1): 242
 Positive temperature coldest 3 months.....(Tpw): 151
 Positive temperature coldest 2 months.....(Tpw2): 93
 Positive temperature coldest 1 month.....(Tpw1): 44

VILLANUEVA DE LOS INFANTES (ESP CIUDAD REAL)

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

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 1.49
 Mediterranean index of July.[PE/P].....(Im1): 13.62
 Mediterranean index of July & August.....(Im2): 14.97
 Mediterranean index of June, July & August....(Im3): 8.56

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	610	460	470	570	540	560	270	110	80	300	520	480
Tp	49	44	58	83	110	150	196	242	235	194	144	90
Io (Iom)	12.4	10.5	8.10	6.87	4.91	3.73	1.38	0.45	0.34	1.55	3.61	5.33
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	1540 / 151			1670 / 343			460 / 673			1300 / 428		
Io (Iot)	10.20			4.869			0.684			3.037		
Semesters	December-May						June-November					
Pp(x10)/Tp	3210 / 494						1760 / 1101					
Io (Iosm)	6.498						1.599					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 4970/1595=3.12 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	610	460	470	570	540	560	270	110	80	300	520	480
Tp [T*10]	49	44	58	83	110	150	196	242	235	194	144	90
Iom [Pp/Tp]	\$\$	\$\$	810	687	491	373	138	45	34	155	361	533
Avm [200-Iom]	***	***	***	***	***	***	62	155	166	45	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	1540 / 151			1670 / 343			460 / 673			1300 / 428		
Iot [Pp/Tp]	1020			487			68			304		
Avs E[Avm<200]	***			***			383			***		
Upper hyperarid [1]							Strong 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):	19.80
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]		33.40
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]		30.78
+ Oceanic (20<CI<40)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)]		1.42
+ Subcontinental (1.1<CI<1.7)		
Rainfall Index of Lang (1925) [R=P/T]		37.39
+ Steppic (40>R>0)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)]		21.34
+ Subhumid (30>Ia>20)		
I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)]		46.48
+ Semiarid (50>Q>30)		
I of Dantin & Revenga (1940) [DR=100*T/P]		2.67
+ Semiarid (3>DR>2)		
Aridity Index of UNEP [I=P/PE]		0.67
+ Humid (I>0.65)		
Potential Erosion I of Fournier (1960) [K=Pi ² /P]		7.49
+ Very low (K<60)		

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)
 + Climate

- + Climate
- + Region
- + Thermic type: 4. Mesothermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.29	0.28	0.32	0.27	0.25	0.10	0.03	0.02	0.11	0.23	0.26	0.39
T-E ratio	1.98	2.61	3.74	4.95	6.75	8.82	10.89	10.57	8.73	6.48	4.05	2.21
Precipitation-effectiveness: 25.49						Temperature-efficiency						71.78
Moisture Index [MI=100*(P-PE)/PE]												-33.03
+ C1.Subhumid dry (-33.3<MI<0)												
Index of dryness [DI=100*d/PE]												44.48
+ Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE]												11.44
+ Moderate surplus (10<HI<20)												
Potential Evapotranspiration PE												742.11
+ Second mesothermic (712<PE<855)												

