

Phytosociological Research Center
 www.globalbioclimatics.org
 Worldwide Bioclimatic Classification System
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 (Adapted to Synoptical Table 30/08/2017)

VALLADOLID (ESP VALLADOLID) Altitude: 734 m.
 Latitude: 41°39'N Longitude: 4°46'W
 Temperature observation period.: 1866-1993 (128)
 Rainfall observation period....: 1861-1993 (133)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	Epi
Jan.	3.44	9.80	-3.20	0.00	0.00	33.7	8.20
Feb.	5.49	11.73	-0.63	0.00	0.00	28.9	14.89
Mar.	7.95	13.56	2.19	0.00	0.00	32.8	29.99
Apr.	10.35	16.80	3.80	0.00	0.00	33.3	45.66
May.	13.84	22.35	5.45	0.00	0.00	42.6	74.42
Jun.	18.08	25.35	11.05	0.00	0.00	33.0	105.49
Jul.	21.32	26.69	15.96	0.00	0.00	11.9	131.20
Aug.	21.17	27.24	15.21	0.00	0.00	11.5	120.88
Sep.	17.92	25.43	10.48	0.00	0.00	32.3	85.41
Oct.	12.51	20.13	5.18	0.00	0.00	37.4	49.33
Nov.	7.33	12.96	1.59	0.00	0.00	41.9	21.53
Dec.	4.04	13.48	-5.38	0.00	0.00	32.6	9.70
Year	11.95	18.79	5.14	0.00	0.00	372	696.69

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	186
Compensated thermicity index.....(Itc):	186
Simple continentality index.....(Ic):	17.9
Diurnality index.....(Id):	18.9
Annual ombrothermic index.....(Io):	2.59
Monthly estival ombrothermic index.....(Ios1):	0.54
Bimonthly estival ombrothermic index.....(Ios2):	0.55
Threemonthly estival ombrothermic index.....(Ios3):	0.93
Fourmonthly estival ombrothermic index.....(Ios4):	1.33
Annual ombro-evaporation index.....(Ioe):	0.83
Annual positive temperature.....(Tp):	1434
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	606
Positive precipitation.....(Pp):	372

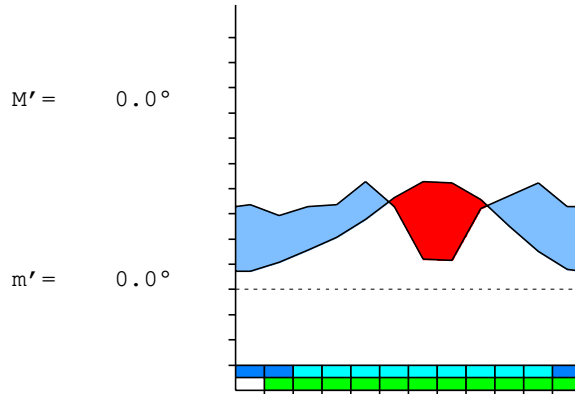
N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	5	3	2	2	0

Latitudinal Belt...: Low eutemperate
 Continentality.....: Oceanic - Low Semicontinental
 Bioclimate.....: MEDITERRANEAN PLUVISEASONAL-OCEANIC
 Bioclimatic Belt...: LOW SUPRAMEDITERRANEAN LOW DRY

VALLADOLID (ESP VALLADOLID)

734 m

P= 372 41° 39'N 4° 46'W 128/133 y.
 T= 12.0° Ic= 17.9 Tp= 1434 Tn= 0
 m= -3.2° M= 9.8° Itc= 186 Io= 2.6



MEDITERRANEAN PLUVISEASONAL-OCEANIC
 LOW SUPRAMEDITERRANEAN LOW DRY

WATER INDEX CARD
 Altitude: 734 m.

VALLADOLID (ESP VALLADOLID)
 Latitude: 41° 39'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	3.4	8	34	25	69	8	0	0	0	3.1
Feb.	5.5	15	29	14	83	15	0	0	0	0.9
Mar.	7.9	30	33	3	86	30	0	0	0	0.0
Apr.	10.4	46	33	-12	73	46	0	0	0	-0.2
May.	13.8	74	43	-32	42	74	0	0	0	-0.4
Jun.	18.1	105	33	-42	0	74	31	0	0	-0.6
Jul.	21.3	131	12	0	0	12	119	0	0	-0.9
Aug.	21.2	121	11	0	0	11	109	0	0	-0.9
Sep.	17.9	85	32	0	0	32	53	0	0	-0.6
Oct.	12.5	49	37	0	0	37	12	0	0	-0.2
Nov.	7.3	22	42	20	20	22	0	0	0	0.9
Dec.	4.0	10	33	23	43	10	0	0	0	2.3
Year	12.0	697	372	*	*	372	325	0	0	*

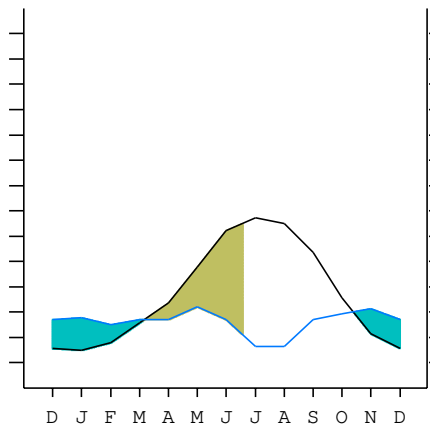
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

VALLADOLID (ESP VALLADOLID)

41°39'N 4°46'W 734 m 128/133 y.

T= 12.0 Ic= 17.9 MEDITERRANEAN PLUVISEASONAL-OCEANIC
 m= -3.2 Tp= 1434 LOW SUPRAMEDITERRANEAN
 M= 9.8 Tn= 0 LOW DRY
 M' = 0.0 Itc= 186
 m' = 0.0 Io= 2.6
 P= 372 mm
 PE= 697 mm

Imbibing	12 Oct.
Saturation	6 Mar.
Reserve Use	18 Jun.
Deficit	



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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [B1a]
 + Type: B. Oceanic
 + Subtype: 1. Semicontinental
 + Variant: a. Low
 Thermic types [B1.B4]
 + Latitudinal zone: B. Temperate
 + Latitudinal belt: 1. Low eutemperate
 + Thermic type: B. Temperate
 + Thermic subtype: 4. Temperate
 Bioclimatic types [B8.4b.5b]
 + Macrobioclimate: B. MEDITERRANEAN
 + Bioclimate: 8. PLUVISEASONAL-OCEANIC
 + Bioclimatic variant ..:
 + Thermic type.....: 4. SUPRAMEDITERRANEAN
 + Thermic subtype.....: b. LOW
 + Ombrothermic type ...: 5. DRY
 + Ombrothermic subtype : b. LOW
 Bioclimatic Classification: Mehc.Sme.Dry

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 169
 Coldest semester of the year.....(Psw): 203
 Warmest four months period of the year.....(Pcm1): 89
 Following warmest four months period.....(Pcm2): 146
 Positive precipitation dryest 3 months.....(Ppd): 56
 Positive precipitation dryest 2 months.....(Ppd2): 23
 Positive precipitation dryest 1 month.....(Ppd1): 11
 Positive precipitation warmest 3 months.....(Pps): 56
 Positive precipitation warmest 2 months.....(Pps2): 23
 Positive precipitation warmest 1 month.....(Pps1): 12
 Positive precipitation coldest 3 months.....(Ppw): 95
 Positive precipitation coldest 2 months.....(Ppw2): 66
 Positive precipitation coldest 1 month.....(Ppw1): 34

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	95	108	56	111

Seasonal rainfall rhythms: F > P > W > S

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 21.3
 Average coldest month [T].....(Tmin): 3.4
 Maximum temp. warmest month [M].....(Tmmax): 27.2
 Minimum temp. coldest month [m].....(Tmmin): -5.4
 Absolute Max.temp. warmest month [M'].....(Tamax): 0.0
 Absolute Min.temp. coldest month [m'].....(Tamin): 0.0
 First warmest contrasted month [M].....(Tcmax): 13.5 (12)
 First coldest contrasted month [m].....(Tcmin): -5.4 (12)
 Estival temperature.....(Ts): 606
 Positive temperature dryest 3 months.....(Tpd): 604
 Positive temperature dryest 2 months.....(Tpd2): 425
 Positive temperature dryest 1 month.....(Tpd1): 212
 Positive temperature warmest 3 months.....(Tps): 606
 Positive temperature warmest 2 months.....(Tps2): 425
 Positive temperature warmest 1 month.....(Tps1): 213
 Positive temperature coldest 3 months.....(Tpw): 130
 Positive temperature coldest 2 months.....(Tpw2): 75
 Positive temperature coldest 1 month.....(Tpw1): 34

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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
Ultragelid...[M' <=0] (Pf)												
Hypergelid...[M <=0] (Pf)												
Gelid.....[T <=0] (Pf)												
Subgelid.....[m <=0] (Pf)	o	o										o
Pregelid.....[m' <=0] (Pf)												
Agelid.....[m' > 0] (Pf)												
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): 1.87
 Mediterranean index of July.[PE/P].....(Im1): 11.01
 Mediterranean index of July & August.....(Im2): 10.77
 Mediterranean index of June, July & August....(Im3): 6.34

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	326	337	289	328	333	426	330	119	115	323	374	419
Tp	40	34	55	80	104	138	181	213	212	179	125	73
Io (Iom)	8.07	9.80	5.27	4.13	3.22	3.08	1.82	0.56	0.54	1.80	2.99	5.72
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	952 / 130			1088 / 321			564 / 606			1116 / 378		
Io (Iot)	7.342			3.384			0.931			2.956		
Semesters	December-May						June-November					
Pp(x10)/Tp	2040 / 451						1680 / 983					
Io (Iosm)	4.522						1.708					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 3720/1434=2.59 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	326	337	289	328	333	426	330	119	115	323	374	419
Tp [T*10]	40	34	55	80	104	138	181	213	212	179	125	73
Iom [Pp/Tp]	807	980	527	413	322	308	182	56	54	180	299	572
Avm [200-Iom]	***	***	***	***	***	***	18	144	146	20	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	952 / 130			1088 / 321			564 / 606			1116 / 378		
Iot [Pp/Tp]	734			338			93			296		
Avs E[Avm<200]	***			***			308			***		
Weak lower arid [2]						Weak upper arid [1]						
Weak upper semiarid [2]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp):	17.88
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]		25.34
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]		24.76
+ Oceanic (20<CI<40)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)]		1.20
+ Subcontinental (1.1<CI<1.7)		
Rainfall Index of Lang (1925) [R=P/T]		31.12
+ Steppic (40>R>0)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)]		16.94
+ Semiarid -mediterranean- (20>Ia>15)		
I of Emberger (1930) [Q=100*P/(Tmmax ² -Tmmin ²)]		52.16
+ Subhumid (90>Q>50)		
I of Dantin & Revenga (1940) [DR=100*T/P]		3.21
+ Arid (6>DR>3)		
Aridity Index of UNEP [I=P/PE]		0.53
+ Subhumid - dry (0.65>I>0.5)		
Potential Erosion I of Fournier (1960) [K=Pi ² /P]		4.89
+ 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	0.21	0.17	0.17	0.16	0.19	0.13	0.04	0.04	0.13	0.17	0.23	0.20
T-E ratio	1.55	2.47	3.58	4.66	6.23	8.14	9.59	9.53	8.06	5.63	3.30	1.82
Precipitation-effectiveness: 18.37						Temperature-efficiency						64.55
Moisture Index [MI=100*(P-PE)/PE]												-46.61
+ D.Semiarid (-66.7<MI<-33.3)												
Index of dryness [DI=100*d/PE]												46.61
+ Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE]												0.00
+ No surplus (0<HI<10)												
Potential Evapotranspiration PE												696.69
+ First mesothermic (570<PE<712)												

