

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

VILLALBA DE LOS ALCORES (ESP VALLADOLID) Altitude: 800 m.

Latitude: 41°54'N Longitude: 4°51'W
 Temperature observation period.: 1966-1970 (5)
 Rainfall observation period....: 1966-1970 (5)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	Epi
Jan.	5.00	9.20	0.70	15.20	-4.40	80.0	14.71
Feb.	5.20	9.70	0.80	15.20	-3.60	59.0	15.43
Mar.	6.70	11.80	1.70	17.60	-2.00	56.0	26.35
Apr.	9.10	13.90	4.30	21.80	-0.40	29.0	41.51
May.	11.40	17.00	5.90	25.80	0.60	52.0	61.36
Jun.	16.50	23.40	9.70	32.60	4.80	39.0	96.80
Jul.	21.40	29.20	13.60	35.00	9.20	14.0	133.69
Aug.	19.50	26.50	12.60	33.00	7.60	3.0	111.05
Sep.	17.10	23.40	10.90	30.80	5.80	18.0	82.78
Oct.	12.80	18.20	7.30	26.20	1.60	34.0	53.24
Nov.	7.40	12.20	2.70	18.40	-0.80	67.0	23.66
Dec.	3.30	7.90	-1.20	13.80	-5.80	21.0	8.57
Year	11.28	16.87	5.75	23.78	1.05	472	669.15

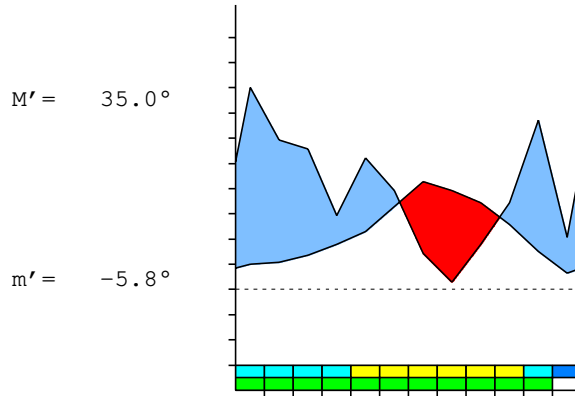
BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	180
Compensated thermicity index.....(Itc):	180
Simple continentality index.....(Ic):	18.1
Diurnality index.....(Id):	15.6
Annual ombrothermic index.....(Io):	3.49
Monthly estival ombrothermic index.....(Ios1):	0.15
Bimonthly estival ombrothermic index.....(Ios2):	0.42
Threemonthly estival ombrothermic index.....(Ios3):	0.98
Fourmonthly estival ombrothermic index.....(Ios4):	1.57
Annual ombro-evaporation index.....(Ioe):	0.51
Annual positive temperature.....(Tp):	1354
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	574
Positive precipitation.....(Pp):	472

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	6	3	1	2	0

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

VILLALBA DE LOS ALCORES (ESP VALLADOLID) 800 m
 P= 472 41° 54'N 4° 51'W 5/5 y.
 T= 11.3° Ic= 18.1 Tp= 1354 Tn= 0
 m= -1.2° M= 7.9° Itc= 180 Io= 3.5



MEDITERRANEAN PLUVISEASONAL-OCEANIC
 LOW SUPRAMEDITERRANEAN UPPER DRY

WATER INDEX CARD VILLALBA DE LOS ALCORES (ESP VALLADOLID)
 Altitude: 800 m. Latitude: 41° 54'N

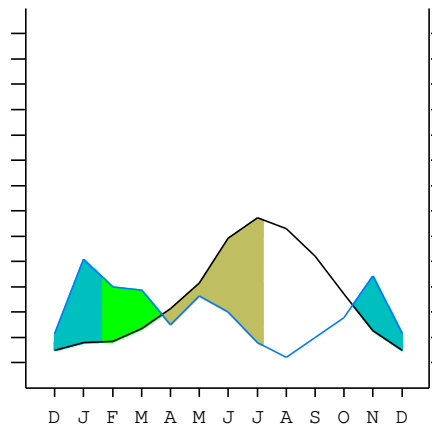
(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	5.0	15	80	44	100	15	0	21	11	4.4
Feb.	5.2	15	59	0	100	15	0	44	27	2.8
Mar.	6.7	26	56	0	100	26	0	30	28	1.1
Apr.	9.1	42	29	-13	87	42	0	0	14	-0.3
May.	11.4	61	52	-9	78	61	0	0	7	-0.1
Jun.	16.5	97	39	-58	20	97	0	0	4	-0.5
Jul.	21.4	134	14	-20	0	34	99	0	2	-0.8
Aug.	19.5	111	3	0	0	3	108	0	1	-0.9
Sep.	17.1	83	18	0	0	18	65	0	0	-0.7
Oct.	12.8	53	34	0	0	34	19	0	0	-0.3
Nov.	7.4	24	67	43	43	24	0	0	0	1.8
Dec.	3.3	9	21	12	56	9	0	0	0	1.4
Year	11.3	669	472	*	*	378	291	94	94	*

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

VILLALBA DE LOS ALCORES (ESP VALLADOLID) 41°54'N 4°51'W 800 m 5/5 y.

T= 11.3 Ic= 18.1 MEDITERRANEAN PLUVISEASONAL-OCEANIC
 m= -1.2 Tp= 1354 LOW SUPRAMEDITERRANEAN
 M= 7.9 Tn= 0 UPPER DRY
 M' = 35.0 Itc= 180
 m' = -5.8 Io= 3.5
 P= 472 mm
 PE= 669 mm

Imbibing	10 Oct.
Saturation	21 Jan.
Reserve Use	22 Mar.
Deficit	6 Jul.



VILLALBA DE LOS ALCORES (ESP VALLADOLID)

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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.5a]
 + Macrobioclimate: B. MEDITERRANEAN
 + Bioclimate: 8. PLUVISEASONAL-OCEANIC
 + Bioclimatic variant ..:
 + Thermic type.....: 4. SUPRAMEDITERRANEAN
 + Thermic subtype.....: b. LOW
 + Ombrothermic type ...: 5. DRY
 + Ombrothermic subtype : a. UPPER
 Bioclimatic Classification: Mehc.Sme.Dry

VILLALBA DE LOS ALCORES (ESP VALLADOLID)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 160
 Coldest semester of the year.....(Psw): 312
 Warmest four months period of the year.....(Pcm1): 74
 Following warmest four months period.....(Pcm2): 202
 Positive precipitation dryest 3 months.....(Ppd): 35
 Positive precipitation dryest 2 months.....(Ppd2): 17
 Positive precipitation dryest 1 month.....(Ppd1): 3
 Positive precipitation warmest 3 months.....(Pps): 35
 Positive precipitation warmest 2 months.....(Pps2): 17
 Positive precipitation warmest 1 month.....(Pps1): 14
 Positive precipitation coldest 3 months.....(Ppw): 160
 Positive precipitation coldest 2 months.....(Ppw2): 101
 Positive precipitation coldest 1 month.....(Ppw1): 21

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	160	137	56	119

Seasonal rainfall rhythms: W > P > F > S

VILLALBA DE LOS ALCORES (ESP VALLADOLID)

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 21.4
 Average coldest month [T].....(Tmin): 3.3
 Maximum temp. warmest month [M].....(Tmmax): 29.2
 Minimum temp. coldest month [m].....(Tmmin): -1.2
 Absolute Max.temp. warmest month [M'].....(Tamax): 35.0
 Absolute Min.temp. coldest month [m'].....(Tamin): -5.8
 First warmest contrasted month [M].....(Tcmax): 29.2 (7)
 First coldest contrasted month [m].....(Tcmin): 13.6 (7)
 Estival temperature.....(Ts): 574
 Positive temperature dryest 3 months.....(Tpd): 580
 Positive temperature dryest 2 months.....(Tpd2): 409
 Positive temperature dryest 1 month.....(Tpd1): 195
 Positive temperature warmest 3 months.....(Tps): 580
 Positive temperature warmest 2 months.....(Tps2): 409
 Positive temperature warmest 1 month.....(Tps1): 214
 Positive temperature coldest 3 months.....(Tpw): 135
 Positive temperature coldest 2 months.....(Tpw2): 83
 Positive temperature coldest 1 month.....(Tpw1): 33

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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
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		

VILLALBA DE LOS ALCORES (ESP VALLADOLID)

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 1.42
 Mediterranean index of July.[PE/P].....(Im1): 9.55
 Mediterranean index of July & August.....(Im2): 14.40
 Mediterranean index of June, July & August....(Im3): 6.10

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	210	800	590	560	290	520	390	140	30	180	340	670
Tp	33	50	52	67	91	114	165	214	195	171	128	74
Io (Iom)	6.36	16.0	11.3	8.36	3.19	4.56	2.36	0.65	0.15	1.05	2.66	9.05
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	1600 / 135			1370 / 272			560 / 574			1190 / 373		
Io (Iot)	11.85			5.037			0.976			3.190		
Semesters	December-May						June-November					
Pp(x10)/Tp	2970 / 407						1750 / 947					
Io (Iosm)	7.297						1.848					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 4720/1354=3.49 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	210	800	590	560	290	520	390	140	30	180	340	670
Tp [T*10]	33	50	52	67	91	114	165	214	195	171	128	74
Iom [Pp/Tp]	636	\$\$	\$\$	836	319	456	236	65	15	105	266	905
Avm [200-Iom]	***	***	***	***	***	***	***	135	185	95	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	1600 / 135			1370 / 272			560 / 574			1190 / 373		
Iot [Pp/Tp]	1185			504			98			319		
Avs E[Avm<200]	***			***			***			***		
Upper ultrahyperarid [1]							Weak lower arid [1]					
Strong lower semiarid [1]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp): 18.10
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]	25.67
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]	25.10
+ Oceanic (20<CI<40)	
CI of Currey (1974) [CI=Sp/(1+Lat/3)]	1.21
+ Subcontinental (1.1<CI<1.7)	
Rainfall Index of Lang (1925) [R=P/T]	41.83
+ Semiarid (60>R>40)	
Aridity Index of Martonne (1926) [Ia=P/(T+10)]	22.18
+ Subhumid (30>Ia>20)	
I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)]	55.45
+ Subhumid (90>Q>50)	
I of Dantin & Revenga (1940) [DR=100*T/P]	2.39
+ Semiarid (3>DR>2)	
Aridity Index of UNEP [I=P/PE]	0.71
+ Humid (I>0.65)	
Potential Erosion I of Fournier (1960) [K=Pi ² /P]	13.56
+ 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	0.52	0.37	0.33	0.15	0.26	0.16	0.05	0.01	0.07	0.15	0.39	0.13	
T-E ratio	2.25	2.34	3.01	4.10	5.13	7.43	9.63	8.77	7.70	5.76	3.33	1.48	
Precipitation-effectiveness:	25.74					Temperature-efficiency							60.93
Moisture Index [MI=100*(P-PE)/PE]	-29.46												
+ C1.Subhumid dry (-33.3<MI<0)													
Index of dryness [DI=100*d/PE]	43.55												
+ Strong deficit (33.3<DI)													
Index of humidity [HI=100*s/PE]	14.08												
+ Moderate surplus (10<HI<20)													
Potential Evapotranspiration PE	669.15												
+ First mesothermic (570<PE<712)													

