

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

Prof.Dr. Salvador Rivas-Martinez

(Adapted to Synoptical Table 30/08/2017)

SANTO DOMINGO DE LA CALZADA (ESP LOGROÑO) Altitude: 639 m.

Latitude: 42°26'N Longitude: 2°57'W
 Temperature observation period.: 1950-1962 (13)
 Rainfall observation period....: 1950-1962 (13)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	4.00	7.40	0.50	15.10	-5.10	45.0	11.50
Feb.	5.00	9.10	0.90	16.20	-4.50	39.0	15.03
Mar.	8.20	13.30	3.10	21.20	-1.70	40.0	34.15
Apr.	9.60	14.70	4.40	22.30	-0.60	48.0	44.86
May.	13.20	18.80	7.60	27.40	2.10	63.0	73.94
Jun.	16.40	22.40	10.50	30.20	5.50	64.0	96.68
Jul.	18.40	25.10	11.80	32.90	7.30	25.0	111.85
Aug.	19.00	25.90	12.00	32.20	7.50	28.0	108.06
Sep.	16.70	22.50	10.80	29.70	5.60	50.0	80.91
Oct.	11.90	16.60	7.10	23.60	2.20	63.0	49.23
Nov.	7.30	11.20	3.50	23.00	-1.70	57.0	23.65
Dec.	6.00	9.10	2.80	14.80	-3.00	59.0	18.01
Year	11.31	16.34	6.25	24.05	1.13	581	667.86

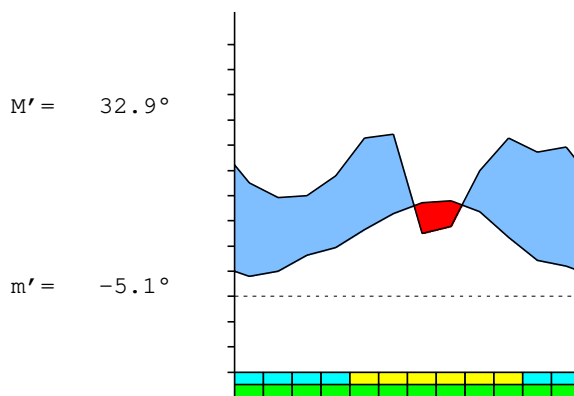
BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	192
Compensated thermicity index.....(Itc):	192
Simple continentality index.....(Ic):	15.0
Diurnality index.....(Id):	13.9
Annual ombrothermic index.....(Io):	4.28
Monthly estival ombrothermic index.....(Ios1):	1.36
Bimonthly estival ombrothermic index.....(Ios2):	1.42
Three monthly estival ombrothermic index.....(Ios3):	2.17
Four monthly estival ombrothermic index.....(Ios4):	2.69
Annual ombro-evaporation index.....(Ioe):	1.02
Annual positive temperature.....(Tp):	1357
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	538
Positive precipitation.....(Pp):	581

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	8	2	2	0	0

Latitudinal Belt...: Low eutemperate
 Continentality.....: Oceanic - High Euoceanic
 Bioclimate.....: MEDITERRANEAN PLUVISEASONAL-OCEANIC
 Bioclimatic Belt...: LOW SUPRAMEDITERRANEAN LOW SUBHUMID

SANTO DOMINGO DE LA CALZADA (ESP LOGROÑO) 639 m
 P= 581 42° 26'N 2° 57'W 13/13 y.
 T= 11.3° Ic= 15.0 Tp= 1357 Tn= 0
 m= 0.5° M= 7.4° Itc= 192 Io= 4.3



MEDITERRANEAN PLUVISEASONAL-OCEANIC
 LOW SUPRAMEDITERRANEAN LOW SUBHUMID

WATER INDEX CARD SANTO DOMINGO DE LA CALZADA (ESP LOGROÑO)
 Altitude: 639 m. Latitude: 42° 26'N

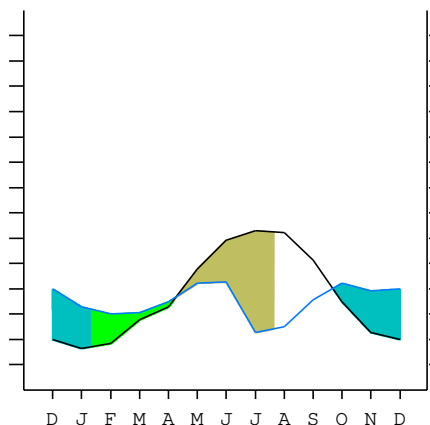
(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	4.0	11	45	12	100	11	0	22	11	2.9
Feb.	5.0	15	39	0	100	15	0	24	17	1.5
Mar.	8.2	34	40	0	100	34	0	6	12	0.1
Apr.	9.6	45	48	0	100	45	0	3	7	0.0
May.	13.2	74	63	-11	89	74	0	0	4	-0.1
Jun.	16.4	97	64	-33	56	97	0	0	2	-0.3
Jul.	18.4	112	25	-56	0	81	30	0	1	-0.7
Aug.	19.0	108	28	0	0	28	80	0	0	-0.7
Sep.	16.7	81	50	0	0	50	31	0	0	-0.3
Oct.	11.9	49	63	14	14	49	0	0	0	0.2
Nov.	7.3	24	57	33	47	24	0	0	0	1.4
Dec.	6.0	18	59	41	88	18	0	0	0	2.2
Year	11.3	668	581	*	*	526	141	55	55	*

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

SANTO DOMINGO DE LA CALZADA (ESP LOGROÑO)
 42°26'N 2°57'W 639 m 13/13 y.

T= 11.3 Ic= 15.0 MEDITERRANEAN PLUVISEASONAL-OCEANIC
 m= 0.5 Tp= 1357 LOW SUPRAMEDITERRANEAN
 M= 7.4 Tn= 0 LOW SUBHUMID
 M' = 32.9 Itc= 192
 m' = -5.1 Io= 4.3
 P= 581 mm
 PE= 668 mm

Imbibing	21 Sep.
Saturation	11 Jan.
Reserve Use	7 Apr.
Deficit	20 Jul.



SANTO DOMINGO DE LA CALZADA (ESP LOGROÑO)

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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [B2a]
 + Type: B. Oceanic
 + Subtype: 2. Euoceanic
 + Variant: a. High
 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.6b]
 + Macrobioclimate: B. MEDITERRANEAN
 + Bioclimate: 8. PLUVISEASONAL-OCEANIC
 + Bioclimatic variant ..:
 + Thermic type.....: 4. SUPRAMEDITERRANEAN
 + Thermic subtype.....: b. LOW
 + Ombrothermic type ...: 6. SUBHUMID
 + Ombrothermic subtype : b. LOW
 Bioclimatic Classification: Mehc.Sme.Shu

SANTO DOMINGO DE LA CALZADA (ESP LOGROÑO)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 293
 Coldest semester of the year.....(Psw): 288
 Warmest four months period of the year.....(Pcm1): 167
 Following warmest four months period.....(Pcm2): 224
 Positive precipitation dryest 3 months.....(Ppd): 103
 Positive precipitation dryest 2 months.....(Ppd2): 53
 Positive precipitation dryest 1 month.....(Ppd1): 25
 Positive precipitation warmest 3 months.....(Pps): 103
 Positive precipitation warmest 2 months.....(Pps2): 53
 Positive precipitation warmest 1 month.....(Pps1): 28
 Positive precipitation coldest 3 months.....(Ppw): 143
 Positive precipitation coldest 2 months.....(Ppw2): 84
 Positive precipitation coldest 1 month.....(Ppw1): 45

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	143	151	117	170

Seasonal rainfall rhythms: F > P > W > S

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 19.0
 Average coldest month [T].....(Tmin): 4.0
 Maximum temp. warmest month [M].....(Tmmax): 25.9
 Minimum temp. coldest month [m].....(Tmmin): 0.5
 Absolute Max.temp. warmest month [M'].....(Tamax): 32.9
 Absolute Min.temp. coldest month [m'].....(Tamin): -5.1
 First warmest contrasted month [M].....(Tcmax): 25.9 (8)
 First coldest contrasted month [m].....(Tcmin): 12.0 (8)
 Estival temperature.....(Ts): 538
 Positive temperature dryest 3 months.....(Tpd): 541
 Positive temperature dryest 2 months.....(Tpd2): 374
 Positive temperature dryest 1 month.....(Tpd1): 184
 Positive temperature warmest 3 months.....(Tps): 541
 Positive temperature warmest 2 months.....(Tps2): 374
 Positive temperature warmest 1 month.....(Tps1): 190
 Positive temperature coldest 3 months.....(Tpw): 150
 Positive temperature coldest 2 months.....(Tpw2): 90
 Positive temperature coldest 1 month.....(Tpw1): 40

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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	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): 1.15
 Mediterranean index of July.[PE/P].....(Im1): 4.47
 Mediterranean index of July & August.....(Im2): 4.15
 Mediterranean index of June, July & August....(Im3): 2.71

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	590	450	390	400	480	630	640	250	280	500	630	570
Tp	60	40	50	82	96	132	164	184	190	167	119	73
Io (Iom)	9.83	11.3	7.80	4.88	5.00	4.77	3.90	1.36	1.47	2.99	5.29	7.81
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	1430 / 150			1510 / 310			1170 / 538			1700 / 359		
Io (Iot)	9.533			4.871			2.175			4.735		
Semesters	December-May						June-November					
Pp(x10)/Tp	2940 / 460						2870 / 897					
Io (Iosm)	6.391						3.200					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 5810/1357=4.28 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	590	450	390	400	480	630	640	250	280	500	630	570
Tp [T*10]	60	40	50	82	96	132	164	184	190	167	119	73
Iom [Pp/Tp]	983	\$\$\$	780	488	500	477	390	136	147	299	529	781
Avm [200-Iom]	***	***	***	***	***	***	***	64	53	***	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	1430 / 150			1510 / 310			1170 / 538			1700 / 359		
Iot [Pp/Tp]	953			487			217			474		
Avs E[Avm<200]	***			***			***			***		
Weak lower semiarid [2]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp): 15.00
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]	17.39
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]	18.17
+ Hyperoceanic (-20<CI<20)	
CI of Currey (1974) [CI=Sp/(1+Lat/3)]	0.99
+ Oceanic (0.6<CI<1.1)	
Rainfall Index of Lang (1925) [R=P/T]	51.38
+ Semiarid (60>R>40)	
Aridity Index of Martonne (1926) [Ia=P/(T+10)]	27.27
+ Subhumid (30>Ia>20)	
I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)]	86.64
+ Subhumid (90>Q>50)	
I of Dantin & Revenga (1940) [DR=100*T/P]	1.95
+ Humid (2>DR>0)	
Aridity Index of UNEP [I=P/PE]	0.87
+ Humid (I>0.65)	
Potential Erosion I of Fournier (1960) [K=Pi ² /P]	7.05
+ 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	0.23	0.21	0.25	0.30	0.28	0.09	0.10	0.21	0.31	0.33	0.36
T-E ratio	1.80	2.25	3.69	4.32	5.94	7.38	8.28	8.55	7.52	5.35	3.29	2.70
Precipitation-effectiveness: 29.73						Temperature-efficiency						61.06
Moisture Index [MI=100*(P-PE)/PE]												-13.01
+ C1.Subhumid dry (-33.3<MI<0)												
Index of dryness [DI=100*d/PE]												21.17
+ Moderate deficit (16.7<DI<33.3)												
Index of humidity [HI=100*s/PE]												8.16
+ No surplus (0<HI<10)												
Potential Evapotranspiration PE												667.86
+ First mesothermic (570<PE<712)												

