

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

SAN ASENSIO (ESP LOGROÑO)

Altitude: 475 m.

Latitude: 42°31'N Longitude: 2°45'W

Temperature observation period.: 1970-1980 (11)

Rainfall observation period....: 1970-1980 (11)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	4.50	7.80	1.10	14.30	-4.80	38.2	12.48
Feb.	6.40	10.30	2.60	16.40	-2.70	40.7	19.45
Mar.	7.50	12.30	2.70	20.20	-2.60	40.2	29.39
Apr.	9.30	14.10	4.50	22.60	-0.80	57.3	42.00
May.	12.90	18.30	7.40	26.90	1.40	69.0	70.56
Jun.	16.60	22.80	10.40	30.10	5.30	50.3	97.64
Jul.	19.80	27.10	12.50	34.40	7.70	28.3	122.13
Aug.	20.10	27.20	13.10	34.20	8.00	24.2	115.72
Sep.	17.30	24.10	10.40	30.70	4.40	29.4	83.45
Oct.	12.10	17.20	7.10	25.30	1.30	36.6	49.19
Nov.	7.20	11.30	3.20	18.30	-2.90	51.2	22.20
Dec.	5.00	8.00	2.00	15.40	-4.60	44.4	13.50
Year	11.56	16.71	6.42	24.07	0.81	510	677.69

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	205
Compensated thermicity index.....(Itc):	205
Simple continentality index.....(Ic):	15.6
Diurnality index.....(Id):	14.6
Annual ombrothermic index.....(Io):	3.68
Monthly estival ombrothermic index.....(Ios1):	1.20
Bimonthly estival ombrothermic index.....(Ios2):	1.32
Threemonthly estival ombrothermic index.....(Ios3):	1.82
Fourmonthly estival ombrothermic index.....(Ios4):	2.48
Annual ombro-evaporation index.....(Ioe):	0.87
Annual positive temperature.....(Tp):	1387
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	565
Positive precipitation.....(Pp):	510

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	7	2	3	0	0

Latitudinal Belt...: Low eutemperate

Continentalty.....: Oceanic - Low Euoceanic

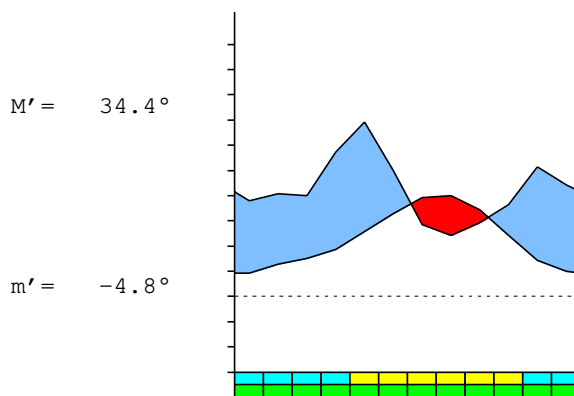
Bioclimate.....: MEDITERRANEAN PLUVISEASONAL-OCEANIC

Bioclimatic Belt...: LOW SUPRAMEDITERRANEAN LOW SUBHUMID

SAN ASENSIO (ESP LOGROÑO)

475 m

P= 510 42° 31'N 2° 45'W 11/11 y.
 T= 11.6° Ic= 15.6 Tp= 1387 Tn= 0
 m= 1.1° M= 7.8° Itc= 205 Io= 3.7



MEDITERRANEAN PLUVISEASONAL-OCEANIC
 LOW SUPRAMEDITERRANEAN LOW SUBHUMID

WATER INDEX CARD SAN ASENSIO (ESP LOGROÑO)

Altitude: 475 m. Latitude: 42° 31'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	4.5	12	38	26	86	12	0	0	0	2.0
Feb.	6.4	19	41	14	100	19	0	7	3	1.0
Mar.	7.5	29	40	0	100	29	0	11	7	0.3
Apr.	9.3	42	57	0	100	42	0	15	11	0.3
May.	12.9	71	69	-2	98	71	0	0	6	0.0
Jun.	16.6	98	50	-47	51	98	0	0	3	-0.4
Jul.	19.8	122	28	-51	0	79	43	0	1	-0.7
Aug.	20.1	116	24	0	0	24	92	0	1	-0.7
Sep.	17.3	83	29	0	0	29	54	0	0	-0.6
Oct.	12.1	49	37	0	0	37	13	0	0	-0.2
Nov.	7.2	22	51	29	29	22	0	0	0	1.3
Dec.	5.0	13	44	31	60	13	0	0	0	2.2
Year	11.6	678	510	*	*	477	201	33	33	*

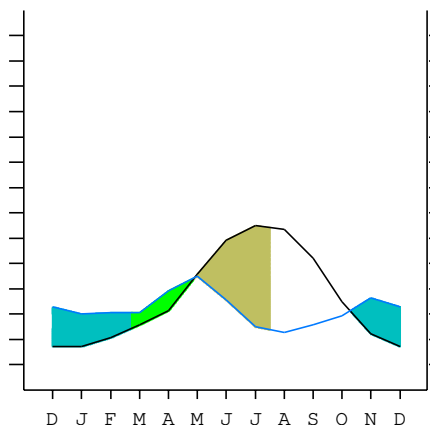
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

SAN ASENSIO (ESP LOGROÑO)

42°31'N 2°45'W 475 m 11/11 y.

T= 11.6 Ic= 15.6 MEDITERRANEAN PLUVISEASONAL-OCEANIC
 m= 1.1 Tp= 1387 LOW SUPRAMEDITERRANEAN
 M= 7.8 Tn= 0 LOW SUBHUMID
 M' = 34.4 Itc= 205
 m' = -4.8 Io= 3.7
 P= 510 mm
 PE= 678 mm

Imbibing	10 Oct.
Saturation	21 Feb.
Reserve Use	28 Apr.
Deficit	17 Jul.



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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [B2b]
 + Type: B. Oceanic
 + Subtype: 2. Euoceanic
 + Variant: b. 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.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

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 238
 Coldest semester of the year.....(Psw): 272
 Warmest four months period of the year.....(Pcm1): 132
 Following warmest four months period.....(Pcm2): 170
 Positive precipitation dryest 3 months.....(Ppd): 82
 Positive precipitation dryest 2 months.....(Ppd2): 53
 Positive precipitation dryest 1 month.....(Ppd1): 24
 Positive precipitation warmest 3 months.....(Pps): 82
 Positive precipitation warmest 2 months.....(Pps2): 53
 Positive precipitation warmest 1 month.....(Pps1): 24
 Positive precipitation coldest 3 months.....(Ppw): 123
 Positive precipitation coldest 2 months.....(Ppw2): 83
 Positive precipitation coldest 1 month.....(Ppw1): 38

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	123	166	102	117

Seasonal rainfall rhythms: P > W > F > S

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 20.1
 Average coldest month [T].....(Tmin): 4.5
 Maximum temp. warmest month [M].....(Tmmax): 27.2
 Minimum temp. coldest month [m].....(Tmmin): 1.1
 Absolute Max.temp. warmest month [M'].....(Tamax): 34.4
 Absolute Min.temp. coldest month [m'].....(Tamin): -4.8
 First warmest contrasted month [M].....(Tcmax): 27.1 (7)
 First coldest contrasted month [m].....(Tcmin): 12.5 (7)
 Estival temperature.....(Ts): 565
 Positive temperature dryest 3 months.....(Tpd): 572
 Positive temperature dryest 2 months.....(Tpd2): 399
 Positive temperature dryest 1 month.....(Tpd1): 201
 Positive temperature warmest 3 months.....(Tps): 572
 Positive temperature warmest 2 months.....(Tps2): 399
 Positive temperature warmest 1 month.....(Tps1): 201
 Positive temperature coldest 3 months.....(Tpw): 159
 Positive temperature coldest 2 months.....(Tpw2): 95
 Positive temperature coldest 1 month.....(Tpw1): 45

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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): 1.33
 Mediterranean index of July.[PE/P].....(Im1): 4.32
 Mediterranean index of July & August.....(Im2): 4.53
 Mediterranean index of June, July & August....(Im3): 3.26

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	444	382	407	402	573	690	503	283	242	294	366	512
Tp	50	45	64	75	93	129	166	198	201	173	121	72
Io (Iom)	8.88	8.49	6.36	5.36	6.16	5.35	3.03	1.43	1.20	1.70	3.02	7.11
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	1233 / 159			1665 / 297			1028 / 565			1172 / 366		
Io (Iot)	7.755			5.606			1.819			3.202		
Semesters	December-May						June-November					
Pp(x10)/Tp	2898 / 456						2200 / 931					
Io (Iosm)	6.355						2.363					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 5098/1387=3.68 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	444	382	407	402	573	690	503	283	242	294	366	512
Tp [T*10]	50	45	64	75	93	129	166	198	201	173	121	72
Iom [Pp/Tp]	888	849	636	536	616	535	303	143	120	170	302	711
Avm [200-Iom]	***	***	***	***	***	***	***	57	80	30	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	1233 / 159			1665 / 297			1028 / 565			1172 / 366		
Iot [Pp/Tp]	775			561			182			320		
Avs E[Avm<200]	***			***			***			***		
Weak lower semiarid [2]							Strong upper semiarid [1]					

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp): 15.60
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]	18.84
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]	19.42
+ Hyperoceanic (-20<CI<20)	
CI of Currey (1974) [CI=Sp/(1+Lat/3)]	1.03
+ Oceanic (0.6<CI<1.1)	
Rainfall Index of Lang (1925) [R=P/T]	44.11
+ Semiarid (60>R>40)	
Aridity Index of Martonne (1926) [Ia=P/(T+10)]	23.65
+ Subhumid (30>Ia>20)	
I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)]	69.02
+ Subhumid (90>Q>50)	
I of Dantin & Revenga (1940) [DR=100*T/P]	2.27
+ Semiarid (3>DR>2)	
Aridity Index of UNEP [I=P/PE]	0.75
+ Humid (I>0.65)	
Potential Erosion I of Fournier (1960) [K=Pi ² /P]	9.34
+ 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	0.23	0.23	0.22	0.31	0.34	0.21	0.10	0.09	0.11	0.17	0.29	0.27
T-E ratio	2.03	2.88	3.38	4.19	5.80	7.47	8.91	9.05	7.78	5.45	3.24	2.25
Precipitation-effectiveness: 25.82						Temperature-efficiency						62.41
Moisture Index [MI=100*(P-PE)/PE]												-24.77
+ C1.Subhumid dry (-33.3<MI<0)												
Index of dryness [DI=100*d/PE]												29.63
+ Moderate deficit (16.7<DI<33.3)												
Index of humidity [HI=100*s/PE]												4.85
+ No surplus (0<HI<10)												
Potential Evapotranspiration PE												677.69
+ First mesothermic (570<PE<712)												

