

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

SANTOMERA (ESP MURCIA)

Altitude: 100 m.

Latitude: 38°5'N Longitude: 1°6'W

Temperature observation period.: 1945-1965 (21)

Rainfall observation period....: 1945-1965 (21)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	Epi
Jan.	9.70	15.70	3.80	22.30	-2.00	23.0	17.84
Feb.	11.20	18.00	4.40	25.00	-0.70	21.0	23.00
Mar.	13.70	20.90	6.60	28.40	0.90	21.0	40.94
Apr.	15.70	23.00	8.40	29.60	3.70	47.0	56.25
May.	19.10	27.00	11.20	33.70	6.40	30.0	90.37
Jun.	22.60	30.50	14.80	37.50	10.30	17.0	124.35
Jul.	25.60	33.70	17.50	40.60	14.10	2.0	157.84
Aug.	26.00	34.10	17.90	40.20	14.40	9.0	152.04
Sep.	23.30	31.20	15.50	36.90	11.80	31.0	110.35
Oct.	18.90	26.00	11.70	31.80	6.80	48.0	69.17
Nov.	14.30	20.80	7.80	26.90	3.10	27.0	36.14
Dec.	11.00	17.00	5.00	22.50	-0.20	34.0	21.98
Year	17.59	24.82	10.38	31.28	5.72	310	900.26

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	371
Compensated thermicity index.....(Itc):	371
Simple continentality index.....(Ic):	16.3
Diurnality index.....(Id):	16.2
Annual ombrothermic index.....(Io):	1.47
Monthly estival ombrothermic index.....(Ios1):	0.08
Bimonthly estival ombrothermic index.....(Ios2):	0.21
Threemonthly estival ombrothermic index.....(Ios3):	0.38
Fourmonthly estival ombrothermic index.....(Ios4):	0.62
Annual ombro-evaporation index.....(Ioe):	0.79
Annual positive temperature.....(Tp):	2111
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	742
Positive precipitation.....(Pp):	310

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

Latitudinal Belt...: Low eutemperate

Continentalty.....: Oceanic - Low Euoceanic

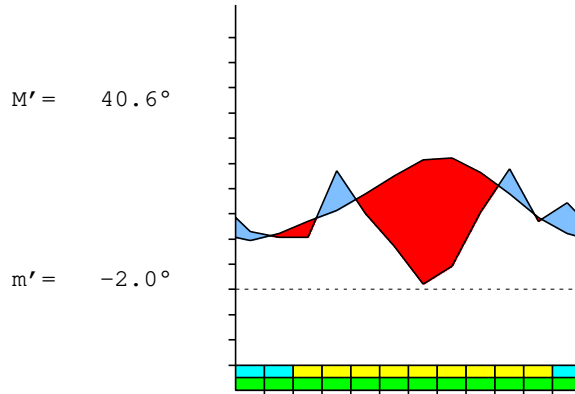
Bioclimate.....: MEDITERRANEAN XERIC-OCEANIC

Bioclimatic Belt...: UPPER THERMOMEDITERRANEAN LOW SEMIARID

SANTOMERA (ESP MURCIA)

100 m

P= 310 38° 5'N 1° 6'W 21/21 y.
 T= 17.6° Ic= 16.3 Tp= 2111 Tn= 0
 m= 3.8° M= 15.7° Itc= 371 Io= 1.5



MEDITERRANEAN XERIC-OCEANIC
 UPPER THERMOMEDITERRANEAN LOW SEMIARID

WATER INDEX CARD SANTOMERA (ESP MURCIA)
 Altitude: 100 m. Latitude: 38° 5'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	9.7	18	23	5	17	18	0	0	0	0.2
Feb.	11.2	23	21	-2	15	23	0	0	0	0.0
Mar.	13.7	41	21	-15	0	36	5	0	0	-0.4
Apr.	15.7	56	47	0	0	47	9	0	0	-0.1
May.	19.1	90	30	0	0	30	60	0	0	-0.6
Jun.	22.6	124	17	0	0	17	107	0	0	-0.8
Jul.	25.6	158	2	0	0	2	156	0	0	-0.9
Aug.	26.0	152	9	0	0	9	143	0	0	-0.9
Sep.	23.3	110	31	0	0	31	79	0	0	-0.7
Oct.	18.9	69	48	0	0	48	21	0	0	-0.3
Nov.	14.3	36	27	0	0	27	9	0	0	-0.2
Dec.	11.0	22	34	12	12	22	0	0	0	0.5
Year	17.6	900	310	*	*	310	590	0	0	*

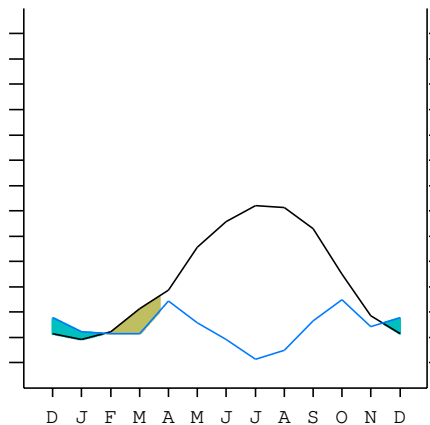
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

SANTOMERA (ESP MURCIA)

38°5'N 1°6'W 100 m 21/21 y.

T= 17.6 Ic= 16.3 MEDITERRANEAN XERIC-OCEANIC
 m= 3.8 Tp= 2111 UPPER THERMOMEDITERRANEAN
 M= 15.7 Tn= 0 LOW SEMIARID
 M' = 40.6 Itc= 371
 m' = -2.0 Io= 1.5
 P= 310 mm ———
 PE= 900 mm ———

Imbibing	13 Nov.
Saturation	22 Jan.
Reserve Use	23 Mar.
Deficit	



SANTOMERA (ESP MURCIA)

Latitude: 38°5'N Longitude: 1°6'W Altitude: 100 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

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

Thermic types [B1.A3]
 + Latitudinal zone: B. Temperate
 + Latitudinal belt: 1. Low eutemperate
 + Thermic type: A. Warm
 + Thermic subtype: 3. Subwarm

Bioclimatic types [B6.2a.4b]
 + Macrobioclimate: B. MEDITERRANEAN
 + Bioclimate: 6. XERIC-OCEANIC
 + Bioclimatic variant ..:
 + Thermic type.....: 2. THERMOMEDITERRANEAN
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 4. SEMIARID
 + Ombrothermic subtype : b. LOW

Bioclimatic Classification: MepDC.Tme.Sar

SANTOMERA (ESP MURCIA)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 137
 Coldest semester of the year.....(Psw): 173
 Warmest four months period of the year.....(Pcm1): 59
 Following warmest four months period.....(Pcm2): 132
 Positive precipitation dryest 3 months.....(Ppd): 28
 Positive precipitation dryest 2 months.....(Ppd2): 11
 Positive precipitation dryest 1 month.....(Ppd1): 2
 Positive precipitation warmest 3 months.....(Pps): 42
 Positive precipitation warmest 2 months.....(Pps2): 11
 Positive precipitation warmest 1 month.....(Pps1): 9
 Positive precipitation coldest 3 months.....(Ppw): 78
 Positive precipitation coldest 2 months.....(Ppw2): 57
 Positive precipitation coldest 1 month.....(Ppw1): 23

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	78	98	28	106

Seasonal rainfall rhythms: F > P > W > S

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 26.0
 Average coldest month [T].....(Tmin): 9.7
 Maximum temp. warmest month [M].....(Tmmax): 34.1
 Minimum temp. coldest month [m].....(Tmmin): 3.8
 Absolute Max.temp. warmest month [M'].....(Tamax): 40.6
 Absolute Min.temp. coldest month [m'].....(Tamin): -2.0
 First warmest contrasted month [M].....(Tcmax): 33.7 (7)
 First coldest contrasted month [m].....(Tcmin): 17.5 (7)
 Estival temperature.....(Ts): 742
 Positive temperature dryest 3 months.....(Tpd): 742
 Positive temperature dryest 2 months.....(Tpd2): 516
 Positive temperature dryest 1 month.....(Tpd1): 256
 Positive temperature warmest 3 months.....(Tps): 749
 Positive temperature warmest 2 months.....(Tps2): 516
 Positive temperature warmest 1 month.....(Tps1): 260
 Positive temperature coldest 3 months.....(Tpw): 319
 Positive temperature coldest 2 months.....(Tpw2): 207
 Positive temperature coldest 1 month.....(Tpw1): 97

SANTOMERA (ESP MURCIA)

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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
Agelid.....[m' > 0] (Pf)			o	o	o	o	o	o	o	o	o	
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): 2.90
 Mediterranean index of July.[PE/P].....(Im1): 78.92
 Mediterranean index of July & August.....(Im2): 28.17
 Mediterranean index of June, July & August....(Im3): 15.51

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	340	230	210	210	470	300	170	20	90	310	480	270
Tp	110	97	112	137	157	191	226	256	260	233	189	143
Io (Iom)	3.09	2.37	1.88	1.53	2.99	1.57	0.75	0.08	0.35	1.33	2.54	1.89
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	780 / 319			980 / 485			280 / 742			1060 / 565		
Io (Iot)	2.445			2.021			0.377			1.876		
Semesters	December-May						June-November					
Pp(x10)/Tp	1760 / 804						1340 / 1307					
Io (Iosm)	2.189						1.025					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 3100/2111=1.47 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	340	230	210	210	470	300	170	20	90	310	480	270
Tp [T*10]	110	97	112	137	157	191	226	256	260	233	189	143
Iom [Pp/Tp]	309	237	188	153	299	157	75	8	35	133	254	189
Avm [200-Iom]	***	***	13	47	***	43	125	192	165	67	***	11
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	780 / 319			980 / 485			280 / 742			1060 / 565		
Iot [Pp/Tp]	245			202			38			188		
Avs E[Avm<200]	***			***			482			***		
Lower ultrahyperarid [1]						Upper hyperarid [2]						
Strong upper arid [1]						Weak lower semiarid [1]						
Strong upper semiarid [2]						Weak upper semiarid [2]						

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp):	16.30
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]		24.52
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]		23.24
+ Oceanic (20<CI<40)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)]		1.19
+ Subcontinental (1.1<CI<1.7)		
Rainfall Index of Lang (1925) [R=P/T]		17.62
+ Steppic (40>R>0)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)]		11.24
+ Arid -steppic- (15>Ia>5)		
I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)]		26.99
+ Arid (30>Q>0)		
I of Dantin & Revenga (1940) [DR=100*T/P]		5.67
+ Arid (6>DR>3)		
Aridity Index of UNEP [I=P/PE]		0.34
+ Semiarid (0.5>Im>0.2)		
Potential Erosion I of Fournier (1960) [K=Pi ² /P]		7.43
+ Very low (K<60)		

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)
 + Climate

- + Climate
- + Region
- + Thermic type: 3. Macro-mesothermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.11	0.09	0.09	0.20	0.11	0.05	0.00	0.02	0.10	0.19	0.11	0.16
T-E ratio	4.36	5.04	6.16	7.06	8.60	10.17	11.52	11.70	10.48	8.50	6.44	4.95
Precipitation-effectiveness: 12.61						Temperature-efficiency						94.99
Moisture Index [MI=100*(P-PE)/PE]												-65.57
+ D.Semiarid (-66.7<MI<-33.3)												
Index of dryness [DI=100*d/PE]												65.56
+ Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE]												0.00
+ No surplus (0<HI<10)												
Potential Evapotranspiration PE												900.26
+ Third mesothermic (855<PE<997)												

