

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

CALA EMB. (ESP SEVILLA)

Altitude: 260 m.

Latitude: 37°43'N Longitude: 6°6'W

Temperature observation period.: 1965-1970 (6)

Rainfall observation period....: 1965-1970 (6)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	9.80	14.10	5.50	18.70	0.70	84.0	19.33
Feb.	10.40	14.60	6.10	20.70	2.20	87.0	21.24
Mar.	12.80	17.80	7.80	23.80	3.30	97.0	37.75
Apr.	15.20	20.60	9.80	27.80	5.50	52.0	54.81
May.	19.10	25.50	12.70	33.30	7.50	33.0	92.19
Jun.	22.70	29.20	16.20	38.20	12.00	23.0	126.56
Jul.	26.80	34.60	19.00	39.50	13.80	0.0	172.38
Aug.	25.90	30.00	17.80	38.00	14.40	8.0	151.16
Sep.	22.20	29.00	15.40	35.00	11.50	44.0	102.00
Oct.	17.90	23.00	12.80	29.20	7.80	77.0	64.08
Nov.	12.40	16.70	8.20	22.80	4.40	97.0	29.09
Dec.	9.20	13.70	4.70	19.00	0.70	68.0	16.86
Year	17.03	22.40	11.33	28.83	6.98	670	887.44

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	354
Compensated thermicity index.....(Itc):	354
Simple continentality index.....(Ic):	17.6
Diurnality index.....(Id):	15.6
Annual ombrothermic index.....(Io):	3.28
Monthly estival ombrothermic index.....(Ios1):	No
Bimonthly estival ombrothermic index.....(Ios2):	0.15
Threemonthly estival ombrothermic index.....(Ios3):	0.41
Fourmonthly estival ombrothermic index.....(Ios4):	0.68
Annual ombro-evaporation index.....(Ioe):	0.38
Annual positive temperature.....(Tp):	2044
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	754
Positive precipitation.....(Pp):	670

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

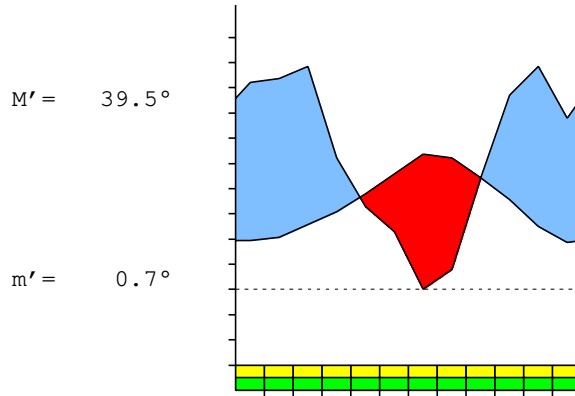
Latitudinal Belt...: Low eutemperate

Continentalty.....: Oceanic - Low Semicontinental

Bioclimate.....: MEDITERRANEAN PLUVISEASONAL-OCEANIC

Bioclimatic Belt...: UPPER THERMOMEDITERRANEAN UPPER DRY

CALA EMB. (ESP SEVILLA) 260 m
 P= 670 37° 43'N 6° 6'W 6/6 y.
 T= 17.0° Ic= 17.6 Tp= 2044 Tn= 0
 m= 4.7° M= 13.7° Itc= 354 Io= 3.3



MEDITERRANEAN PLUVISEASONAL-OCEANIC
 UPPER THERMOMEDITERRANEAN UPPER DRY

WATER INDEX CARD CALA EMB. (ESP SEVILLA)
 Altitude: 260 m. Latitude: 37° 43'N

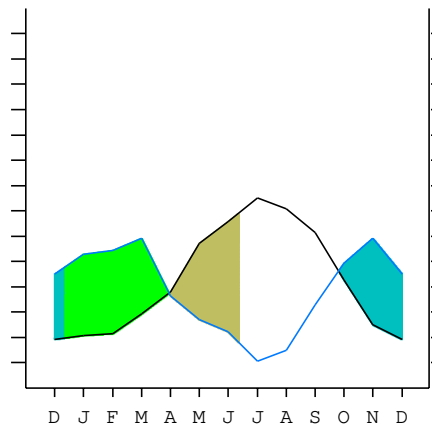
(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	9.8	19	84	0	100	19	0	65	40	3.3
Feb.	10.4	21	87	0	100	21	0	66	53	3.0
Mar.	12.8	38	97	0	100	38	0	59	56	1.5
Apr.	15.2	55	52	-3	97	55	0	0	28	0.0
May.	19.1	92	33	-59	38	92	0	0	14	-0.6
Jun.	22.7	127	23	-38	0	61	66	0	7	-0.8
Jul.	26.8	172	0	0	0	0	172	0	4	-1.0
Aug.	25.9	151	8	0	0	8	143	0	2	-0.9
Sep.	22.2	102	44	0	0	44	58	0	1	-0.5
Oct.	17.9	64	77	13	13	64	0	0	0	0.2
Nov.	12.4	29	97	68	81	29	0	0	0	2.3
Dec.	9.2	17	68	19	100	17	0	32	16	3.0
Year	17.0	887	670	*	*	448	439	222	222	*

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

CALA EMB. (ESP SEVILLA) 37°43'N 6°6'W 260 m 6/6 y.

T= 17.0 Ic= 17.6 MEDITERRANEAN PLUVISEASONAL-OCEANIC
 m= 4.7 Tp= 2044 UPPER THERMOMEDITERRANEAN
 M= 13.7 Tn= 0 UPPER DRY
 M' = 39.5 Itc= 354
 m' = 0.7 Io= 3.3
 P= 670 mm
 PE= 887 mm

Imbibing	25 Sep.
Saturation	12 Dec.
Reserve Use	29 Mar.
Deficit	12 Jun.



CALA EMB. (ESP SEVILLA)

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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [B1a]
 + Type: B. Oceanic
 + Subtype: 1. Semicontinental
 + Variant: a. Low

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

Bioclimatic types [B8.2a.5a]
 + Macrobioclimate: B. MEDITERRANEAN
 + Bioclimate: 8. PLUVISEASONAL-OCEANIC
 + Bioclimatic variant ..:
 + Thermic type.....: 2. THERMOMEDITERRANEAN
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 5. DRY
 + Ombrothermic subtype : a. UPPER
 Bioclimatic Classification: Mehc.Tme.Dry

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 185
 Coldest semester of the year.....(Psw): 485
 Warmest four months period of the year.....(Pcm1): 75
 Following warmest four months period.....(Pcm2): 326
 Positive precipitation dryest 3 months.....(Ppd): 31
 Positive precipitation dryest 2 months.....(Ppd2): 8
 Positive precipitation dryest 1 month.....(Ppd1): 0
 Positive precipitation warmest 3 months.....(Pps): 31
 Positive precipitation warmest 2 months.....(Pps2): 8
 Positive precipitation warmest 1 month.....(Pps1): 0
 Positive precipitation coldest 3 months.....(Ppw): 239
 Positive precipitation coldest 2 months.....(Ppw2): 152
 Positive precipitation coldest 1 month.....(Ppw1): 68

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	239	182	31	218

Seasonal rainfall rhythms: W > F > P > S

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 26.8
 Average coldest month [T].....(Tmin): 9.2
 Maximum temp. warmest month [M].....(Tmmax): 34.6
 Minimum temp. coldest month [m].....(Tmmin): 4.7
 Absolute Max.temp. warmest month [M'].....(Tamax): 39.5
 Absolute Min.temp. coldest month [m'].....(Tamin): 0.7
 First warmest contrasted month [M].....(Tcmax): 34.6 (7)
 First coldest contrasted month [m].....(Tcmin): 19.0 (7)
 Estival temperature.....(Ts): 754
 Positive temperature dryest 3 months.....(Tpd): 754
 Positive temperature dryest 2 months.....(Tpd2): 527
 Positive temperature dryest 1 month.....(Tpd1): 268
 Positive temperature warmest 3 months.....(Tps): 754
 Positive temperature warmest 2 months.....(Tps2): 527
 Positive temperature warmest 1 month.....(Tps1): 268
 Positive temperature coldest 3 months.....(Tpw): 294
 Positive temperature coldest 2 months.....(Tpw2): 190
 Positive temperature coldest 1 month.....(Tpw1): 92

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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)												
Agelid.....[m' > 0] (Pf)	o	o	o	o	o	o	o	o	o	o	o	o
HiperAgelid..[all>0] (Pf)	o	o	o	o	o	o	o	o	o	o	o	o

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 1.32
 Mediterranean index of July.[PE/P].....(Im1): No
 Mediterranean index of July & August.....(Im2): 40.44
 Mediterranean index of June, July & August....(Im3): 14.52

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	680	840	870	970	520	330	230	0	80	440	770	970
Tp	92	98	104	128	152	191	227	268	259	222	179	124
Io (Iom)	7.39	8.57	8.37	7.58	3.42	1.73	1.01	0.00	0.31	1.98	4.30	7.82
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	2390 / 294			1820 / 471			310 / 754			2180 / 525		
Io (Iot)	8.129			3.864			0.411			4.152		
Semesters	December-May						June-November					
Pp(x10)/Tp	4210 / 765						2490 / 1279					
Io (Iosm)	5.503						1.947					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 6700/2044=3.28 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	680	840	870	970	520	330	230	0	80	440	770	970
Tp [T*10]	92	98	104	128	152	191	227	268	259	222	179	124
Iom [Pp/Tp]	739	857	837	758	342	173	101	0	31	198	430	782
Avm [200-Iom]	***	***	***	***	***	27	99	200	169	2	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	2390 / 294			1820 / 471			310 / 754			2180 / 525		
Iot [Pp/Tp]	813			386			41			415		
Avs E[Avm<200]	***			***			468			***		
Lower ultrahyperarid [1]							Upper hyperarid [1]					
Strong lower arid [1]							Strong lower semiarid [1]					
Weak upper semiarid [2]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp):	17.60
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]		28.51
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]		26.44
+ Oceanic (20<CI<40)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)]		1.30
+ Subcontinental (1.1<CI<1.7)		
Rainfall Index of Lang (1925) [R=P/T]		39.33
+ Steppic (40>R>0)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)]		24.78
+ Subhumid (30>Ia>20)		
I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)]		57.02
+ Subhumid (90>Q>50)		
I of Dantin & Revenga (1940) [DR=100*T/P]		2.54
+ 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]		14.04
+ 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	0.46	0.47	0.49	0.23	0.12	0.08	0.00	0.02	0.16	0.33	0.50	0.37
T-E ratio	4.41	4.68	5.76	6.84	8.60	10.22	12.06	11.65	9.99	8.05	5.58	4.14
Precipitation-effectiveness: 32.38						Temperature-efficiency						91.98
Moisture Index [MI=100*(P-PE)/PE]												-24.50
+ C1.Subhumid dry (-33.3<MI<0)												
Index of dryness [DI=100*d/PE]												49.48
+ Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE]												24.97
+ Strong surplus (20<HI)												
Potential Evapotranspiration PE												887.44
+ Third mesothermic (855<PE<997)												

