

# Phytosociological Research Center

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## Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

CASTROCONTRIGO (ESP LEON)

Altitude: 920 m.

Latitude: 42°11'N Longitude: 6°11'W

Temperature observation period.: 1938-1969 (32)

Rainfall observation period....: 1938-1969 (32)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	Epi
Jan.	3.90	8.30	-0.50	14.10	-6.00	80.0	11.39
Feb.	4.40	9.70	-0.80	16.30	-5.80	67.0	13.15
Mar.	7.30	13.50	1.10	19.60	-4.20	76.0	30.13
Apr.	9.60	16.40	2.70	23.70	-2.20	52.0	45.37
May.	12.40	19.70	5.20	27.20	-0.50	53.0	69.17
Jun.	16.70	25.20	8.20	32.40	2.30	33.0	99.30
Jul.	19.30	28.70	10.00	34.60	4.60	12.0	118.85
Aug.	18.90	28.20	9.60	33.80	4.30	15.0	107.78
Sep.	16.30	24.60	8.10	31.80	2.30	39.0	79.01
Oct.	12.30	19.00	5.60	26.10	-0.30	55.0	51.65
Nov.	7.30	12.90	1.70	19.70	-3.10	77.0	23.99
Dec.	4.70	9.40	-0.10	15.10	-5.30	77.0	13.70
Year	11.09	17.97	4.23	24.53	-1.16	636	663.50

### BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	189
Compensated thermicity index.....(Itc):	189
Simple continentality index.....(Ic):	15.4
Diurnality index.....(Id):	18.7
Annual ombrothermic index.....(Io):	4.78
Monthly estival ombrothermic index.....(Ios1):	0.62
Bimonthly estival ombrothermic index.....(Ios2):	0.71
Threemonthly estival ombrothermic index.....(Ios3):	1.09
Fourmonthly estival ombrothermic index.....(Ios4):	1.68
Annual ombro-evaporation index.....(Ioe):	0.48
Annual positive temperature.....(Tp):	1331
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	549
Positive precipitation.....(Pp):	636

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	8	1	1	2	0

Latitudinal Belt...: Low eutemperate

Continentality.....: Oceanic - Low Euoceanic

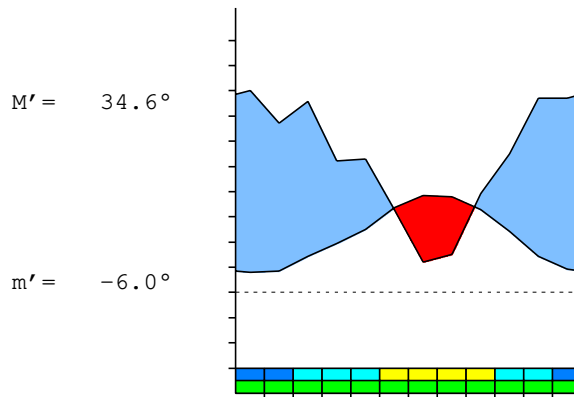
Bioclimate.....: MEDITERRANEAN PLUVISEASONAL-OCEANIC

Bioclimatic Belt...: LOW SUPRAMEDITERRANEAN LOW SUBHUMID

CASTROCONTRIGO (ESP LEON)

920 m

P= 636      42° 11'N      6° 11'W      32/32 y.  
 T= 11.1°    Ic= 15.4      Tp= 1331      Tn= 0  
 m= -0.5°    M= 8.3°      Itc= 189      Io= 4.8



MEDITERRANEAN PLUVISEASONAL-OCEANIC  
 LOW SUPRAMEDITERRANEAN LOW SUBHUMID

WATER INDEX CARD  
 Altitude: 920 m.

CASTROCONTRIGO (ESP LEON)  
 Latitude: 42° 11'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	3.9	11	80	0	100	11	0	69	39	6.0
Feb.	4.4	13	67	0	100	13	0	54	47	4.0
Mar.	7.3	30	76	0	100	30	0	46	46	1.5
Apr.	9.6	45	52	0	100	45	0	7	26	0.1
May.	12.4	69	53	-16	84	69	0	0	13	-0.2
Jun.	16.7	99	33	-66	18	99	0	0	7	-0.6
Jul.	19.3	119	12	-18	0	30	89	0	3	-0.8
Aug.	18.9	108	15	0	0	15	93	0	2	-0.8
Sep.	16.3	79	39	0	0	39	40	0	1	-0.5
Oct.	12.3	52	55	3	3	52	0	0	0	0.0
Nov.	7.3	24	77	53	56	24	0	0	0	2.2
Dec.	4.7	14	77	44	100	14	0	20	10	4.6
Year	11.1	664	636	*	*	441	222	195	195	*

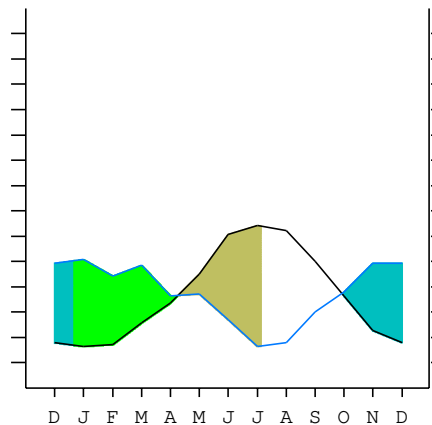
R = Reserve    VR = Variation of the reserve    RE = Real evapotranspiration  
 DR = Drainage    HC = Humidity coefficient    DF = Deficit    SP = Superavit

CASTROCONTRIGO (ESP LEON)

42°11'N    6°11'W    920 m 32/32 y.

T= 11.1    Ic= 15.4    MEDITERRANEAN PLUVISEASONAL-OCEANIC  
 m= -0.5    Tp= 1331    LOW SUPRAMEDITERRANEAN  
 M= 8.3    Tn= 0    LOW SUBHUMID  
 M' = 34.6    Itc= 189  
 m' = -6.0    Io= 4.8  
 P= 636    mm    ———  
 PE= 664    mm    ———

Imbibing	28 Sep.
Saturation	21 Dec.
Reserve Use	9 Apr.
Deficit	5 Jul.



CASTROCONTRIGO (ESP LEON)

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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): 207  
 Coldest semester of the year.....(Psw): 429  
 Warmest four months period of the year.....(Pcm1): 99  
 Following warmest four months period.....(Pcm2): 289  
 Positive precipitation dryest 3 months.....(Ppd): 60  
 Positive precipitation dryest 2 months.....(Ppd2): 27  
 Positive precipitation dryest 1 month.....(Ppd1): 12  
 Positive precipitation warmest 3 months.....(Pps): 60  
 Positive precipitation warmest 2 months.....(Pps2): 27  
 Positive precipitation warmest 1 month.....(Pps1): 12  
 Positive precipitation coldest 3 months.....(Ppw): 224  
 Positive precipitation coldest 2 months.....(Ppw2): 147  
 Positive precipitation coldest 1 month.....(Ppw1): 80

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	224	181	60	171

Seasonal rainfall rhythms: W > P > F > S

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 19.3  
 Average coldest month [T].....(Tmin): 3.9  
 Maximum temp. warmest month [M].....(Tmmax): 28.7  
 Minimum temp. coldest month [m].....(Tmmin): -0.8  
 Absolute Max.temp. warmest month [M'].....(Tamax): 34.6  
 Absolute Min.temp. coldest month [m'].....(Tamin): -6.0  
 First warmest contrasted month [M].....(Tcmax): 28.7 (7)  
 First coldest contrasted month [m].....(Tcmin): 10.0 (7)  
 Estival temperature.....(Ts): 549  
 Positive temperature dryest 3 months.....(Tpd): 549  
 Positive temperature dryest 2 months.....(Tpd2): 382  
 Positive temperature dryest 1 month.....(Tpd1): 193  
 Positive temperature warmest 3 months.....(Tps): 549  
 Positive temperature warmest 2 months.....(Tps2): 382  
 Positive temperature warmest 1 month.....(Tps1): 193  
 Positive temperature coldest 3 months.....(Tpw): 130  
 Positive temperature coldest 2 months.....(Tpw2): 83  
 Positive temperature coldest 1 month.....(Tpw1): 39

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

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 1.04  
 Mediterranean index of July.[PE/P].....(Im1): 9.90  
 Mediterranean index of July & August.....(Im2): 8.39  
 Mediterranean index of June, July & August....(Im3): 5.43

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	770	800	670	760	520	530	330	120	150	390	550	770
Tp	47	39	44	73	96	124	167	193	189	163	123	73
Io (Iom)	16.4	20.5	15.2	10.4	5.42	4.27	1.98	0.62	0.79	2.39	4.47	10.5
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	2240 / 130			1810 / 293			600 / 549			1710 / 359		
Io (Iot)	17.23			6.177			1.093			4.763		
Semesters	December-May						June-November					
Pp(x10)/Tp	4050 / 423						2310 / 908					
Io (Iosm)	9.574						2.544					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 6360/1331=4.78 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	770	800	670	760	520	530	330	120	150	390	550	770
Tp [T*10]	47	39	44	73	96	124	167	193	189	163	123	73
Iom [Pp/Tp]	\$\$	\$\$	\$\$	\$\$	542	427	198	62	79	239	447	\$\$
Avm [200-Iom]	***	***	***	***	***	***	2	138	121	***	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	2240 / 130			1810 / 293			600 / 549			1710 / 359		
Iot [Pp/Tp]	1723			618			109			476		
Avs E[Avm<200]	***			***			261			***		
Weak lower arid [1]						Strong upper arid [1]						
Strong lower semiarid [1]						Weak upper semiarid [1]						

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....	(Sp): 15.40
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....	18.59
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....	19.14
+ Hyperoceanic (-20<CI<20)	
CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....	1.02
+ Oceanic (0.6<CI<1.1)	
Rainfall Index of Lang (1925) [R=P/T] .....	57.34
+ Semiarid (60>R>40)	
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....	30.15
+ Humid (60>Ia>30)	
I of Emberger (1930) [Q=100*P/(Tmax <sup>2</sup> -Tmin <sup>2</sup> )] .....	77.27
+ Subhumid (90>Q>50)	
I of Dantin & Revenga (1940) [DR=100*T/P] .....	1.74
+ Humid (2>DR>0)	
Aridity Index of UNEP [I=P/PE] .....	0.96
+ Humid (I>0.65)	
Potential Erosion I of Fournier (1960) [K=Pi <sup>2</sup> /P] .....	10.06
+ 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	0.54	0.44	0.45	0.27	0.25	0.13	0.04	0.05	0.16	0.27	0.46	0.51
T-E ratio	1.76	1.98	3.29	4.32	5.58	7.52	8.68	8.50	7.33	5.54	3.29	2.11
Precipitation-effectiveness: 35.79						Temperature-efficiency .....						59.89
Moisture Index [MI=100*(P-PE)/PE] .....												-4.14
+ C1.Subhumid dry (-33.3<MI<0)												
Index of dryness [DI=100*d/PE] .....												33.47
+ Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE] .....												29.33
+ Strong surplus (20<HI)												
Potential Evapotranspiration PE .....												663.50
+ First mesothermic (570<PE<712)												

