

# Phytosociological Research Center

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## Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

JAEN CORTINAS (ESP JAEN)

Altitude: 720 m.

Latitude: 37°42'N Longitude: 3°42'W

Temperature observation period.: 1953-1964 (12)

Rainfall observation period....: 1967-1984 (18)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	12.30	15.80	8.80	19.80	5.00	67.8	25.44
Feb.	12.90	16.70	9.00	21.20	4.90	68.7	27.60
Mar.	14.80	18.80	10.80	24.50	7.30	87.6	44.30
Apr.	16.80	21.40	12.20	25.80	9.20	51.9	60.65
May.	19.80	24.90	14.70	29.80	10.40	57.5	93.58
Jun.	22.20	27.30	17.10	31.40	12.00	31.5	118.05
Jul.	25.30	30.40	20.10	35.00	16.90	0.0	153.74
Aug.	25.70	30.80	20.50	34.60	18.00	7.6	148.39
Sep.	24.10	28.60	19.60	32.90	16.40	22.6	116.29
Oct.	19.40	23.90	14.90	28.50	11.00	36.0	70.17
Nov.	15.70	20.10	11.20	24.00	8.60	62.4	40.56
Dec.	13.30	17.10	9.60	21.40	6.50	70.1	28.95
Year	18.52	22.98	14.04	27.41	10.52	564	927.71

### BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	431
Compensated thermicity index.....(Itc):	431
Simple continentality index.....(Ic):	13.4
Diurnality index.....(Id):	10.3
Annual ombrothermic index.....(Io):	2.54
Monthly estival ombrothermic index.....(Ios1):	No
Bimonthly estival ombrothermic index.....(Ios2):	0.15
Three monthly estival ombrothermic index.....(Ios3):	0.53
Four monthly estival ombrothermic index.....(Ios4):	1.04
Annual ombro-evaporation index.....(Ioe):	0.38
Annual positive temperature.....(Tp):	2223
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	732
Positive precipitation.....(Pp):	564

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

Latitudinal Belt...: Low eutemperate

Continentalty.....: Oceanic - Low Semihyperoceanic

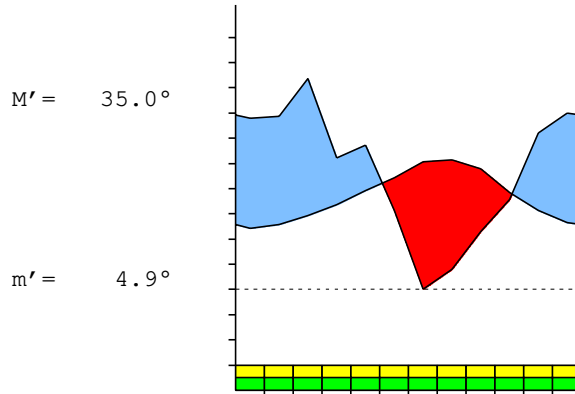
Bioclimate.....: MEDITERRANEAN PLUVISEASONAL-OCEANIC

Bioclimatic Belt...: LOW THERMOMEDITERRANEAN LOW DRY

JAEN CORTINAS (ESP JAEN)

720 m

P= 564 37° 42'N 3° 42'W 12/18 y.  
 T= 18.5° Ic= 13.4 Tp= 2223 Tn= 0  
 m= 8.8° M= 15.8° Itc= 431 Io= 2.5



MEDITERRANEAN PLUVISEASONAL-OCEANIC  
 LOW THERMOMEDITERRANEAN LOW DRY

WATER INDEX CARD  
 Altitude: 720 m.

JAEN CORTINAS (ESP JAEN)  
 Latitude: 37° 42'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	12.3	25	68	37	100	25	0	5	3	1.6
Feb.	12.9	28	69	0	100	28	0	41	22	1.4
Mar.	14.8	44	88	0	100	44	0	43	33	0.9
Apr.	16.8	61	52	-9	91	61	0	0	16	-0.1
May.	19.8	94	58	-36	55	94	0	0	8	-0.3
Jun.	22.2	118	32	-55	0	87	31	0	4	-0.7
Jul.	25.3	154	0	0	0	0	154	0	2	-1.0
Aug.	25.7	148	8	0	0	8	141	0	1	-0.9
Sep.	24.1	116	23	0	0	23	94	0	1	-0.8
Oct.	19.4	70	36	0	0	36	34	0	0	-0.4
Nov.	15.7	41	62	22	22	41	0	0	0	0.5
Dec.	13.3	29	70	41	63	29	0	0	0	1.4
Year	18.5	928	564	*	*	474	454	90	90	*

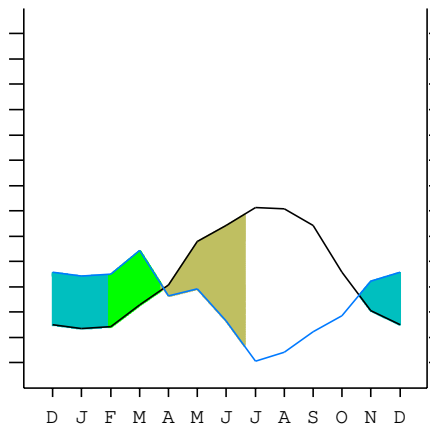
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration  
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

JAEN CORTINAS (ESP JAEN)

37°42'N 3°42'W 720 m 12/18 y.

T= 18.5 Ic= 13.4 MEDITERRANEAN PLUVISEASONAL-OCEANIC  
 m= 8.8 Tp= 2223 LOW THERMOMEDITERRANEAN  
 M= 15.8 Tn= 0 LOW DRY  
 M' = 35.0 Itc= 431  
 m' = 4.9 Io= 2.5  
 P= 564 mm  
 PE= 928 mm

Imbibing	19 Oct.
Saturation	27 Jan.
Reserve Use	25 Mar.
Deficit	20 Jun.



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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [B1b]  
 + Type .....: B. Oceanic  
 + Subtype .....: 1. Semihyperoceanic  
 + 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 [B8.2b.5b]  
 + Macrobioclimate .....: B. MEDITERRANEAN  
 + Bioclimate .....: 8. PLUVISEASONAL-OCEANIC  
 + Bioclimatic variant ..:  
 + Thermic type.....: 2. THERMOMEDITERRANEAN  
 + Thermic subtype.....: b. LOW  
 + Ombrothermic type ...: 5. DRY  
 + Ombrothermic subtype : b. LOW

Bioclimatic Classification .....: Mehc.Tme.Dry

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 155  
 Coldest semester of the year.....(Psw): 409  
 Warmest four months period of the year.....(Pcm1): 62  
 Following warmest four months period.....(Pcm2): 236  
 Positive precipitation dryest 3 months.....(Ppd): 30  
 Positive precipitation dryest 2 months.....(Ppd2): 8  
 Positive precipitation dryest 1 month.....(Ppd1): 0  
 Positive precipitation warmest 3 months.....(Pps): 30  
 Positive precipitation warmest 2 months.....(Pps2): 8  
 Positive precipitation warmest 1 month.....(Pps1): 8  
 Positive precipitation coldest 3 months.....(Ppw): 207  
 Positive precipitation coldest 2 months.....(Ppw2): 137  
 Positive precipitation coldest 1 month.....(Ppw1): 68

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	206	197	39	121

Seasonal rainfall rhythms: W > P > F > S

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 25.7  
 Average coldest month [T].....(Tmin): 12.3  
 Maximum temp. warmest month [M].....(Tmmax): 30.8  
 Minimum temp. coldest month [m].....(Tmmin): 8.8  
 Absolute Max.temp. warmest month [M'].....(Tamax): 35.0  
 Absolute Min.temp. coldest month [m'].....(Tamin): 4.9  
 First warmest contrasted month [M].....(Tcmax): 30.4 (7)  
 First coldest contrasted month [m].....(Tcmin): 20.1 (7)  
 Estival temperature.....(Ts): 732  
 Positive temperature dryest 3 months.....(Tpd): 751  
 Positive temperature dryest 2 months.....(Tpd2): 510  
 Positive temperature dryest 1 month.....(Tpd1): 253  
 Positive temperature warmest 3 months.....(Tps): 751  
 Positive temperature warmest 2 months.....(Tps2): 510  
 Positive temperature warmest 1 month.....(Tps1): 257  
 Positive temperature coldest 3 months.....(Tpw): 385  
 Positive temperature coldest 2 months.....(Tpw2): 252  
 Positive temperature coldest 1 month.....(Tpw1): 123

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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): 1.65  
 Mediterranean index of July.[PE/P].....(Im1): No  
 Mediterranean index of July & August.....(Im2): 39.75  
 Mediterranean index of June, July & August....(Im3): 10.75

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	701	678	687	876	519	575	315	0	76	226	360	624
Tp	133	123	129	148	168	198	222	253	257	241	194	157
Io (Iom)	5.27	5.51	5.33	5.92	3.09	2.90	1.42	0.00	0.30	0.94	1.86	3.97
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	2066 / 385			1970 / 514			391 / 732			1210 / 592		
Io (Iot)	5.366			3.833			0.534			2.044		
Semesters	December-May						June-November					
Pp(x10)/Tp	4036 / 899						1601 / 1324					
Io (Iosm)	4.489						1.209					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 5637/2223=2.54 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	701	678	687	876	519	575	315	0	76	226	360	624
Tp [T*10]	133	123	129	148	168	198	222	253	257	241	194	157
Iom [Pp/Tp]	527	551	533	592	309	290	142	0	30	94	186	397
Avm [200-Iom]	***	***	***	***	***	***	58	200	170	106	14	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	2066 / 385			1970 / 514			391 / 732			1210 / 592		
Iot [Pp/Tp]	537			383			53			204		
Avs E[Avm<200]	***			***			429			***		
Lower ultrahyperarid [1]							Lower hyperarid [1]					
Weak lower arid [1]							Weak upper arid [1]					
Weak lower semiarid [1]							Weak upper semiarid [1]					

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....	(Sp):	13.40
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....		16.85
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....		16.80
+ 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] .....		30.43
+ Steppic (40>R>0)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....		19.76
+ Semiarid -mediterranean- (20>Ia>15)		
I of Emberger (1930) [Q=100*P/(Tmmax <sup>2</sup> -Tmmin <sup>2</sup> )] .....		64.70
+ Subhumid (90>Q>50)		
I of Dantin & Revenga (1940) [DR=100*T/P] .....		3.29
+ Arid (6>DR>3)		
Aridity Index of UNEP [I=P/PE] .....		0.61
+ Subhumid - dry (0.65>I>0.5)		
Potential Erosion I of Fournier (1960) [K=Pi <sup>2</sup> /P] .....		13.61
+ 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	0.34	0.33	0.41	0.22	0.23	0.11	0.00	0.02	0.07	0.14	0.28	0.34
T-E ratio	5.54	5.80	6.66	7.56	8.91	9.99	11.38	11.57	10.85	8.73	7.06	5.99
Precipitation-effectiveness: 24.84						Temperature-efficiency .....						100.03
Moisture Index [MI=100*(P-PE)/PE] .....												-39.24
+ D.Semiarid (-66.7<MI<-33.3)												
Index of dryness [DI=100*d/PE] .....												48.91
+ Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE] .....												9.67
+ No surplus (0<HI<10)												
Potential Evapotranspiration PE .....												927.71
+ Third mesothermic (855<PE<997)												

