

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

Prof.Dr. Salvador Rivas-Martinez

(Adapted to Synoptical Table 30/08/2017)

LORCA (ESP MURCIA)

Altitude: 310 m.

Latitude: 37°42'N Longitude: 1°38'W

Temperature observation period.: 1972-1989 (18)

Rainfall observation period....: 1972-1989 (18)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	Epi
Jan.	9.70	15.30	4.10	21.60	-1.50	21.0	20.13
Feb.	10.80	16.50	5.00	22.90	-0.50	21.6	23.95
Mar.	12.40	18.50	6.40	25.50	1.10	29.9	37.30
Apr.	14.00	20.30	7.70	27.10	2.90	33.6	49.13
May.	17.30	23.80	10.80	29.90	6.20	29.8	79.21
Jun.	21.90	28.80	15.00	35.20	10.40	18.5	120.04
Jul.	25.10	32.50	17.60	38.30	13.70	12.0	153.19
Aug.	25.20	32.10	18.30	37.90	14.40	13.9	144.38
Sep.	22.50	29.40	15.70	34.10	11.30	10.9	105.50
Oct.	17.40	23.20	11.60	30.40	6.20	48.9	62.44
Nov.	13.10	18.60	7.60	24.40	2.30	30.6	33.45
Dec.	10.40	15.60	5.10	21.60	-0.90	11.1	22.17
Year	16.65	22.88	10.41	29.07	5.47	282	850.90

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	361
Compensated thermicity index.....(Itc):	361
Simple continentality index.....(Ic):	15.5
Diurnality index.....(Id):	14.9
Annual ombrothermic index.....(Io):	1.41
Monthly estival ombrothermic index.....(Ios1):	0.48
Bimonthly estival ombrothermic index.....(Ios2):	0.51
Threemonthly estival ombrothermic index.....(Ios3):	0.61
Fourmonthly estival ombrothermic index.....(Ios4):	0.83
Annual ombro-evaporation index.....(Ioe):	0.91
Annual positive temperature.....(Tp):	1998
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	722
Positive precipitation.....(Pp):	282

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

Latitudinal Belt...: Low eutemperate

Continentalty.....: Oceanic - Low Euoceanic

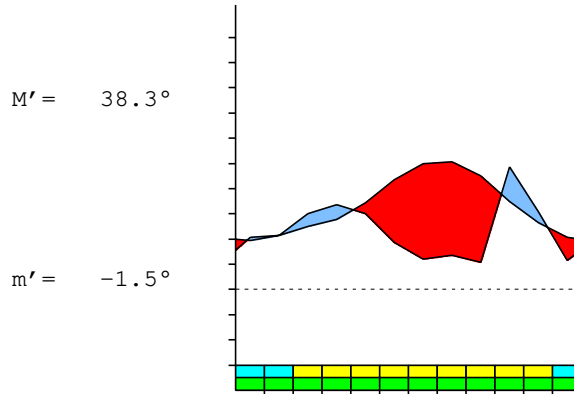
Bioclimate.....: MEDITERRANEAN XERIC-OCEANIC

Bioclimatic Belt...: UPPER THERMOMEDITERRANEAN LOW SEMIARID

LORCA (ESP MURCIA)

310 m

P= 282 37° 42'N 1° 38'W 18/18 y.
 T= 16.6° Ic= 15.5 Tp= 1998 Tn= 0
 m= 4.1° M= 15.3° Itc= 361 Io= 1.4



MEDITERRANEAN XERIC-OCEANIC
 UPPER THERMOMEDITERRANEAN LOW SEMIARID

WATER INDEX CARD
 Altitude: 310 m.

LORCA (ESP MURCIA)
 Latitude: 37° 42'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	9.7	20	21	1	1	20	0	0	0	0.0
Feb.	10.8	24	22	-1	0	22	1	0	0	0.0
Mar.	12.4	37	30	0	0	30	7	0	0	-0.1
Apr.	14.0	49	34	0	0	34	16	0	0	-0.3
May.	17.3	79	30	0	0	30	49	0	0	-0.6
Jun.	21.9	120	19	0	0	19	102	0	0	-0.8
Jul.	25.1	153	12	0	0	12	141	0	0	-0.9
Aug.	25.2	144	14	0	0	14	130	0	0	-0.9
Sep.	22.5	105	11	0	0	11	95	0	0	-0.8
Oct.	17.4	62	49	0	0	49	14	0	0	-0.2
Nov.	13.1	33	31	0	0	31	3	0	0	0.0
Dec.	10.4	22	11	0	0	11	11	0	0	-0.4
Year	16.6	851	282	*	*	282	569	0	0	*

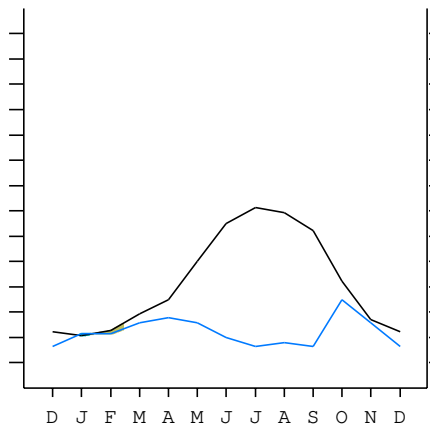
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

LORCA (ESP MURCIA)

37°42'N 1°38'W 310 m 18/18 y.

T= 16.6 Ic= 15.5 MEDITERRANEAN XERIC-OCEANIC
 m= 4.1 Tp= 1998 UPPER THERMOMEDITERRANEAN
 M= 15.3 Tn= 0 LOW SEMIARID
 M' = 38.3 Itc= 361
 m' = -1.5 Io= 1.4
 P= 282 mm ———
 PE= 851 mm ———

Imbibing	28 Dec.
Saturation	9 Jan.
Reserve Use	12 Feb.
Deficit	



LORCA (ESP MURCIA)

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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

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 134
Coldest semester of the year.....(Psw): 148
Warmest four months period of the year.....(Pcm1): 55
Following warmest four months period.....(Pcm2): 112
Positive precipitation dryest 3 months.....(Ppd): 37
Positive precipitation dryest 2 months.....(Ppd2): 25
Positive precipitation dryest 1 month.....(Ppd1): 11
Positive precipitation warmest 3 months.....(Pps): 37
Positive precipitation warmest 2 months.....(Pps2): 26
Positive precipitation warmest 1 month.....(Pps1): 14
Positive precipitation coldest 3 months.....(Ppw): 54
Positive precipitation coldest 2 months.....(Ppw2): 32
Positive precipitation coldest 1 month.....(Ppw1): 21

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	53	93	44	90

Seasonal rainfall rhythms: P > F > W > S

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 25.2
Average coldest month [T].....(Tmin): 9.7
Maximum temp. warmest month [M].....(Tmmax): 32.5
Minimum temp. coldest month [m].....(Tmmin): 4.1
Absolute Max.temp. warmest month [M'].....(Tamax): 38.3
Absolute Min.temp. coldest month [m'].....(Tamin): -1.5
First warmest contrasted month [M].....(Tcmax): 32.5 (7)
First coldest contrasted month [m].....(Tcmin): 17.6 (7)
Estival temperature.....(Ts): 722
Positive temperature dryest 3 months.....(Tpd): 728
Positive temperature dryest 2 months.....(Tpd2): 477
Positive temperature dryest 1 month.....(Tpd1): 225
Positive temperature warmest 3 months.....(Tps): 728
Positive temperature warmest 2 months.....(Tps2): 503
Positive temperature warmest 1 month.....(Tps1): 252
Positive temperature coldest 3 months.....(Tpw): 309
Positive temperature coldest 2 months.....(Tpw2): 201
Positive temperature coldest 1 month.....(Tpw1): 97

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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): 3.02
 Mediterranean index of July.[PE/P].....(Im1): 12.77
 Mediterranean index of July & August.....(Im2): 11.49
 Mediterranean index of June, July & August....(Im3): 9.41

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	111	210	216	299	336	298	185	120	139	109	489	306
Tp	104	97	108	124	140	173	219	251	252	225	174	131
Io (Iom)	1.07	2.16	2.00	2.41	2.40	1.72	0.84	0.48	0.55	0.48	2.81	2.34
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	537 / 309			933 / 437			444 / 722			904 / 530		
Io (Iot)	1.738			2.135			0.615			1.706		
Semesters	December-May						June-November					
Pp(x10)/Tp	1470 / 746						1348 / 1252					
Io (Iosm)	1.971						1.077					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 2818/1998=1.41 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	111	210	216	299	336	298	185	120	139	109	489	306
Tp [T*10]	104	97	108	124	140	173	219	251	252	225	174	131
Iom [Pp/Tp]	107	216	200	241	240	172	84	48	55	48	281	234
Avm [200-Iom]	93	***	0	***	***	28	116	152	145	152	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	537 / 309			933 / 437			444 / 722			904 / 530		
Iot [Pp/Tp]	174			214			61			171		
Avs E[Avm<200]	***			***			413			***		
Strong lower arid [2]						Weak lower arid [2]						
Weak 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): 15.50
 CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]: 22.69
 CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]: 21.63
 + Oceanic (20<CI<40)
 CI of Currey (1974) [CI=Sp/(1+Lat/3)]: 1.14
 + Subcontinental (1.1<CI<1.7)
 Rainfall Index of Lang (1925) [R=P/T]: 16.92
 + Steppic (40>R>0)
 Aridity Index of Martonne (1926) [Ia=P/(T+10)]: 10.57
 + Arid -steppic- (15>Ia>5)
 I of Emberger (1930) [Q=100*P/(Tmax²-Tmin²)]: 27.11
 + Arid (30>Q>0)
 I of Dantin & Revenga (1940) [DR=100*T/P]: 5.91
 + Arid (6>DR>3)
 Aridity Index of UNEP [I=P/PE]: 0.33
 + Semiarid (0.5>Im>0.2)
 Potential Erosion I of Fournier (1960) [K=Pi²/P].....: 8.49
 + Very low (K<60)

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)
 + Climate: A. Warm and temperate warm
 + Region: 5. Bixeric (Bixeric)
 + Thermic type: 3. Macro-mesothermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.10	0.10	0.13	0.15	0.12	0.06	0.03	0.04	0.03	0.20	0.14	0.05
T-E ratio	4.36	4.86	5.58	6.30	7.78	9.85	11.30	11.34	10.13	7.83	5.90	4.68
Precipitation-effectiveness: 11.51						Temperature-efficiency: 89.91						
Moisture Index [MI=100*(P-PE)/PE]: -66.88 + E.Dry (-110<MI<-66.7)												
Index of dryness [DI=100*d/PE]: 66.87 + Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE]: 0.00 + No surplus (0<HI<10)												
Potential Evapotranspiration PE: 850.90 + Second mesothermic (712<PE<855)												

