

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

PANTANO RUMBLAR (ESP JAEN)

Altitude: 300 m.

Latitude: 38°9'N Longitude: 3°48'W

Temperature observation period.: 1967-1988 (22)

Rainfall observation period....: 1951-1989 (39)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	8.60	13.20	4.10	18.80	-1.00	84.7	15.74
Feb.	9.50	14.10	4.90	20.60	-0.40	90.1	18.54
Mar.	11.90	17.40	6.40	24.40	1.10	81.1	33.81
Apr.	13.20	18.60	7.90	26.80	2.60	58.4	43.34
May.	17.60	23.80	11.40	31.90	6.10	47.9	80.47
Jun.	23.00	30.50	15.50	38.40	10.80	24.9	130.03
Jul.	27.20	35.90	18.50	42.20	14.20	5.3	176.38
Aug.	26.90	35.10	18.60	40.70	14.90	4.8	162.28
Sep.	23.40	30.70	16.20	36.80	10.80	20.9	112.42
Oct.	17.80	23.60	12.10	31.40	6.60	60.8	64.07
Nov.	12.40	17.30	7.50	23.80	2.10	79.9	29.64
Dec.	9.10	13.40	4.80	19.80	-0.70	98.6	16.98
Year	16.72	22.80	10.66	29.63	5.59	657	883.70

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	340
Compensated thermicity index.....(Itc):	343
Simple continentality index.....(Ic):	18.6
Diurnality index.....(Id):	17.4
Annual ombrothermic index.....(Io):	3.28
Monthly estival ombrothermic index.....(Ios1):	0.18
Bimonthly estival ombrothermic index.....(Ios2):	0.19
Threemonthly estival ombrothermic index.....(Ios3):	0.45
Fourmonthly estival ombrothermic index.....(Ios4):	0.88
Annual ombro-evaporation index.....(Ioe):	0.33
Annual positive temperature.....(Tp):	2006
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	771
Positive precipitation.....(Pp):	657

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

Latitudinal Belt...: Low eutemperate

Continentalty.....: Oceanic - Low Semicontinental

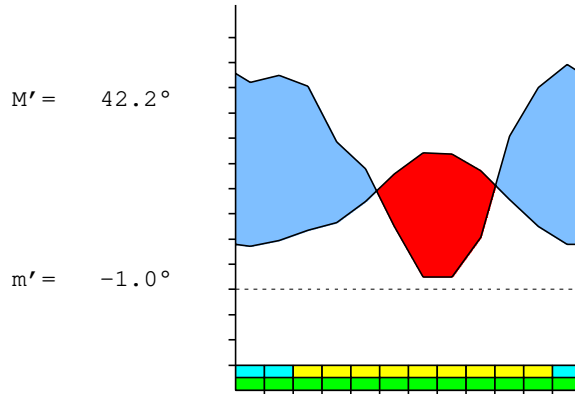
Bioclimate.....: MEDITERRANEAN PLUVISEASONAL-OCEANIC

Bioclimatic Belt...: LOW MESOMEDITERRANEAN UPPER DRY

PANTANO RUMBLAR (ESP JAEN)

300 m

P= 657 38° 9'N 3° 48'W 22/39 y.
 T= 16.7° Ic= 18.6 Tp= 2006 Tn= 0
 m= 4.1° M= 13.2° Itc= 343 Io= 3.3



MEDITERRANEAN PLUVISEASONAL-OCEANIC
 LOW MESOMEDITERRANEAN UPPER DRY

WATER INDEX CARD
 Altitude: 300 m.

PANTANO RUMBLAR (ESP JAEN)
 Latitude: 38° 9'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	8.6	16	85	0	100	16	0	69	43	4.3
Feb.	9.5	19	90	0	100	19	0	72	57	3.8
Mar.	11.9	34	81	0	100	34	0	47	52	1.3
Apr.	13.2	43	58	0	100	43	0	15	34	0.3
May.	17.6	80	48	-33	67	80	0	0	17	-0.4
Jun.	23.0	130	25	-67	0	92	38	0	8	-0.8
Jul.	27.2	176	5	0	0	5	171	0	4	-0.9
Aug.	26.9	162	5	0	0	5	157	0	2	-0.9
Sep.	23.4	112	21	0	0	21	92	0	1	-0.8
Oct.	17.8	64	61	0	0	61	3	0	1	0.0
Nov.	12.4	30	80	50	50	30	0	0	0	1.6
Dec.	9.1	17	99	50	100	17	0	32	16	4.8
Year	16.7	884	657	*	*	423	461	235	235	*

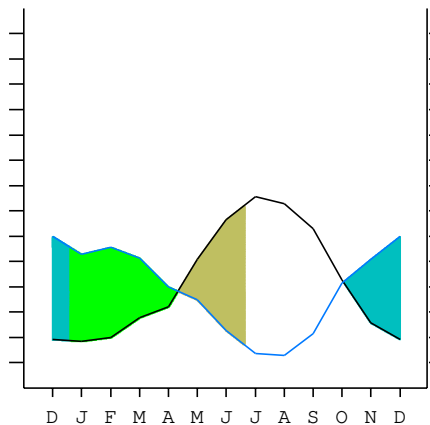
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

PANTANO RUMBLAR (ESP JAEN)

38°9'N 3°48'W 300 m 22/39 y.

T= 16.7 Ic= 18.6 MEDITERRANEAN PLUVISEASONAL-OCEANIC
 m= 4.1 Tp= 2006 LOW MESOMEDITERRANEAN
 M= 13.2 Tn= 0 UPPER DRY
 M' = 42.2 Itc= 343
 m' = -1.0 Io= 3.3
 P= 657 mm
 PE= 884 mm

Imbibing	2 Oct.
Saturation	19 Dec.
Reserve Use	10 Apr.
Deficit	20 Jun.



PANTANO RUMBLAR (ESP JAEN)

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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 [B8.3b.5a]
 + Macrobioclimate: B. MEDITERRANEAN
 + Bioclimate: 8. PLUVISEASONAL-OCEANIC
 + Bioclimatic variant ..:
 + Thermic type.....: 3. MESOMEDITERRANEAN
 + Thermic subtype.....: b. LOW
 + Ombrothermic type ...: 5. DRY
 + Ombrothermic subtype : a. UPPER
 Bioclimatic Classification: Mehc.Mme.Dry

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 165
 Coldest semester of the year.....(Psw): 493
 Warmest four months period of the year.....(Pcm1): 56
 Following warmest four months period.....(Pcm2): 324
 Positive precipitation dryest 3 months.....(Ppd): 31
 Positive precipitation dryest 2 months.....(Ppd2): 10
 Positive precipitation dryest 1 month.....(Ppd1): 5
 Positive precipitation warmest 3 months.....(Pps): 31
 Positive precipitation warmest 2 months.....(Pps2): 10
 Positive precipitation warmest 1 month.....(Pps1): 5
 Positive precipitation coldest 3 months.....(Ppw): 273
 Positive precipitation coldest 2 months.....(Ppw2): 183
 Positive precipitation coldest 1 month.....(Ppw1): 85

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	273	187	35	161

Seasonal rainfall rhythms: W > P > F > S

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 27.2
 Average coldest month [T].....(Tmin): 8.6
 Maximum temp. warmest month [M].....(Tmmax): 35.9
 Minimum temp. coldest month [m].....(Tmmin): 4.1
 Absolute Max.temp. warmest month [M'].....(Tamax): 42.2
 Absolute Min.temp. coldest month [m'].....(Tamin): -1.0
 First warmest contrasted month [M].....(Tcmax): 35.9 (7)
 First coldest contrasted month [m].....(Tcmin): 18.5 (7)
 Estival temperature.....(Ts): 771
 Positive temperature dryest 3 months.....(Tpd): 775
 Positive temperature dryest 2 months.....(Tpd2): 541
 Positive temperature dryest 1 month.....(Tpd1): 269
 Positive temperature warmest 3 months.....(Tps): 775
 Positive temperature warmest 2 months.....(Tps2): 541
 Positive temperature warmest 1 month.....(Tps1): 272
 Positive temperature coldest 3 months.....(Tpw): 272
 Positive temperature coldest 2 months.....(Tpw2): 177
 Positive temperature coldest 1 month.....(Tpw1): 86

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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): 1.34
 Mediterranean index of July.[PE/P].....(Im1): 33.28
 Mediterranean index of July & August.....(Im2): 33.53
 Mediterranean index of June, July & August....(Im3): 13.39

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	986	847	901	811	584	479	249	53	48	209	608	799
Tp	91	86	95	119	132	176	230	272	269	234	178	124
Io (Iom)	10.8	9.85	9.48	6.82	4.42	2.72	1.08	0.19	0.18	0.89	3.42	6.44
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	2734 / 272			1874 / 427			350 / 771			1616 / 536		
Io (Iot)	10.05			4.389			0.454			3.015		
Semesters	December-May						June-November					
Pp(x10)/Tp	4608 / 699						1966 / 1307					
Io (Iosm)	6.592						1.504					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 6574/2006=3.28 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	986	847	901	811	584	479	249	53	48	209	608	799
Tp [T*10]	91	86	95	119	132	176	230	272	269	234	178	124
Iom [Pp/Tp]	\$\$	985	948	682	442	272	108	19	18	89	342	644
Avm [200-Iom]	***	***	***	***	***	***	92	181	182	111	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	2734 / 272			1874 / 427			350 / 771			1616 / 536		
Iot [Pp/Tp]	1005			439			45			301		
Avs E[Avm<200]	***			***			454			***		
Upper ultrahyperarid [2]							Strong lower arid [1]					
Weak upper arid [1]							Strong lower semiarid [1]					

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp): 18.60
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]	30.79
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]	28.45
+ Oceanic (20<CI<40)	
CI of Currey (1974) [CI=Sp/(1+Lat/3)]	1.36
+ 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)]	24.61
+ Subhumid (30>Ia>20)	
I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)]	51.68
+ 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]	0.74
+ Humid (I>0.65)	
Potential Erosion I of Fournier (1960) [K=Pi ² /P]	14.79
+ 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	0.49	0.50	0.42	0.28	0.20	0.08	0.01	0.01	0.07	0.25	0.40	0.57
T-E ratio	3.87	4.27	5.35	5.94	7.92	10.35	12.24	12.10	10.53	8.01	5.58	4.10
Precipitation-effectiveness: 32.77						Temperature-efficiency						90.27
Moisture Index [MI=100*(P-PE)/PE]												-25.61
+ C1.Subhumid dry (-33.3<MI<0)												
Index of dryness [DI=100*d/PE]												52.17
+ Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE]												26.56
+ Strong surplus (20<HI)												
Potential Evapotranspiration PE												883.70
+ Third mesothermic (855<PE<997)												

