

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

PANTANO DE ENCINAREJO (ESP JAEN)

Altitude: 280 m.

Latitude: 38°9'N Longitude: 4°0'W

Temperature observation period.: 1967-1989 (23)

Rainfall observation period....: 1967-1989 (23)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	8.40	15.50	1.30	21.80	-4.60	75.2	15.66
Feb.	9.60	16.60	2.60	24.20	-3.20	77.3	19.50
Mar.	11.60	19.50	3.70	26.80	-1.50	55.8	33.18
Apr.	14.10	21.60	6.50	30.00	0.70	57.6	49.67
May.	17.50	25.00	9.90	33.60	4.30	42.7	80.73
Jun.	22.40	31.00	13.70	39.10	8.00	20.1	124.78
Jul.	26.20	36.20	16.30	42.80	12.10	6.7	164.98
Aug.	26.30	36.70	16.00	42.20	11.30	6.1	155.44
Sep.	23.20	33.00	13.50	38.90	7.50	13.5	111.21
Oct.	17.40	26.20	8.60	33.80	2.20	45.0	62.39
Nov.	12.30	19.70	4.80	27.80	-1.50	74.1	29.95
Dec.	9.10	15.80	2.40	23.40	-3.80	85.5	17.56
Year	16.51	24.73	8.28	32.03	2.63	560	865.04

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	333
Compensated thermicity index.....(Itc):	333
Simple continentality index.....(Ic):	17.9
Diurnality index.....(Id):	20.7
Annual ombrothermic index.....(Io):	2.82
Monthly estival ombrothermic index.....(Ios1):	0.23
Bimonthly estival ombrothermic index.....(Ios2):	0.24
Threemonthly estival ombrothermic index.....(Ios3):	0.44
Fourmonthly estival ombrothermic index.....(Ios4):	0.82
Annual ombro-evaporation index.....(Ioe):	0.32
Annual positive temperature.....(Tp):	1981
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	749
Positive precipitation.....(Pp):	560

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

Latitudinal Belt...: Low eutemperate

Continentalty.....: Oceanic - Low Semicontinental

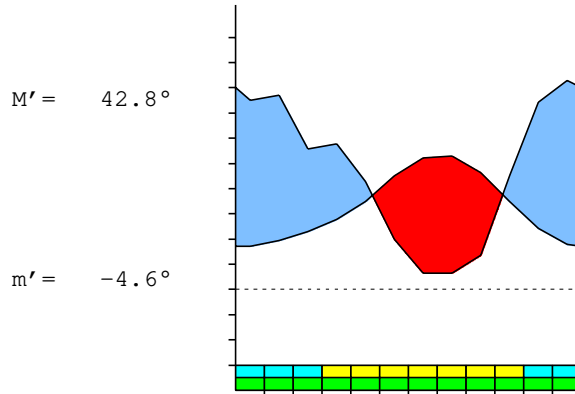
Bioclimate.....: MEDITERRANEAN PLUVISEASONAL-OCEANIC

Bioclimatic Belt...: LOW MESOMEDITERRANEAN UPPER DRY

PANTANO DE ENCINAREJO (ESP JAEN)

280 m

P= 560 38° 9'N 4° 0'W 23/23 y.
 T= 16.5° Ic= 17.9 Tp= 1981 Tn= 0
 m= 1.3° M= 15.5° Itc= 333 Io= 2.8



MEDITERRANEAN PLUVISEASONAL-OCEANIC
 LOW MESOMEDITERRANEAN UPPER DRY

WATER INDEX CARD
 Altitude: 280 m.

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

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	8.4	16	75	0	100	16	0	60	33	3.8
Feb.	9.6	19	77	0	100	19	0	58	45	2.9
Mar.	11.6	33	56	0	100	33	0	23	34	0.6
Apr.	14.1	50	58	0	100	50	0	8	21	0.1
May.	17.5	81	43	-38	62	81	0	0	10	-0.4
Jun.	22.4	125	20	-62	0	82	43	0	5	-0.8
Jul.	26.2	165	7	0	0	7	158	0	3	-0.9
Aug.	26.3	155	6	0	0	6	149	0	1	-0.9
Sep.	23.2	111	14	0	0	14	98	0	1	-0.8
Oct.	17.4	62	45	0	0	45	17	0	0	-0.2
Nov.	12.3	30	74	44	44	30	0	0	0	1.4
Dec.	9.1	18	86	56	100	18	0	12	6	3.8
Year	16.5	865	560	*	*	400	465	160	160	*

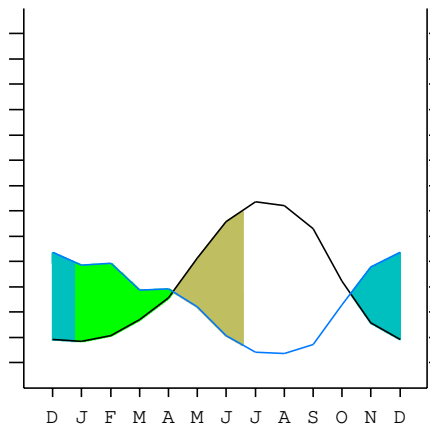
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

PANTANO DE ENCINAREJO (ESP JAEN)

38°9'N 4°0'W 280 m 23/23 y.

T= 16.5 Ic= 17.9 MEDITERRANEAN PLUVISEASONAL-OCEANIC
 m= 1.3 Tp= 1981 LOW MESOMEDITERRANEAN
 M= 15.5 Tn= 0 UPPER DRY
 M' = 42.8 Itc= 333
 m' = -4.6 Io= 2.8
 P= 560 mm
 PE= 865 mm

Imbibing	9 Oct.
Saturation	25 Dec.
Reserve Use	6 Apr.
Deficit	18 Jun.



PANTANO DE ENCINAREJO (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): 134
 Coldest semester of the year.....(Psw): 426
 Warmest four months period of the year.....(Pcm1): 46
 Following warmest four months period.....(Pcm2): 280
 Positive precipitation dryest 3 months.....(Ppd): 26
 Positive precipitation dryest 2 months.....(Ppd2): 13
 Positive precipitation dryest 1 month.....(Ppd1): 6
 Positive precipitation warmest 3 months.....(Pps): 26
 Positive precipitation warmest 2 months.....(Pps2): 13
 Positive precipitation warmest 1 month.....(Pps1): 6
 Positive precipitation coldest 3 months.....(Ppw): 238
 Positive precipitation coldest 2 months.....(Ppw2): 161
 Positive precipitation coldest 1 month.....(Ppw1): 75

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	238	156	32	132

Seasonal rainfall rhythms: W > P > F > S

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 26.3
 Average coldest month [T].....(Tmin): 8.4
 Maximum temp. warmest month [M].....(Tmmax): 36.7
 Minimum temp. coldest month [m].....(Tmmin): 1.3
 Absolute Max.temp. warmest month [M'].....(Tamax): 42.8
 Absolute Min.temp. coldest month [m'].....(Tamin): -4.6
 First warmest contrasted month [M].....(Tcmax): 36.7 (8)
 First coldest contrasted month [m].....(Tcmin): 16.0 (8)
 Estival temperature.....(Ts): 749
 Positive temperature dryest 3 months.....(Tpd): 757
 Positive temperature dryest 2 months.....(Tpd2): 525
 Positive temperature dryest 1 month.....(Tpd1): 263
 Positive temperature warmest 3 months.....(Tps): 757
 Positive temperature warmest 2 months.....(Tps2): 525
 Positive temperature warmest 1 month.....(Tps1): 263
 Positive temperature coldest 3 months.....(Tpw): 271
 Positive temperature coldest 2 months.....(Tpw2): 175
 Positive temperature coldest 1 month.....(Tpw1): 84

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

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 1.55
 Mediterranean index of July.[PE/P].....(Im1): 24.62
 Mediterranean index of July & August.....(Im2): 25.03
 Mediterranean index of June, July & August....(Im3): 13.53

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	855	752	773	558	576	427	201	67	61	135	450	741
Tp	91	84	96	116	141	175	224	262	263	232	174	123
Io (Iom)	9.40	8.95	8.05	4.81	4.09	2.44	0.90	0.26	0.23	0.58	2.59	6.02
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	2380 / 271			1561 / 432			329 / 749			1326 / 529		
Io (Iot)	8.782			3.613			0.439			2.507		
Semesters	December-May						June-November					
Pp(x10)/Tp	3941 / 703						1655 / 1278					
Io (Iosm)	5.606						1.295					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 5596/1981=2.82 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	855	752	773	558	576	427	201	67	61	135	450	741
Tp [T*10]	91	84	96	116	141	175	224	262	263	232	174	123
Iom [Pp/Tp]	940	895	805	481	409	244	90	26	23	58	259	602
Avm [200-Iom]	***	***	***	***	***	***	110	174	177	142	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	2380 / 271			1561 / 432			329 / 749			1326 / 529		
Iot [Pp/Tp]	878			361			44			251		
Avs E[Avm<200]	***			***			462			***		
Lower hyperarid [2]							Strong lower arid [1]					
Weak lower arid [1]							Weak upper arid [1]					

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp):	17.90
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]		28.86
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]		26.85
+ 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]		33.90
+ Steppic (40>R>0)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)]		21.11
+ Subhumid (30>Ia>20)		
I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)]		41.60
+ Semiarid (50>Q>30)		
I of Dantin & Revenga (1940) [DR=100*T/P]		2.95
+ Semiarid (3>DR>2)		
Aridity Index of UNEP [I=P/PE]		0.65
+ Subhumid - dry (0.65>I>0.5)		
Potential Erosion I of Fournier (1960) [K=Pi ² /P]		13.06
+ 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	0.43	0.42	0.28	0.27	0.17	0.07	0.02	0.02	0.04	0.18	0.37	0.48
T-E ratio	3.78	4.32	5.22	6.35	7.88	10.08	11.79	11.83	10.44	7.83	5.54	4.10
Precipitation-effectiveness: 27.48						Temperature-efficiency						89.15
Moisture Index [MI=100*(P-PE)/PE]												-35.31
+ D.Semiarid (-66.7<MI<-33.3)												
Index of dryness [DI=100*d/PE]												53.80
+ Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE]												18.48
+ Moderate surplus (10<HI<20)												
Potential Evapotranspiration PE												865.04
+ Third mesothermic (855<PE<997)												

