

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

BEAS DE SEGURA (ESP JAEN)

Altitude: 577 m.

Latitude: 38°15'N Longitude: 2°53'W

Temperature observation period.: 1950-1969 (20)

Rainfall observation period....: 1950-1969 (20)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	Epi
Jan.	8.40	11.90	4.90	17.00	0.70	90.0	13.13
Feb.	10.00	14.40	5.70	20.70	1.10	93.0	18.02
Mar.	13.00	17.40	8.50	25.10	3.10	90.0	36.23
Apr.	16.20	21.20	11.20	28.30	5.50	60.0	58.58
May.	20.00	26.30	13.80	33.30	8.70	48.0	97.43
Jun.	24.40	31.00	17.90	38.50	13.50	30.0	142.88
Jul.	28.60	35.60	21.50	40.60	17.10	4.0	190.39
Aug.	27.90	34.90	20.90	39.90	17.30	10.0	171.65
Sep.	23.90	29.90	17.90	36.60	14.10	43.0	115.25
Oct.	17.50	22.10	12.90	29.80	7.50	60.0	59.13
Nov.	12.50	16.30	8.70	21.90	3.60	76.0	27.44
Dec.	8.70	12.00	5.40	16.90	0.70	96.0	13.70
Year	17.59	22.75	12.44	29.05	7.74	700	943.80

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	344
Compensated thermicity index.....(Itc):	355
Simple continentality index.....(Ic):	20.2
Diurnality index.....(Id):	14.1
Annual ombrothermic index.....(Io):	3.32
Monthly estival ombrothermic index.....(Ios1):	0.14
Bimonthly estival ombrothermic index.....(Ios2):	0.25
Three monthly estival ombrothermic index.....(Ios3):	0.54
Four monthly estival ombrothermic index.....(Ios4):	0.91
Annual ombro-evaporation index.....(Ioe):	0.39
Annual positive temperature.....(Tp):	2111
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	809
Positive precipitation.....(Pp):	700

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

Latitudinal Belt...: Low eutemperate

Continentalty.....: Oceanic - High Semicontinental

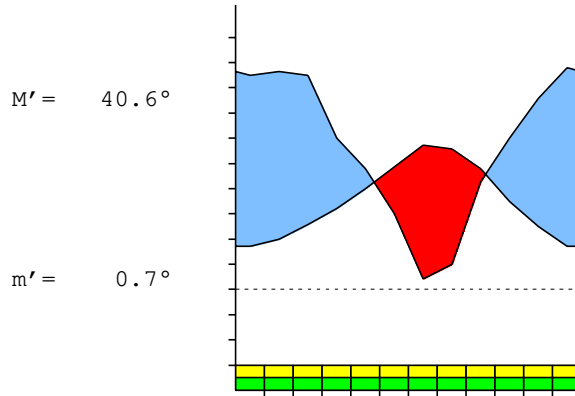
Bioclimate.....: MEDITERRANEAN PLUVISEASONAL-OCEANIC

Bioclimatic Belt...: UPPER THERMOMEDITERRANEAN UPPER DRY

BEAS DE SEGURA (ESP JAEN)

577 m

P= 700 38° 15'N 2° 53'W 20/20 y.
 T= 17.6° Ic= 20.2 Tp= 2111 Tn= 0
 m= 4.9° M= 11.9° Itc= 355 Io= 3.3



MEDITERRANEAN PLUVISEASONAL-OCEANIC
 UPPER THERMOMEDITERRANEAN UPPER DRY

WATER INDEX CARD

BEAS DE SEGURA (ESP JAEN)

Altitude: 577 m.

Latitude: 38° 15'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	8.4	13	90	0	100	13	0	77	46	5.8
Feb.	10.0	18	93	0	100	18	0	75	61	4.1
Mar.	13.0	36	90	0	100	36	0	54	57	1.4
Apr.	16.2	59	60	0	100	59	0	1	29	0.0
May.	20.0	97	48	-49	51	97	0	0	15	-0.5
Jun.	24.4	143	30	-51	0	81	62	0	7	-0.7
Jul.	28.6	190	4	0	0	4	186	0	4	-0.9
Aug.	27.9	172	10	0	0	10	162	0	2	-0.9
Sep.	23.9	115	43	0	0	43	72	0	1	-0.6
Oct.	17.5	59	60	1	1	59	0	0	0	0.0
Nov.	12.5	27	76	49	49	27	0	0	0	1.7
Dec.	8.7	14	96	51	100	14	0	32	16	6.0
Year	17.6	944	700	*	*	461	483	239	239	*

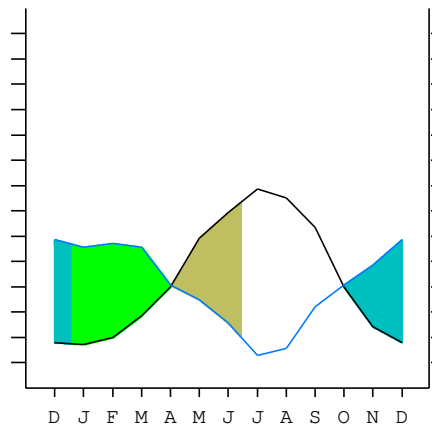
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

BEAS DE SEGURA (ESP JAEN)

38°15'N 2°53'W 577 m 20/20 y.

T= 17.6 Ic= 20.2 MEDITERRANEAN PLUVISEASONAL-OCEANIC
 m= 4.9 Tp= 2111 UPPER THERMOMEDITERRANEAN
 M= 11.9 Tn= 0 UPPER DRY
 M' = 40.6 Itc= 355
 m' = 0.7 Io= 3.3
 P= 700 mm ———
 PE= 944 mm ———

Imbibing	30 Sep.
Saturation	19 Dec.
Reserve Use	1 Apr.
Deficit	14 Jun.



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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [B1b]
 + Type: B. Oceanic
 + Subtype: 1. Semicontinental
 + Variant: b. High

Thermic types [B1.A3]
 + Latitudinal zone: B. Temperate
 + Latitudinal belt: 1. Low eutemperate
 + Thermic type: A. Warm
 + Thermic subtype: 3. Subwarm

Bioclimatic types [B8.2a.5a]
 + Macrobioclimate: B. MEDITERRANEAN
 + Bioclimate: 8. PLUVISEASONAL-OCEANIC
 + Bioclimatic variant ..:
 + Thermic type.....: 2. THERMOMEDITERRANEAN
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 5. DRY
 + Ombrothermic subtype : a. UPPER
 Bioclimatic Classification: Mehc.Tme.Dry

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 195
 Coldest semester of the year.....(Psw): 505
 Warmest four months period of the year.....(Pcm1): 87
 Following warmest four months period.....(Pcm2): 322
 Positive precipitation dryest 3 months.....(Ppd): 44
 Positive precipitation dryest 2 months.....(Ppd2): 14
 Positive precipitation dryest 1 month.....(Ppd1): 4
 Positive precipitation warmest 3 months.....(Pps): 44
 Positive precipitation warmest 2 months.....(Pps2): 14
 Positive precipitation warmest 1 month.....(Pps1): 4
 Positive precipitation coldest 3 months.....(Ppw): 279
 Positive precipitation coldest 2 months.....(Ppw2): 186
 Positive precipitation coldest 1 month.....(Ppw1): 90

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	279	198	44	179

Seasonal rainfall rhythms: W > P > F > S

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 28.6
 Average coldest month [T].....(Tmin): 8.4
 Maximum temp. warmest month [M].....(Tmmax): 35.6
 Minimum temp. coldest month [m].....(Tmmin): 4.9
 Absolute Max.temp. warmest month [M'].....(Tamax): 40.6
 Absolute Min.temp. coldest month [m'].....(Tamin): 0.7
 First warmest contrasted month [M].....(Tcmax): 35.6 (7)
 First coldest contrasted month [m].....(Tcmin): 21.5 (7)
 Estival temperature.....(Ts): 809
 Positive temperature dryest 3 months.....(Tpd): 809
 Positive temperature dryest 2 months.....(Tpd2): 565
 Positive temperature dryest 1 month.....(Tpd1): 286
 Positive temperature warmest 3 months.....(Tps): 809
 Positive temperature warmest 2 months.....(Tps2): 565
 Positive temperature warmest 1 month.....(Tps1): 286
 Positive temperature coldest 3 months.....(Tpw): 271
 Positive temperature coldest 2 months.....(Tpw2): 171
 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)												
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): 1.35
 Mediterranean index of July.[PE/P].....(Im1): 47.60
 Mediterranean index of July & August.....(Im2): 25.86
 Mediterranean index of June, July & August....(Im3): 11.48

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	960	900	930	900	600	480	300	40	100	430	600	760
Tp	87	84	100	130	162	200	244	286	279	239	175	125
Io (Iom)	11.0	10.7	9.30	6.92	3.70	2.40	1.23	0.14	0.36	1.80	3.43	6.08
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	2790 / 271			1980 / 492			440 / 809			1790 / 539		
Io (Iot)	10.30			4.024			0.544			3.321		
Semesters	December-May						June-November					
Pp(x10)/Tp	4770 / 763						2230 / 1348					
Io (Iosm)	6.252						1.654					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 7000/2111=3.32 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	960	900	930	900	600	480	300	40	100	430	600	760
Tp [T*10]	87	84	100	130	162	200	244	286	279	239	175	125
Iom [Pp/Tp]	\$\$	\$\$	930	692	370	240	123	14	36	180	343	608
Avm [200-Iom]	***	***	***	***	***	***	77	186	164	20	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	2790 / 271			1980 / 492			440 / 809			1790 / 539		
Iot [Pp/Tp]	1030			402			54			332		
Avs E[Avm<200]	***			***			427			***		
Upper ultrahyperarid [1]							Upper hyperarid [1]					
Weak lower arid [1]							Weak lower semiarid [1]					
Weak upper semiarid [1]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp): 20.20
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]	35.07
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]	32.03
+ Oceanic (20<CI<40)	
CI of Currey (1974) [CI=Sp/(1+Lat/3)]	1.47
+ Subcontinental (1.1<CI<1.7)	
Rainfall Index of Lang (1925) [R=P/T]	39.79
+ Steppic (40>R>0)	
Aridity Index of Martonne (1926) [Ia=P/(T+10)]	25.37
+ Subhumid (30>Ia>20)	
I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)]	56.30
+ Subhumid (90>Q>50)	
I of Dantin & Revenga (1940) [DR=100*T/P]	2.51
+ 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]	13.17
+ 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	0.52	0.51	0.45	0.26	0.18	0.10	0.01	0.03	0.15	0.25	0.38	0.56	
T-E ratio	3.78	4.50	5.85	7.29	9.00	10.98	12.87	12.55	10.75	7.88	5.63	3.91	
Precipitation-effectiveness:	34.06					Temperature-efficiency							94.99
Moisture Index [MI=100*(P-PE)/PE]													
+ C1.Subhumid dry (-33.3<MI<0)													
Index of dryness [DI=100*d/PE]													
+ Strong deficit (33.3<DI)													
Index of humidity [HI=100*s/PE]													
+ Strong surplus (20<HI)													
Potential Evapotranspiration PE													
+ Third mesothermic (855<PE<997)													

