

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

ARTIES (ESP LERIDA)

Altitude: 1144 m.

Latitude: 42°42'N Longitude: 0°53'E

Temperature observation period.: 1961-1970 (10)

Rainfall observation period....: 1961-1970 (10)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	2.40	6.60	-1.70	13.80	-10.80	63.0	9.16
Feb.	2.40	7.20	-2.30	15.80	-8.40	49.0	9.27
Mar.	4.40	9.30	-0.40	17.90	-8.10	59.0	21.56
Apr.	7.00	11.80	2.10	20.30	-2.90	72.0	38.25
May.	10.90	16.50	5.30	25.20	-0.30	88.0	68.00
Jun.	14.10	19.60	8.60	29.10	3.00	68.0	90.12
Jul.	17.10	23.20	11.00	31.10	6.80	58.0	110.85
Aug.	16.40	22.20	10.50	29.60	5.10	57.0	98.76
Sep.	15.40	21.50	9.20	29.10	4.60	64.0	80.21
Oct.	10.80	16.30	5.40	24.00	-1.10	68.0	50.78
Nov.	5.50	9.80	1.20	18.10	-5.70	88.0	21.56
Dec.	0.80	4.60	-2.90	12.10	-11.60	115.0	2.80
Year	8.93	14.05	3.83	22.18	-2.45	849	601.31

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	106
Compensated thermicity index.....(Itc):	106
Simple continentality index.....(Ic):	16.3
Diurnality index.....(Id):	12.3
Annual ombrothermic index.....(Io):	7.92
Monthly estival ombrothermic index.....(Ios1):	3.39
Bimonthly estival ombrothermic index.....(Ios2):	3.43
Threemonthly estival ombrothermic index.....(Ios3):	3.84
Fourmonthly estival ombrothermic index.....(Ios4):	4.63
Annual ombro-evaporation index.....(Ioe):	0.90
Annual positive temperature.....(Tp):	1072
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	476
Positive precipitation.....(Pp):	849

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	10	2	0	0	0

Latitudinal Belt...: Low eutemperate

Continentalty.....: Oceanic - Low Euoceanic

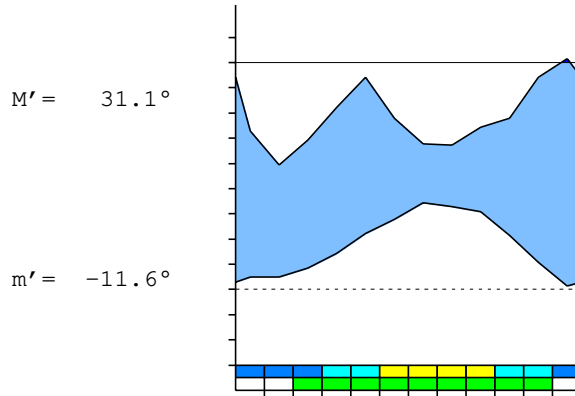
Bioclimate.....: TEMPERATE OCEANIC

Bioclimatic Belt...: UPPER SUPRATEMPERATE LOW HUMID

ARTIES (ESP LERIDA)

1144 m

P= 849 42° 42'N 0° 53'E 10/10 y.
 T= 8.9° Ic= 16.3 Tp= 1072 Tn= 0
 m= -2.9° M= 4.6° Itc= 106 Io= 7.9



TEMPERATE OCEANIC
 UPPER SUPRATEMPERATE LOW HUMID

WATER INDEX CARD ARTIES (ESP LERIDA)
 Altitude: 1144 m. Latitude: 42° 42'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	2.4	9	63	0	100	9	0	54	51	5.8
Feb.	2.4	9	49	0	100	9	0	40	45	4.2
Mar.	4.4	22	59	0	100	22	0	37	41	1.7
Apr.	7.0	38	72	0	100	38	0	34	38	0.8
May.	10.9	68	88	0	100	68	0	20	29	0.2
Jun.	14.1	90	68	-22	78	90	0	0	14	-0.2
Jul.	17.1	111	58	-53	25	111	0	0	7	-0.4
Aug.	16.4	99	57	-25	0	82	17	0	4	-0.4
Sep.	15.4	80	64	0	0	64	16	0	2	-0.2
Oct.	10.8	51	68	17	17	51	0	0	1	0.3
Nov.	5.5	22	88	66	84	22	0	0	0	3.0
Dec.	0.8	3	115	16	100	3	0	96	48	40.1
Year	8.9	601	849	*	*	568	33	281	281	*

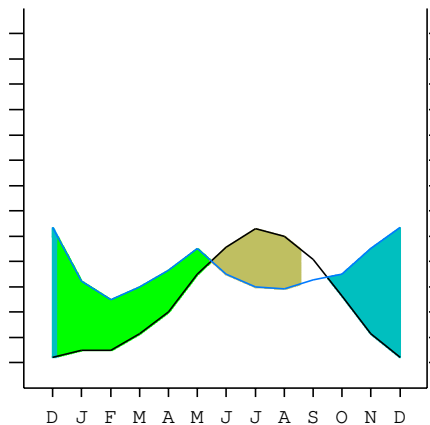
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

ARTIES (ESP LERIDA)

42°42'N 0°53'E 1144 m 10/10 y.

T= 8.9 Ic= 16.3 TEMPERATE OCEANIC
 m= -2.9 Tp= 1072 UPPER SUPRATEMPERATE
 M= 4.6 Tn= 0 LOW HUMID
 M' = 31.1 Itc= 106
 m' = -11.6 Io= 7.9
 P= 849 mm ———
 PE= 601 mm ———

Imbibing	15 Sep.
Saturation	5 Dec.
Reserve Use	15 May.
Deficit	18 Aug.



ARTIES (ESP LERIDA)

Latitude: 42°42'N Longitude: 0°53'E Altitude: 1144 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [B2b]
 + Type: B. Oceanic
 + Subtype: 2. Euoceanic
 + Variant: b. Low

Thermic types [B1.B5]
 + Latitudinal zone: B. Temperate
 + Latitudinal belt: 1. Low eutemperate
 + Thermic type: B. Temperate
 + Thermic subtype: 5. Subtemperate

Bioclimatic types [C3.4a.7b]
 + Macrobioclimate: C. TEMPERATE
 + Bioclimate: 3. OCEANIC
 + Bioclimatic variant ..:
 + Thermic type.....: 4. SUPRATEMPERATE
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 7. HUMID
 + Ombrothermic subtype : b. LOW

Bioclimatic Classification: Teco.Ste.Hum

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 403
 Coldest semester of the year.....(Psw): 446
 Warmest four months period of the year.....(Pcm1): 247
 Following warmest four months period.....(Pcm2): 334
 Positive precipitation dryest 3 months.....(Ppd): 171
 Positive precipitation dryest 2 months.....(Ppd2): 108
 Positive precipitation dryest 1 month.....(Ppd1): 49
 Positive precipitation warmest 3 months.....(Pps): 179
 Positive precipitation warmest 2 months.....(Pps2): 115
 Positive precipitation warmest 1 month.....(Pps1): 58
 Positive precipitation coldest 3 months.....(Ppw): 227
 Positive precipitation coldest 2 months.....(Ppw2): 178
 Positive precipitation coldest 1 month.....(Ppw1): 115

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	227	219	183	220

Seasonal rainfall rhythms: W > F > P > S

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 17.1
 Average coldest month [T].....(Tmin): 0.8
 Maximum temp. warmest month [M].....(Tmmax): 23.2
 Minimum temp. coldest month [m].....(Tmmin): -2.9
 Absolute Max.temp. warmest month [M'].....(Tamax): 31.1
 Absolute Min.temp. coldest month [m'].....(Tamin): -11.6
 First warmest contrasted month [M].....(Tcmax): 21.5 (9)
 First coldest contrasted month [m].....(Tcmin): 9.2 (9)
 Estival temperature.....(Ts): 476
 Positive temperature dryest 3 months.....(Tpd): 92
 Positive temperature dryest 2 months.....(Tpd2): 68
 Positive temperature dryest 1 month.....(Tpd1): 24
 Positive temperature warmest 3 months.....(Tps): 489
 Positive temperature warmest 2 months.....(Tps2): 335
 Positive temperature warmest 1 month.....(Tps1): 171
 Positive temperature coldest 3 months.....(Tpw): 56
 Positive temperature coldest 2 months.....(Tpw2): 32
 Positive temperature coldest 1 month.....(Tpw1): 8

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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	
Ultragelid...[M' <=0] (Pf)												
Hypergelid...[M <=0] (Pf)												
Gelid.....[T <=0] (Pf)												
Subgelid.....[m <=0] (Pf)	o	o	o									o
Pregelid.....[m' <=0] (Pf)	o	o	o	o	o					o	o	o
Agelid.....[m' > 0] (Pf)						o	o	o	o			
HiperAgelid..[all>0] (Pf)						o	o	o	o			

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 0.71
 Mediterranean index of July.[PE/P].....(Im1): 1.91
 Mediterranean index of July & August.....(Im2): 1.82
 Mediterranean index of June, July & August....(Im3): 1.64

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	1150	630	490	590	720	880	680	580	570	640	680	880
Tp	8	24	24	44	70	109	141	171	164	154	108	55
Io (Iom)	144	26.2	20.4	13.4	10.3	8.07	4.82	3.39	3.48	4.16	6.30	16.0
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	2270 / 56			2190 / 223			1830 / 476			2200 / 317		
Io (Iot)	40.54			9.821			3.845			6.940		
Semesters	December-May						June-November					
Pp(x10)/Tp	4460 / 279						4030 / 793					
Io (Iosm)	15.99						5.082					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 8490/1072=7.92 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	1150	630	490	590	720	880	680	580	570	640	680	880
Tp [T*10]	8	24	24	44	70	109	141	171	164	154	108	55
Iom [Pp/Tp]	\$\$	\$\$	\$\$	\$\$	\$\$	807	482	339	348	416	630	\$\$
Avm [200-Iom]	***	***	***	***	***	***	***	***	***	***	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	2270 / 56			2190 / 223			1830 / 476			2200 / 317		
Iot [Pp/Tp]	\$\$			982			384			694		
Avs E[Avm<200]	***			***			***			***		

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin](Sp): 16.30
 CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]: 20.46
 CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]: 20.83
 + Oceanic (20<CI<40)
 CI of Currey (1974) [CI=Sp/(1+Lat/3)]: 1.07
 + Oceanic (0.6<CI<1.1)
 Rainfall Index of Lang (1925) [R=P/T]: 95.04
 + Temperate warm (100>R>60)
 Aridity Index of Martonne (1926) [Ia=P/(T+10)]: 44.84
 + Humid (60>Ia>30)
 I of Emberger (1930) [Q=100*P/(Tmax²-Tmin²)]: 160.24
 + Humid (Q>90)
 I of Dantin & Revenga (1940) [DR=100*T/P]: 1.05
 + Humid (2>DR>0)
 Aridity Index of UNEP [I=P/PE]: 1.41
 + Humid (I>0.65)
 Potential Erosion I of Fournier (1960) [K=Pi²/P].....: 15.58
 + Very low (K<60)

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)
 + Climate: A. Warm and temperate warm
 + Region: 7. Mesoaxeric (Axeric temperate)
 + Thermic type: 5. Meso-microthermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.44	0.34	0.38	0.43	0.47	0.32	0.25	0.25	0.29	0.35	0.57	0.93
T-E ratio	1.08	1.08	1.98	3.15	4.90	6.35	7.70	7.38	6.93	4.86	2.47	0.36
Precipitation-effectiveness: 50.13						Temperature-efficiency: 48.24						
Moisture Index [MI=100*(P-PE)/PE]: 41.19 + B2.Humid medium-humid (40<MI<60)												
Index of dryness [DI=100*d/PE]: 5.47 + No deficit (0<DI<16.7)												
Index of humidity [HI=100*s/PE]: 46.66 + Strong surplus (20<HI)												
Potential Evapotranspiration PE: 601.31 + First mesothermic (570<PE<712)												

