

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 14/02/2020)

AGRAMONTE (ESP ZARAGOZA)

Altitude: 1060 m.

Latitude: 41°49'N Longitude: 1°49'W

Temperature observation period.: 1945-1957 (13)

Rainfall observation period....: 1945-1957 (13)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	1.60	5.00	-1.90	12.40	-8.50	58.0	5.50
Feb.	2.60	6.50	-1.40	13.20	-8.50	51.0	9.24
Mar.	5.90	10.70	1.10	18.80	-3.60	68.0	27.90
Apr.	7.80	12.70	2.90	20.80	-2.00	79.0	40.91
May.	11.20	16.50	5.90	23.90	-0.20	87.0	67.78
Jun.	15.50	21.60	9.40	30.00	3.60	90.0	96.72
Jul.	17.80	25.00	10.60	32.00	6.50	44.0	113.04
Aug.	17.40	24.10	10.70	31.60	5.60	28.0	102.57
Sep.	14.90	20.70	9.00	27.60	3.30	66.0	75.93
Oct.	9.70	13.90	5.50	22.60	0.10	62.0	43.81
Nov.	6.20	10.10	2.40	17.10	-2.70	70.0	23.43
Dec.	3.40	6.80	0.00	12.90	-5.20	91.0	11.87
Year	9.50	14.47	4.52	21.91	-0.97	794	618.69

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	126
Compensated thermicity index.....(Itc):	126
Simple continentality index.....(Ic):	16.2
Diurnality index.....(Id):	14.4
Annual ombrothermic index.....(Io):	6.96
Monthly estival ombrothermic index.....(Ios1):	1.61
Bimonthly estival ombrothermic index.....(Ios2):	2.05
Threemonthly estival ombrothermic index.....(Ios3):	3.20
Fourmonthly estival ombrothermic index.....(Ios4):	4.02
Annual ombro-evaporation index.....(Ioe):	1.28
Annual positive temperature.....(Tp):	1140
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	507
Positive precipitation.....(Pp):	794

N. of Months	P>4T	P:2T-4T	PT-2T	P<T	T<0
	10	1	1	0	0

Latitudinal Belt...: Low Eutemperate

Continentality.....: Oceanic - Low Euoceanic

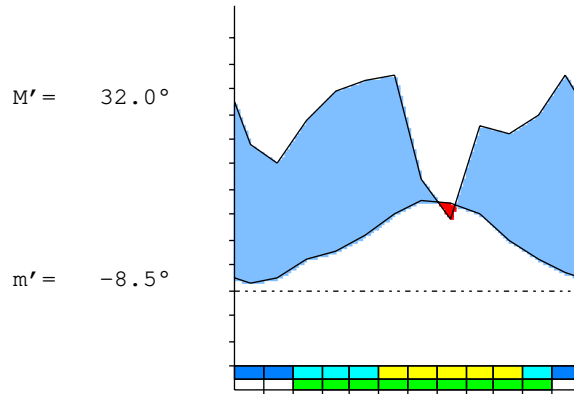
Bioclimate(Variant): TEMPERATE OCEANIC (SUBMEDITERRANEAN)

Bioclimatic Belt...: LOW SUPRATEMPERATE LOW HUMID

AGRAMONTE (ESP ZARAGOZA)

1060 m

P= 794 41° 49'N 1° 49'W 13/13 y.
 T= 9.5 ° Ic= 16.2 Tp= 1140 Tn= 0
 m= -1.9 ° M= 5.0 ° Itc= 126 Io= 7.0



TEMPERATE OCEANIC (SUBMEDITERRANEAN)
 LOW SUPRATEMPERATE LOW HUMID

WATER INDEX CARD AGRAMONTE (ESP ZARAGOZA)

Altitude: 1060 m. Latitude: 41° 49'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	1.6	5	58	0	100	5	0	53	37	9.5
Feb.	2.6	9	51	0	100	9	0	42	40	4.5
Mar.	5.9	28	68	0	100	28	0	40	40	1.4
Apr.	7.8	41	79	0	100	41	0	38	39	0.9
May.	11.2	68	87	0	100	68	0	19	29	0.2
Jun.	15.5	97	90	-7	93	97	0	0	15	0.0
Jul.	17.8	113	44	-69	24	113	0	0	7	-0.6
Aug.	17.4	103	28	-24	0	52	50	0	4	-0.7
Sep.	14.9	76	66	0	0	66	10	0	2	-0.1
Oct.	9.7	44	62	18	18	44	0	0	1	0.4
Nov.	6.2	23	70	47	65	23	0	0	0	1.9
Dec.	3.4	12	91	35	100	12	0	44	22	6.6
Year	9.5	619	794	*	*	558	60	236	236	*

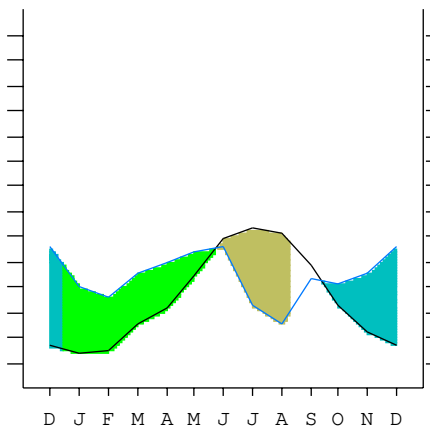
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

AGRAMONTE (ESP ZARAGOZA)

41°49'N 1°49'W 1060 m 13/13 y.

T= 9.5 Ic= 16.2 TEMPERATE OCEANIC (SUBMEDITERRANEAN)
 m= -1.9 Tp= 1140 LOW SUPRATEMPERATE
 M= 5.0 Tn= 0 LOW HUMID
 M' = 32.0 Itc= 126
 m' = -8.5 Io= 7.0
 P= 794 mm ———
 PE= 619 mm ———

Imbibing	11 Sep.
Saturation	14 Dec.
Reserve Use	23 May.
Deficit	10 Aug.



AGRAMONTE (ESP ZARAGOZA)

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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continentality 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 [C3b.4b.7b]
 + Macrobioclimate: C. TEMPERATE
 + Bioclimate: 3. OCEANIC
 + Bioclimatic variant .: SUBMEDITERRANEAN
 + Thermic type.....: 4. SUPRATEMPERATE
 + Thermic subtype.....: b. LOW
 + Ombrothermic type ...: 7. HUMID
 + Ombrothermic subtype : b. LOW
 Bioclimatic ClassificationTeoc(Sbm).Ste.Hum.Euo

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 377
 Coldest semester of the year.....(Psw): 417
 Warmest four months period of the year.....(Pcm1): 228
 Following warmest four months period.....(Pcm2): 281
 Positive precipitation dryest 3 months.....(Ppd): 138
 Positive precipitation dryest 2 months.....(Ppd2): 72
 Positive precipitation dryest 1 month.....(Ppd1): 28
 Positive precipitation warmest 3 months.....(Pps): 162
 Positive precipitation warmest 2 months.....(Pps2): 72
 Positive precipitation warmest 1 month.....(Pps1): 44
 Positive precipitation coldest 3 months.....(Ppw): 200
 Positive precipitation coldest 2 months.....(Ppw2): 109
 Positive precipitation coldest 1 month.....(Ppw1): 58

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	200	234	162	198

Seasonal rainfall rhythms: P > W > F > S

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 17.8
 Average coldest month [T].....(Tmin): 1.6
 Maximum temp. warmest month [M].....(Tmax): 25.0
 Minimum temp. coldest month [m].....(Tmin): -1.9
 Absolute Max.temp. warmest month [M'].....(Tamax): 32.0
 Absolute Min.temp. coldest month [m'].....(Tamin): -8.5
 First warmest contrasted month [M].....(Tcmax): 25.0 (7)
 First coldest contrasted month [m].....(Tcmin): 10.6 (7)
 Estival temperature.....(Ts): 507
 Positive temperature dryest 3 months.....(Tpd): 501
 Positive temperature dryest 2 months.....(Tpd2): 352
 Positive temperature dryest 1 month.....(Tpd1): 174
 Positive temperature warmest 3 months.....(Tps): 507
 Positive temperature warmest 2 months.....(Tps2): 352
 Positive temperature warmest 1 month.....(Tps1): 178
 Positive temperature coldest 3 months.....(Tpw): 76
 Positive temperature coldest 2 months.....(Tpw2): 42
 Positive temperature coldest 1 month.....(Tpw1): 16

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

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 0.78
 Mediterranean index of July.[PE/P].....(Im1): 2.57
 Mediterranean index of July & August.....(Im2): 2.99
 Mediterranean index of June, July & August....(Im3): 1.93

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	910	580	510	680	790	870	900	440	280	660	620	700
Tp	34	16	26	59	78	112	155	178	174	149	97	62
Io (Iom)	26.8	36.3	19.6	11.5	10.1	7.77	5.81	2.47	1.61	4.43	6.39	11.3
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	2000 / 76			2340 / 249			1620 / 507			1980 / 308		
Io (Iot)	26.32			9.398			3.195			6.429		
Semesters	December-May						June-November					
Pp(x10)/Tp	4340 / 325						3600 / 815					
Io (Iosm)	13.35						4.417					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 7940/1140=6.96 There is No Yearly Aridity

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	910	580	510	680	790	870	900	440	280	660	620	700
Tp [T*10]	34	16	26	59	78	112	155	178	174	149	97	62
Iom [Pp/Tp]	\$\$	\$\$	\$\$	\$\$	\$\$	777	581	247	161	443	639	\$\$
Avm [200-Iom]	***	***	***	***	***	***	***	***	39	***	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	2000 / 76			2340 / 249			1620 / 507			1980 / 308		
Iot [Pp/Tp]	2632			940			320			643		
Avs E[Avm<200]	***			***			***			***		
Strong upper semiarid [1]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin](Sp): 16.20
 CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]: 20.90
 CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]: 21.04
 + Oceanic (20<CI<40)
 CI of Currey (1974) [CI=Sp/(1+Lat/3)]: 1.08
 + Oceanic (0.6<CI<1.1)
 Rainfall Index of Lang (1925) [R=P/T]: 83.58
 + Temperate warm (100>R>60)
 Aridity Index of Martonne (1926) [Ia=P/(T+10)]: 40.72
 + Humid (60>Ia>30)
 I of Emberger (1930) [Q=100*P/(Tmmax²-Tmmin²)]: 127.78
 + Humid (Q>90)
 I of Dantin & Revenga (1940) [DR=100*T/P]: 1.20
 + Humid (2>DR>0)
 Aridity Index of UNEP [I=P/PE]: 1.28
 + Humid (I>0.65)
 Potencial Erosion I of Fournier (1960) [K=Pi²/P].....: 10.43
 + Very low (K<60)

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)
 + Climate: A. Warm and temperate warm
 + Region: 3. Termoxeroteric (Mediterranean warm)
 + Thermic type: 5. Meso-microthermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.42	0.35	0.42	0.46	0.46	0.42	0.18	0.11	0.30	0.33	0.43	0.64
T-E ratio	0.72	1.17	2.66	3.51	5.04	6.97	8.01	7.83	6.70	4.36	2.79	1.53
Precipitation-effectiveness: 45.19						Temperature-efficiency: 51.30						
Moisture Index [MI=100*(P-PE)/PE]: 28.34 + B1.Humid low-humid (20<MI<40)												
Index of dryness [DI=100*d/PE]: 9.73 + No deficit (0<DI<16.7)												
Index of humidity [HI=100*s/PE]: 38.06 + Strong surplus (20<HI)												
Potential Evapotranspiration PE: 618.69 + First mesothermic (570<PE<712)												

