

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

AGONCILLO (ESP LOGROÑO)

Altitude: 345 m.

Latitude: 42°27'N Longitude: 2°17'W

Temperature observation period.: 1947-1969 (23)

Rainfall observation period....: 1947-1969 (23)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	5.40	8.90	2.00	15.60	-3.70	30.0	12.11
Feb.	6.30	10.60	2.10	17.40	-3.40	26.0	15.01
Mar.	9.40	14.40	4.50	21.70	-0.50	34.0	32.89
Apr.	11.90	17.10	6.70	24.90	1.10	32.0	49.66
May.	15.60	21.40	9.70	29.70	4.00	28.0	81.43
Jun.	19.10	25.40	12.90	34.20	7.70	43.0	108.78
Jul.	22.00	29.10	15.00	37.10	10.10	19.0	133.47
Aug.	21.80	28.50	15.10	35.80	10.50	20.0	122.52
Sep.	19.00	25.00	13.00	32.00	7.90	42.0	88.43
Oct.	14.30	19.50	9.20	25.60	3.00	36.0	54.39
Nov.	9.10	13.30	5.00	19.80	-1.20	35.0	25.03
Dec.	6.50	9.80	3.20	15.60	-2.30	38.0	15.10
Year	13.37	18.58	8.20	25.78	2.77	383	738.83

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	243
Compensated thermicity index.....(Itc):	243
Simple continentality index.....(Ic):	16.6
Diurnality index.....(Id):	14.1
Annual ombrothermic index.....(Io):	2.39
Monthly estival ombrothermic index.....(Ios1):	0.86
Bimonthly estival ombrothermic index.....(Ios2):	0.89
Three monthly estival ombrothermic index.....(Ios3):	1.30
Four monthly estival ombrothermic index.....(Ios4):	1.40
Annual ombro-evaporation index.....(Ioe):	0.96
Annual positive temperature.....(Tp):	1604
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	629
Positive precipitation.....(Pp):	383

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

Latitudinal Belt...: Low eutemperate

Continentality.....: Oceanic - Low Euoceanic

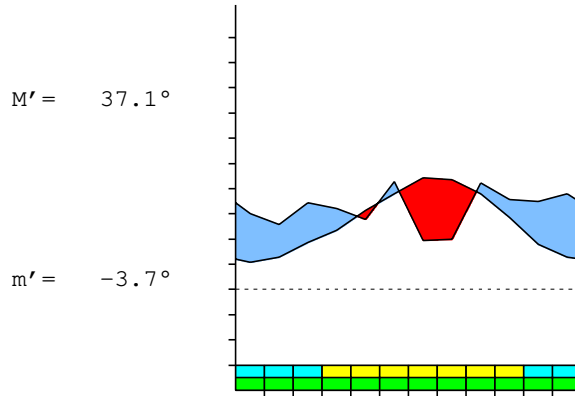
Bioclimate.....: MEDITERRANEAN PLUVISEASONAL-OCEANIC

Bioclimatic Belt...: UPPER MESOMEDITERRANEAN LOW DRY

AGONCILLO (ESP LOGROÑO)

345 m

P= 383 42° 27'N 2° 17'W 23/23 y.
 T= 13.4° Ic= 16.6 Tp= 1604 Tn= 0
 m= 2.0° M= 8.9° Itc= 243 Io= 2.4



MEDITERRANEAN PLUVISEASONAL-OCEANIC
 UPPER MESOMEDITERRANEAN LOW DRY

WATER INDEX CARD
 Altitude: 345 m.

AGONCILLO (ESP LOGROÑO)
 Latitude: 42° 27'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	5.4	12	30	18	51	12	0	0	0	1.4
Feb.	6.3	15	26	11	62	15	0	0	0	0.7
Mar.	9.4	33	34	1	63	33	0	0	0	0.0
Apr.	11.9	50	32	-18	45	50	0	0	0	-0.3
May.	15.6	81	28	-45	0	73	8	0	0	-0.6
Jun.	19.1	109	43	0	0	43	66	0	0	-0.6
Jul.	22.0	133	19	0	0	19	114	0	0	-0.8
Aug.	21.8	123	20	0	0	20	103	0	0	-0.8
Sep.	19.0	88	42	0	0	42	46	0	0	-0.5
Oct.	14.3	54	36	0	0	36	18	0	0	-0.3
Nov.	9.1	25	35	10	10	25	0	0	0	0.3
Dec.	6.5	15	38	23	33	15	0	0	0	1.5
Year	13.4	739	383	*	*	383	356	0	0	*

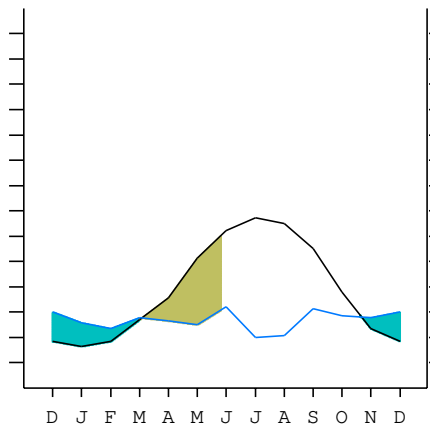
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

AGONCILLO (ESP LOGROÑO)

42°27'N 2°17'W 345 m 23/23 y.

T= 13.4 Ic= 16.6 MEDITERRANEAN PLUVISEASONAL-OCEANIC
 m= 2.0 Tp= 1604 UPPER MESOMEDITERRANEAN
 M= 8.9 Tn= 0 LOW DRY
 M' = 37.1 Itc= 243
 m' = -3.7 Io= 2.4
 P= 383 mm ———
 PE= 739 mm ———

Imbibing	20 Oct.
Saturation	
Reserve Use	2 Mar.
Deficit	26 May.



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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

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

Thermic types [B1.B4]
 + Latitudinal zone: B. Temperate
 + Latitudinal belt: 1. Low eutemperate
 + Thermic type: B. Temperate
 + Thermic subtype: 4. Temperate

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

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 188
 Coldest semester of the year.....(Psw): 195
 Warmest four months period of the year.....(Pcm1): 124
 Following warmest four months period.....(Pcm2): 139
 Positive precipitation dryest 3 months.....(Ppd): 81
 Positive precipitation dryest 2 months.....(Ppd2): 39
 Positive precipitation dryest 1 month.....(Ppd1): 19
 Positive precipitation warmest 3 months.....(Pps): 82
 Positive precipitation warmest 2 months.....(Pps2): 39
 Positive precipitation warmest 1 month.....(Pps1): 19
 Positive precipitation coldest 3 months.....(Ppw): 94
 Positive precipitation coldest 2 months.....(Ppw2): 56
 Positive precipitation coldest 1 month.....(Ppw1): 30

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	94	94	82	113

Seasonal rainfall rhythms: F > P > W > S

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 22.0
 Average coldest month [T].....(Tmin): 5.4
 Maximum temp. warmest month [M].....(Tmmax): 29.1
 Minimum temp. coldest month [m].....(Tmmin): 2.0
 Absolute Max.temp. warmest month [M'].....(Tamax): 37.1
 Absolute Min.temp. coldest month [m'].....(Tamin): -3.7
 First warmest contrasted month [M].....(Tcmax): 29.1 (7)
 First coldest contrasted month [m].....(Tcmin): 15.0 (7)
 Estival temperature.....(Ts): 629
 Positive temperature dryest 3 months.....(Tpd): 628
 Positive temperature dryest 2 months.....(Tpd2): 438
 Positive temperature dryest 1 month.....(Tpd1): 220
 Positive temperature warmest 3 months.....(Tps): 629
 Positive temperature warmest 2 months.....(Tps2): 438
 Positive temperature warmest 1 month.....(Tps1): 220
 Positive temperature coldest 3 months.....(Tpw): 182
 Positive temperature coldest 2 months.....(Tpw2): 117
 Positive temperature coldest 1 month.....(Tpw1): 54

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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): 1.93
 Mediterranean index of July.[PE/P].....(Im1): 7.02
 Mediterranean index of July & August.....(Im2): 6.56
 Mediterranean index of June, July & August....(Im3): 4.45

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	380	300	260	340	320	280	430	190	200	420	360	350
Tp	65	54	63	94	119	156	191	220	218	190	143	91
Io (Iom)	5.85	5.56	4.13	3.62	2.69	1.79	2.25	0.86	0.92	2.21	2.52	3.85
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	940 / 182			940 / 369			820 / 629			1130 / 424		
Io (Iot)	5.165			2.547			1.304			2.665		
Semesters	December-May						June-November					
Pp(x10)/Tp	1880 / 551						1950 / 1053					
Io (Iosm)	3.412						1.852					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 3830/1604=2.39 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	380	300	260	340	320	280	430	190	200	420	360	350
Tp [T*10]	65	54	63	94	119	156	191	220	218	190	143	91
Iom [Pp/Tp]	585	556	413	362	269	179	225	86	92	221	252	385
Avm [200-Iom]	***	***	***	***	***	21	***	114	108	***	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	940 / 182			940 / 369			820 / 629			1130 / 424		
Iot [Pp/Tp]	516			255			130			267		
Avs E[Avm<200]	***			***			***			***		
Weak upper arid [2]							Weak upper semiarid [1]					

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp): 16.60
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]	21.41
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]	21.59
+ Oceanic (20<CI<40)	
CI of Currey (1974) [CI=Sp/(1+Lat/3)]	1.10
+ Oceanic (0.6<CI<1.1)	
Rainfall Index of Lang (1925) [R=P/T]	28.65
+ Steppic (40>R>0)	
Aridity Index of Martonne (1926) [Ia=P/(T+10)]	16.39
+ Semiarid -mediterranean- (20>Ia>15)	
I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)]	45.44
+ Semiarid (50>Q>30)	
I of Dantin & Revenga (1940) [DR=100*T/P]	3.49
+ Arid (6>DR>3)	
Aridity Index of UNEP [I=P/PE]	0.52
+ Subhumid - dry (0.65>I>0.5)	
Potential Erosion I of Fournier (1960) [K=Pi ² /P]	4.83
+ Very low (K<60)	

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)
 + Climate

- + Climate
- + Region
- + Thermic type: 4. Mesothermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.17	0.14	0.17	0.15	0.11	0.17	0.06	0.07	0.16	0.16	0.18	0.22
T-E ratio	2.43	2.84	4.23	5.35	7.02	8.60	9.90	9.81	8.55	6.44	4.10	2.93
Precipitation-effectiveness: 17.58						Temperature-efficiency						72.18
Moisture Index [MI=100*(P-PE)/PE]												-48.16
+ D.Semiarid (-66.7<MI<-33.3)												
Index of dryness [DI=100*d/PE]												48.16
+ Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE]												0.00
+ No surplus (0<HI<10)												
Potential Evapotranspiration PE												738.83
+ Second mesothermic (712<PE<855)												

