

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

CARRION DE LOS CONDES (ESP PALENCIA) Altitude: 839 m.

Latitude: 42°20'N Longitude: 4°36'W
 Temperature observation period.: 1931-1969 (39)
 Rainfall observation period....: 1931-1969 (39)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	3.10	7.80	-1.50	13.50	-7.50	55.0	9.57
Feb.	5.00	9.90	0.00	16.40	-5.60	32.0	16.53
Mar.	7.80	13.30	2.20	19.30	-2.80	58.0	34.49
Apr.	10.20	16.50	4.00	23.50	-0.40	44.0	50.94
May.	12.30	19.40	5.30	26.60	0.30	55.0	70.97
Jun.	15.90	23.70	8.10	32.40	3.30	46.0	95.90
Jul.	17.90	26.70	9.10	33.70	4.50	20.0	110.65
Aug.	17.80	26.90	8.80	33.10	4.50	23.0	102.22
Sep.	14.80	22.90	6.80	30.00	2.40	39.0	72.36
Oct.	11.20	18.00	4.50	24.80	-0.20	48.0	48.08
Nov.	7.40	13.10	1.40	18.50	-3.20	53.0	25.86
Dec.	3.90	8.60	-0.80	13.90	-6.50	54.0	11.99
Year	10.61	17.23	3.99	23.81	-0.93	527	649.55

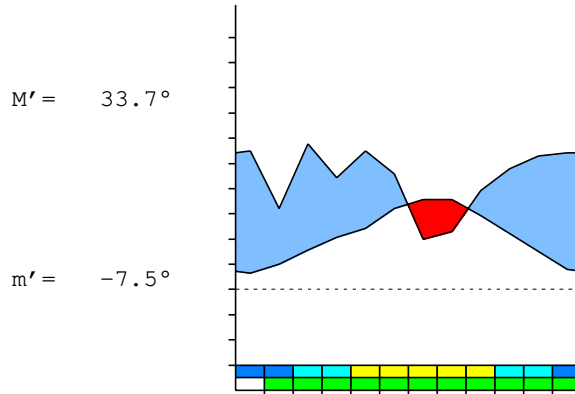
BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	169
Compensated thermicity index.....(Itc):	169
Simple continentality index.....(Ic):	14.8
Diurnality index.....(Id):	18.1
Annual ombrothermic index.....(Io):	4.14
Monthly estival ombrothermic index.....(Ios1):	1.12
Bimonthly estival ombrothermic index.....(Ios2):	1.20
Threemonthly estival ombrothermic index.....(Ios3):	1.72
Fourmonthly estival ombrothermic index.....(Ios4):	2.25
Annual ombro-evaporation index.....(Ioe):	0.78
Annual positive temperature.....(Tp):	1273
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	516
Positive precipitation.....(Pp):	527

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	8	2	2	0	0

Latitudinal Belt...: Low eutemperate
 Continentality.....: Oceanic - High Euoceanic
 Bioclimate.....: MEDITERRANEAN PLUVISEASONAL-OCEANIC
 Bioclimatic Belt...: LOW SUPRAMEDITERRANEAN LOW SUBHUMID

CARRION DE LOS CONDES (ESP PALENCIA) 839 m
 P= 527 42° 20'N 4° 36'W 39/39 y.
 T= 10.6° Ic= 14.8 Tp= 1273 Tn= 0
 m= -1.5° M= 7.8° Itc= 169 Io= 4.1



MEDITERRANEAN PLUVISEASONAL-OCEANIC
 LOW SUPRAMEDITERRANEAN LOW SUBHUMID

WATER INDEX CARD CARRION DE LOS CONDES (ESP PALENCIA)
 Altitude: 839 m. Latitude: 42° 20'N

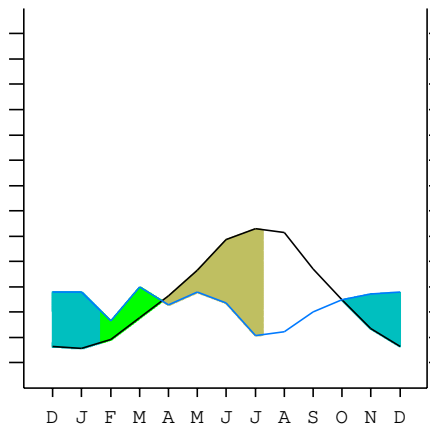
(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	3.1	10	55	31	100	10	0	15	7	4.7
Feb.	5.0	17	32	0	100	17	0	15	11	0.9
Mar.	7.8	34	58	0	100	34	0	24	17	0.6
Apr.	10.2	51	44	-7	93	51	0	0	9	-0.1
May.	12.3	71	55	-16	77	71	0	0	4	-0.2
Jun.	15.9	96	46	-50	27	96	0	0	2	-0.5
Jul.	17.9	111	20	-27	0	47	63	0	1	-0.8
Aug.	17.8	102	23	0	0	23	79	0	1	-0.7
Sep.	14.8	72	39	0	0	39	33	0	0	-0.4
Oct.	11.2	48	48	0	0	48	0	0	0	0.0
Nov.	7.4	26	53	27	27	26	0	0	0	1.0
Dec.	3.9	12	54	42	69	12	0	0	0	3.5
Year	10.6	650	527	*	*	473	176	54	54	*

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

CARRION DE LOS CONDES (ESP PALENCIA) 42°20'N 4°36'W 839 m 39/39 y.

T= 10.6 Ic= 14.8 MEDITERRANEAN PLUVISEASONAL-OCEANIC
 m= -1.5 Tp= 1273 LOW SUPRAMEDITERRANEAN
 M= 7.8 Tn= 0 LOW SUBHUMID
 M' = 33.7 Itc= 169
 m' = -7.5 Io= 4.1
 P= 527 mm —
 PE= 650 mm —

Imbibing	1 Oct.
Saturation	21 Jan.
Reserve Use	24 Mar.
Deficit	9 Jul.



CARRION DE LOS CONDES (ESP PALENCIA)

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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [B2a]
 + Type: B. Oceanic
 + Subtype: 2. Euoceanic
 + Variant: a. High
 Thermic types [B1.B5]
 + Latitudinal zone: B. Temperate
 + Latitudinal belt: 1. Low eutemperate
 + Thermic type: B. Temperate
 + Thermic subtype: 5. Subtemperate
 Bioclimatic types [B8.4b.6b]
 + Macrobioclimate: B. MEDITERRANEAN
 + Bioclimate: 8. PLUVISEASONAL-OCEANIC
 + Bioclimatic variant ..:
 + Thermic type.....: 4. SUPRAMEDITERRANEAN
 + Thermic subtype.....: b. LOW
 + Ombrothermic type ...: 6. SUBHUMID
 + Ombrothermic subtype : b. LOW
 Bioclimatic Classification: Mehc.Sme.Shu

CARRION DE LOS CONDES (ESP PALENCIA)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 231
 Coldest semester of the year.....(Psw): 296
 Warmest four months period of the year.....(Pcm1): 128
 Following warmest four months period.....(Pcm2): 210
 Positive precipitation dryest 3 months.....(Ppd): 82
 Positive precipitation dryest 2 months.....(Ppd2): 43
 Positive precipitation dryest 1 month.....(Ppd1): 20
 Positive precipitation warmest 3 months.....(Pps): 89
 Positive precipitation warmest 2 months.....(Pps2): 43
 Positive precipitation warmest 1 month.....(Pps1): 20
 Positive precipitation coldest 3 months.....(Ppw): 141
 Positive precipitation coldest 2 months.....(Ppw2): 109
 Positive precipitation coldest 1 month.....(Ppw1): 55

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	141	157	89	140

Seasonal rainfall rhythms: P > W > F > S

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 17.9
 Average coldest month [T].....(Tmin): 3.1
 Maximum temp. warmest month [M].....(Tmmax): 26.9
 Minimum temp. coldest month [m].....(Tmmin): -1.5
 Absolute Max.temp. warmest month [M'].....(Tamax): 33.7
 Absolute Min.temp. coldest month [m'].....(Tamin): -7.5
 First warmest contrasted month [M].....(Tcmax): 26.9 (8)
 First coldest contrasted month [m].....(Tcmin): 8.8 (8)
 Estival temperature.....(Ts): 516
 Positive temperature dryest 3 months.....(Tpd): 505
 Positive temperature dryest 2 months.....(Tpd2): 357
 Positive temperature dryest 1 month.....(Tpd1): 179
 Positive temperature warmest 3 months.....(Tps): 516
 Positive temperature warmest 2 months.....(Tps2): 357
 Positive temperature warmest 1 month.....(Tps1): 179
 Positive temperature coldest 3 months.....(Tpw): 120
 Positive temperature coldest 2 months.....(Tpw2): 70
 Positive temperature coldest 1 month.....(Tpw1): 31

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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
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): 1.23
 Mediterranean index of July.[PE/P].....(Im1): 5.53
 Mediterranean index of July & August.....(Im2): 4.95
 Mediterranean index of June, July & August....(Im3): 3.47

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	540	550	320	580	440	550	460	200	230	390	480	530
Tp	39	31	50	78	102	123	159	179	178	148	112	74
Io (Iom)	13.8	17.7	6.40	7.44	4.31	4.47	2.89	1.12	1.29	2.64	4.29	7.16
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	1410 / 120			1570 / 303			890 / 516			1400 / 334		
Io (Iot)	11.75			5.182			1.725			4.192		
Semesters	December-May						June-November					
Pp(x10)/Tp	2980 / 423						2290 / 850					
Io (Iosm)	7.045						2.694					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 5270/1273=4.14 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	540	550	320	580	440	550	460	200	230	390	480	530
Tp [T*10]	39	31	50	78	102	123	159	179	178	148	112	74
Iom [Pp/Tp]	\$\$	\$\$	640	744	431	447	289	112	129	264	429	716
Avm [200-Iom]	***	***	***	***	***	***	***	88	71	***	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	1410 / 120			1570 / 303			890 / 516			1400 / 334		
Iot [Pp/Tp]	1175			518			172			419		
Avs E[Avm<200]	***			***			***			***		
Strong lower semiarid [1]							Weak lower semiarid [1]					

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp): 14.80
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]	16.96
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]	17.78
+ Hyperoceanic (-20<CI<20)	
CI of Currey (1974) [CI=Sp/(1+Lat/3)]	0.98
+ Oceanic (0.6<CI<1.1)	
Rainfall Index of Lang (1925) [R=P/T]	49.68
+ Semiarid (60>R>40)	
Aridity Index of Martonne (1926) [Ia=P/(T+10)]	25.57
+ Subhumid (30>Ia>20)	
I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)]	73.06
+ Subhumid (90>Q>50)	
I of Dantin & Revenga (1940) [DR=100*T/P]	2.01
+ Semiarid (3>DR>2)	
Aridity Index of UNEP [I=P/PE]	0.81
+ Humid (I>0.65)	
Potential Erosion I of Fournier (1960) [K=Pi ² /P]	6.38
+ Very low (K<60)	

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)
 + Climate

- + Climate
- + Region
- + Thermic type: 5. Meso-microthermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.37	0.19	0.33	0.22	0.27	0.20	0.07	0.09	0.17	0.24	0.30	0.35
T-E ratio	1.39	2.25	3.51	4.59	5.54	7.15	8.05	8.01	6.66	5.04	3.33	1.76
Precipitation-effectiveness: 27.92						Temperature-efficiency						57.28
Moisture Index [MI=100*(P-PE)/PE]												-18.87
+ C1.Subhumid dry (-33.3<MI<0)												
Index of dryness [DI=100*d/PE]												27.11
+ Moderate deficit (16.7<DI<33.3)												
Index of humidity [HI=100*s/PE]												8.24
+ No surplus (0<HI<10)												
Potential Evapotranspiration PE												649.55
+ First mesothermic (570<PE<712)												

