

Phytosociological Research Center

www.globalbioclimatics.org

Worldwide Bioclimatic Classification System

Prof.Dr. Salvador Rivas-Martinez

(Adapted to Synoptical Table 30/08/2017)

SABIÑANIGO (ESP HUESCA)

Altitude: 790 m.

Latitude: 42°31'N Longitude: 0°22'W

Temperature observation period.: 1940-1969 (30)

Rainfall observation period....: 1940-1969 (30)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPi
Jan.	1.80	8.20	-4.70	15.20	-13.00	67.0	4.68
Feb.	3.00	9.70	-3.60	17.60	-11.10	60.0	8.63
Mar.	7.00	13.90	0.10	21.20	-5.70	73.0	28.98
Apr.	9.50	16.40	2.60	24.00	-3.20	69.0	45.52
May.	13.10	20.00	6.30	27.50	-0.20	75.0	74.64
Jun.	17.20	24.70	9.70	34.00	3.40	68.0	104.34
Jul.	20.10	28.40	11.80	35.00	6.20	33.0	126.24
Aug.	19.40	27.10	11.80	33.90	6.00	80.0	112.65
Sep.	16.30	23.90	8.80	30.43	3.00	59.0	79.60
Oct.	11.20	18.40	4.00	24.50	-2.30	62.0	46.83
Nov.	6.10	12.40	-0.20	19.50	-6.50	72.0	19.58
Dec.	2.70	8.80	-3.40	15.40	-10.30	75.0	7.16
Year	10.62	17.66	3.60	24.85	-2.81	793	658.85

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	141
Compensated thermicity index.....(Itc):	143
Simple continentality index.....(Ic):	18.3
Diurnality index.....(Id):	16.6
Annual ombrothermic index.....(Io):	6.22
Monthly estival ombrothermic index.....(Ios1):	1.64
Bimonthly estival ombrothermic index.....(Ios2):	2.86
Threemonthly estival ombrothermic index.....(Ios3):	3.19
Fourmonthly estival ombrothermic index.....(Ios4):	3.67
Annual ombro-evaporation index.....(Ioe):	0.91
Annual positive temperature.....(Tp):	1274
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	567
Positive precipitation.....(Pp):	793

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	9	2	1	0	0

Latitudinal Belt...: Low eutemperate

Continentalty.....: Oceanic - Low Semicontinental

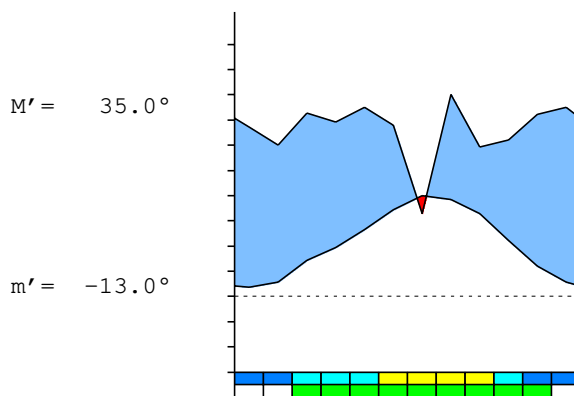
Bioclimate(Variant): TEMPERATE OCEANIC (SUBMEDITERRANEAN)

Bioclimatic Belt...: LOW SUPRATEMPERATE LOW HUMID

SABIÑANIGO (ESP HUESCA)

790 m

P= 793 42° 31'N 0° 22'W 30/30 y.
 T= 10.6° Ic= 18.3 Tp= 1274 Tn= 0
 m= -4.7° M= 8.2° Itc= 143 Io= 6.2



TEMPERATE OCEANIC (SUBMEDITERRANEAN)
 LOW SUPRATEMPERATE LOW HUMID

WATER INDEX CARD

SABIÑANIGO (ESP HUESCA)

Altitude: 790 m.

Latitude: 42° 31'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	1.8	5	67	0	100	5	0	62	40	13.3
Feb.	3.0	9	60	0	100	9	0	51	46	5.9
Mar.	7.0	29	73	0	100	29	0	44	45	1.5
Apr.	9.5	46	69	0	100	46	0	23	34	0.5
May.	13.1	75	75	0	100	75	0	0	17	0.0
Jun.	17.2	104	68	-36	64	104	0	0	9	-0.3
Jul.	20.1	126	33	-64	0	97	30	0	4	-0.7
Aug.	19.4	113	80	0	0	80	33	0	2	-0.2
Sep.	16.3	80	59	0	0	59	21	0	1	-0.2
Oct.	11.2	47	62	15	15	47	0	0	1	0.3
Nov.	6.1	20	72	52	68	20	0	0	0	2.6
Dec.	2.7	7	75	32	100	7	0	35	18	9.4
Year	10.6	659	793	*	*	576	83	217	217	*

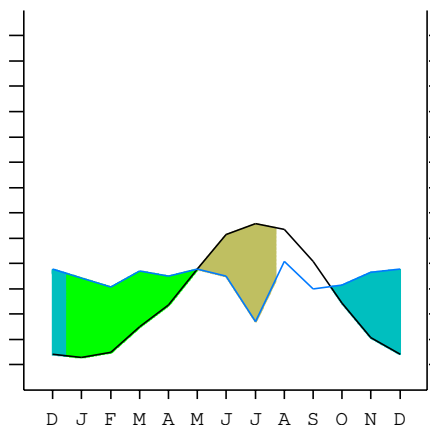
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

SABIÑANIGO (ESP HUESCA)

42°31'N 0°22'W 790 m 30/30 y.

T= 10.6 Ic= 18.3 TEMPERATE OCEANIC (SUBMEDITERRANEAN)
 m= -4.7 Tp= 1274 LOW SUPRATEMPERATE
 M= 8.2 Tn= 0 LOW HUMID
 M' = 35.0 Itc= 143
 m' = -13.0 Io= 6.2
 P= 793 mm ———
 PE= 659 mm ———

Imbibing	18 Sep.
Saturation	15 Dec.
Reserve Use	1 May.
Deficit	21 Jul.



SABIÑANIGO (ESP HUESCA)

Latitude: 42°31'N Longitude: 0°22'W Altitude: 790 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [B1a]
 + Type: B. Oceanic
 + Subtype: 1. Semicontinental
 + Variant: a. 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]
 + Macroclimate: C. TEMPERATE
 + Bioclimate: 3. OCEANIC
 + Bioclimatic variant .: b. SUBMEDITERRANEAN
 + Thermic type.....: 4. SUPRATEMPERATE
 + Thermic subtype.....: b. LOW
 + Ombrothermic type ...: 7. HUMID
 + Ombrothermic subtype : b. LOW
 Bioclimatic Classification: Teco (Sbm).Ste.Hum

SABIÑANIGO (ESP HUESCA)

Latitude: 42°31'N Longitude: 0°22'W Altitude: 790 m

PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 377
 Coldest semester of the year.....(Psw): 416
 Warmest four months period of the year.....(Pcm1): 240
 Following warmest four months period.....(Pcm2): 276
 Positive precipitation dryest 3 months.....(Ppd): 172
 Positive precipitation dryest 2 months.....(Ppd2): 101
 Positive precipitation dryest 1 month.....(Ppd1): 33
 Positive precipitation warmest 3 months.....(Pps): 181
 Positive precipitation warmest 2 months.....(Pps2): 113
 Positive precipitation warmest 1 month.....(Pps1): 33
 Positive precipitation coldest 3 months.....(Ppw): 202
 Positive precipitation coldest 2 months.....(Ppw2): 142
 Positive precipitation coldest 1 month.....(Ppw1): 67

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	202	217	181	193

Seasonal rainfall rhythms: P > W > F > S

SABIÑANIGO (ESP HUESCA)

Latitude: 42°31'N Longitude: 0°22'W Altitude: 790 m

TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 20.1
 Average coldest month [T].....(Tmin): 1.8
 Maximum temp. warmest month [M].....(Tmmax): 28.4
 Minimum temp. coldest month [m].....(Tmmin): -4.7
 Absolute Max.temp. warmest month [M'].....(Tamax): 35.0
 Absolute Min.temp. coldest month [m'].....(Tamin): -13.0
 First warmest contrasted month [M].....(Tcmax): 28.4 (7)
 First coldest contrasted month [m].....(Tcmin): 11.8 (7)
 Estival temperature.....(Ts): 567
 Positive temperature dryest 3 months.....(Tpd): 558
 Positive temperature dryest 2 months.....(Tpd2): 373
 Positive temperature dryest 1 month.....(Tpd1): 201
 Positive temperature warmest 3 months.....(Tps): 567
 Positive temperature warmest 2 months.....(Tps2): 395
 Positive temperature warmest 1 month.....(Tps1): 201
 Positive temperature coldest 3 months.....(Tpw): 75
 Positive temperature coldest 2 months.....(Tpw2): 45
 Positive temperature coldest 1 month.....(Tpw1): 18

SABIÑANIGO (ESP HUESCA)

Latitude: 42°31'N Longitude: 0°22'W Altitude: 790 m

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			

SABIÑANIGO (ESP HUESCA)

Latitude: 42°31'N Longitude: 0°22'W Altitude: 790 m

OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 0.83
 Mediterranean index of July.[PE/P].....(Im1): 3.83
 Mediterranean index of July & August.....(Im2): 2.11
 Mediterranean index of June, July & August....(Im3): 1.90

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	750	670	600	730	690	750	680	330	800	590	620	720
Tp	27	18	30	70	95	131	172	201	194	163	112	61
Io (Iom)	27.8	37.2	20.0	10.4	7.26	5.73	3.95	1.64	4.12	3.62	5.54	11.8
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	2020 / 75			2170 / 296			1810 / 567			1930 / 336		
Io (Iot)	26.93			7.331			3.192			5.744		
Semesters	December-May						June-November					
Pp(x10)/Tp	4190 / 371						3740 / 903					
Io (Iosm)	11.29						4.142					

SABIÑANIGO (ESP HUESCA)

Latitude: 42°31'N Longitude: 0°22'W Altitude: 790 m

Aridity Value Index (AVI)

[10xPP/TP=IO]: 7930/1274=6.22 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	750	670	600	730	690	750	680	330	800	590	620	720
Tp [T*10]	27	18	30	70	95	131	172	201	194	163	112	61
Iom [Pp/Tp]	\$\$	\$\$	\$\$	\$\$	726	573	395	164	412	362	554	\$\$
Avm [200-Iom]	***	***	***	***	***	***	***	36	***	***	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	2020 / 75			2170 / 296			1810 / 567			1930 / 336		
Iot [Pp/Tp]	2693			733			319			574		
Avs E[Avm<200]	***			***			***			***		
Strong upper semiarid [1]												

SABIÑANIGO (ESP HUESCA)

Latitude: 42°31'N Longitude: 0°22'W Altitude: 790 m

BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp):	18.30
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]		25.63
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]		25.20
+ Oceanic (20<CI<40)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)]		1.21
+ Subcontinental (1.1<CI<1.7)		
Rainfall Index of Lang (1925) [R=P/T]		74.69
+ Temperate warm (100>R>60)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)]		38.46
+ Humid (60>Ia>30)		
I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)]		101.09
+ Humid (Q>90)		
I of Dantin & Revenga (1940) [DR=100*T/P]		1.34
+ Humid (2>DR>0)		
Aridity Index of UNEP [I=P/PE]		1.20
+ Humid (I>0.65)		
Potential Erosion I of Fournier (1960) [K=Pi ² /P]		8.07
+ Very low (K<60)		

SABIÑANIGO (ESP HUESCA)

Latitude: 42°31'N Longitude: 0°22'W Altitude: 790 m

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	0.49	0.41	0.44	0.38	0.37	0.29	0.12	0.33	0.26	0.32	0.44	0.53
T-E ratio	0.81	1.35	3.15	4.27	5.90	7.74	9.05	8.73	7.33	5.04	2.74	1.22
Precipitation-effectiveness: 43.71						Temperature-efficiency						57.33
Moisture Index [MI=100*(P-PE)/PE]												20.36
+ B1.Humid low-humid (20<MI<40)												
Index of dryness [DI=100*d/PE]												12.57
+ No deficit (0<DI<16.7)												
Index of humidity [HI=100*s/PE]												32.92
+ Strong surplus (20<HI)												
Potential Evapotranspiration PE												658.85
+ First mesothermic (570<PE<712)												

