

Phytosociological Research Center

www.globalbioclimatics.org

Worldwide Bioclimatic Classification System

Prof.Dr. Salvador Rivas-Martinez

(Adapted to Synoptical Table 30/08/2017)

SALLENT DE GALLEGO (ESP HUESCA)

Altitude: 1305 m.

Latitude: 42°46'N Longitude: 0°20'W

Temperature observation period.: 1953-1969 (17)

Rainfall observation period....: 1953-1969 (17)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	Epi
Jan.	0.80	5.50	-3.90	13.40	-12.50	121.0	3.47
Feb.	1.30	6.10	-3.50	14.20	-10.60	108.0	5.67
Mar.	4.00	8.90	-0.90	16.40	-7.60	119.0	21.36
Apr.	6.00	11.10	1.00	19.70	-3.80	105.0	34.97
May.	10.80	16.60	5.00	24.20	-0.60	105.0	70.22
Jun.	13.60	19.50	7.60	27.40	2.10	109.0	89.53
Jul.	16.70	23.60	9.80	30.60	4.70	68.0	110.47
Aug.	16.10	23.00	9.30	29.60	4.30	72.0	99.12
Sep.	14.30	21.10	7.60	27.10	2.50	114.0	76.43
Oct.	9.00	14.60	3.50	21.60	-2.00	122.0	44.24
Nov.	4.40	9.20	-0.30	16.80	-5.40	157.0	18.63
Dec.	1.80	5.90	-2.30	13.70	-8.80	152.0	7.34
Year	8.23	13.76	2.74	21.23	-3.14	1352	581.45

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	98
Compensated thermicity index.....(Itc):	98
Simple continentality index.....(Ic):	15.9
Diurnality index.....(Id):	13.8
Annual ombrothermic index.....(Io):	13.68
Monthly estival ombrothermic index.....(Ios1):	4.07
Bimonthly estival ombrothermic index.....(Ios2):	4.27
Threemonthly estival ombrothermic index.....(Ios3):	5.37
Fourmonthly estival ombrothermic index.....(Ios4):	6.19
Annual ombro-evaporation index.....(Ioe):	0.77
Annual positive temperature.....(Tp):	988
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	464
Positive precipitation.....(Pp):	1352

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	12	0	0	0	0

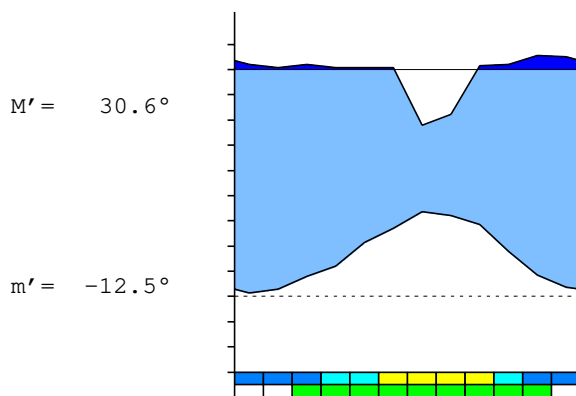
Latitudinal Belt...: Low eutemperate

Continentalty.....: Oceanic - Low Euoceanic

Bioclimate.....: TEMPERATE OCEANIC

Bioclimatic Belt...: UPPER SUPRATEMPERATE LOW HYPERHUMID

SALLENT DE GALLEGO (ESP HUESCA) 1305 m
 P= 1352 42° 46'N 0° 20'W 17/17 y.
 T= 8.2° Ic= 15.9 Tp= 988 Tn= 0
 m= -3.9° M= 5.5° Itc= 98 Io= 13.7



TEMPERATE OCEANIC
 UPPER SUPRATEMPERATE LOW HYPERHUMID

WATER INDEX CARD SALLENT DE GALLEGO (ESP HUESCA)
 Altitude: 1305 m. Latitude: 42° 46'N

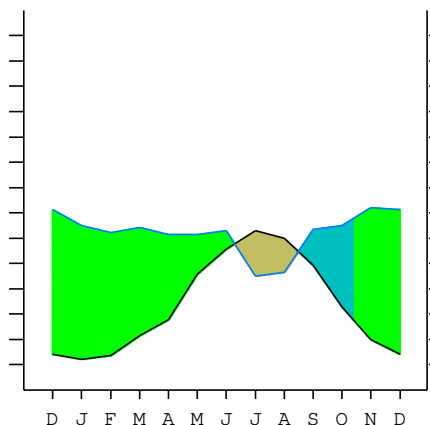
(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	0.8	3	121	0	100	3	0	118	115	33.8
Feb.	1.3	6	108	0	100	6	0	102	109	18.0
Mar.	4.0	21	119	0	100	21	0	98	103	4.5
Apr.	6.0	35	105	0	100	35	0	70	87	2.0
May.	10.8	70	105	0	100	70	0	35	61	0.4
Jun.	13.6	90	109	0	100	90	0	19	40	0.2
Jul.	16.7	110	68	-42	58	110	0	0	20	-0.3
Aug.	16.1	99	72	-27	30	99	0	0	10	-0.2
Sep.	14.3	76	114	38	68	76	0	0	5	0.4
Oct.	9.0	44	122	32	100	44	0	46	25	1.7
Nov.	4.4	19	157	0	100	19	0	138	82	7.4
Dec.	1.8	7	152	0	100	7	0	145	113	19.7
Year	8.2	581	1352	*	*	581	0	771	771	*

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

SALLENT DE GALLEGO (ESP HUESCA)
 42°46'N 0°20'W 1305 m 17/17 y.

T= 8.2 Ic= 15.9 TEMPERATE OCEANIC
 m= -3.9 Tp= 988 UPPER SUPRATEMPERATE
 M= 5.5 Tn= 0 LOW HYPERHUMID
 M' = 30.6 Itc= 98
 m' = -12.5 Io= 13.7
 P= 1352 mm
 PE= 581 mm

Imbibing	13 Aug.
Saturation	13 Oct.
Reserve Use	10 Jun.
Deficit	



SALLENT DE GALLEGO (ESP HUESCA)

Latitude: 42°46'N Longitude: 0°20'W Altitude: 1305 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.8b]
 + Macrobioclimate: C. TEMPERATE
 + Bioclimate: 3. OCEANIC
 + Bioclimatic variant ..:
 + Thermic type.....: 4. SUPRATEMPERATE
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 8. HYPERHUMID
 + Ombrothermic subtype : b. LOW
 Bioclimatic Classification: Teco.Ste.Hhu

SALLENT DE GALLEGO (ESP HUESCA)

Latitude: 42°46'N Longitude: 0°20'W Altitude: 1305 m

PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 590
 Coldest semester of the year.....(Psw): 762
 Warmest four months period of the year.....(Pcm1): 363
 Following warmest four months period.....(Pcm2): 552
 Positive precipitation dryest 3 months.....(Ppd): 249
 Positive precipitation dryest 2 months.....(Ppd2): 140
 Positive precipitation dryest 1 month.....(Ppd1): 68
 Positive precipitation warmest 3 months.....(Pps): 254
 Positive precipitation warmest 2 months.....(Pps2): 140
 Positive precipitation warmest 1 month.....(Pps1): 68
 Positive precipitation coldest 3 months.....(Ppw): 381
 Positive precipitation coldest 2 months.....(Ppw2): 229
 Positive precipitation coldest 1 month.....(Ppw1): 121

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	381	329	249	393

Seasonal rainfall rhythms: F > W > P > S

SALLENT DE GALLEGO (ESP HUESCA)

Latitude: 42°46'N Longitude: 0°20'W Altitude: 1305 m

TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 16.7
 Average coldest month [T].....(Tmin): 0.8
 Maximum temp. warmest month [M].....(Tmmax): 23.6
 Minimum temp. coldest month [m].....(Tmmin): -3.9
 Absolute Max.temp. warmest month [M'].....(Tamax): 30.6
 Absolute Min.temp. coldest month [m'].....(Tamin): -12.5
 First warmest contrasted month [M].....(Tcmax): 23.6 (7)
 First coldest contrasted month [m].....(Tcmin): 9.8 (7)
 Estival temperature.....(Ts): 464
 Positive temperature dryest 3 months.....(Tpd): 464
 Positive temperature dryest 2 months.....(Tpd2): 328
 Positive temperature dryest 1 month.....(Tpd1): 167
 Positive temperature warmest 3 months.....(Tps): 471
 Positive temperature warmest 2 months.....(Tps2): 328
 Positive temperature warmest 1 month.....(Tps1): 167
 Positive temperature coldest 3 months.....(Tpw): 39
 Positive temperature coldest 2 months.....(Tpw2): 21
 Positive temperature coldest 1 month.....(Tpw1): 8

SALLENT DE GALLEGO (ESP HUESCA)

Latitude: 42°46'N Longitude: 0°20'W Altitude: 1305 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	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			

SALLENT DE GALLEGO (ESP HUESCA)

Latitude: 42°46'N Longitude: 0°20'W Altitude: 1305 m

OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 0.43
 Mediterranean index of July.[PE/P].....(Im1): 1.62
 Mediterranean index of July & August.....(Im2): 1.50
 Mediterranean index of June, July & August....(Im3): 1.20

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	1520	1210	1080	1190	1050	1050	1090	680	720	1140	1220	1570
Tp	18	8	13	40	60	108	136	167	161	143	90	44
Io (Iom)	84.4	151	83.1	29.8	17.5	9.72	8.01	4.07	4.47	7.97	13.6	35.7
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	3810 / 39			3290 / 208			2490 / 464			3930 / 277		
Io (Iot)	97.69			15.82			5.366			14.19		
Semesters	December-May						June-November					
Pp(x10)/Tp	7100 / 247						6420 / 741					
Io (Iosm)	28.74						8.664					

SALLENT DE GALLEGO (ESP HUESCA)

Latitude: 42°46'N Longitude: 0°20'W Altitude: 1305 m

Aridity Value Index (AVI)

[10xPP/TP=IO]: 13520/988=13.68 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	1520	1210	1080	1190	1050	1050	1090	680	720	1140	1220	1570
Tp [T*10]	18	8	13	40	60	108	136	167	161	143	90	44
Iom [Pp/Tp]	\$\$	\$\$	\$\$	\$\$	\$\$	972	801	407	447	797	\$\$	\$\$
Avm [200-Iom]	***	***	***	***	***	***	***	***	***	***	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	3810 / 39			3290 / 208			2490 / 464			3930 / 277		
Iot [Pp/Tp]	\$\$			1582			537			1419		
Avs E[Avm<200]	***			***			***			***		

SALLENT DE GALLEGO (ESP HUESCA)

Latitude: 42°46'N Longitude: 0°20'W Altitude: 1305 m

BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin](Sp): 15.90
 CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]: 19.41
 CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]: 19.95
 + Hyperoceanic (-20<CI<20)
 CI of Currey (1974) [CI=Sp/(1+Lat/3)]: 1.04
 + Oceanic (0.6<CI<1.1)
 Rainfall Index of Lang (1925) [R=P/T]: 164.21
 + Humid (R>160)
 Aridity Index of Martonne (1926) [Ia=P/(T+10)]: 74.15
 + Perhumid (Ia>60)
 I of Emberger (1930) [Q=100*P/(Tmax²-Tmin²)]: 249.56
 + Humid (Q>90)
 I of Dantin & Revenga (1940) [DR=100*T/P]: 0.61
 + Humid (2>DR>0)
 Aridity Index of UNEP [I=P/PE]: 2.33
 + Humid (I>0.65)
 Potential Erosion I of Fournier (1960) [K=Pi²/P].....: 18.23
 + Very low (K<60)

SALLENT DE GALLEGO (ESP HUESCA)

Latitude: 42°46'N Longitude: 0°20'W Altitude: 1305 m

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	0.99	0.85	0.84	0.68	0.57	0.55	0.30	0.32	0.56	0.72	1.13	1.21
T-E ratio	0.36	0.58	1.80	2.70	4.86	6.12	7.52	7.25	6.44	4.05	1.98	0.81
Precipitation-effectiveness: 87.23						Temperature-efficiency: 44.46						
Moisture Index [MI=100*(P-PE)/PE]: 132.52 + A.Extremely humid (MI>100) Index of dryness [DI=100*d/PE]: 0.00 + No deficit (0<DI<16.7) Index of humidity [HI=100*s/PE]: 132.51 + Strong surplus (20<HI) Potential Evapotranspiration PE: 581.45 + First mesothermic (570<PE<712)												

