

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 14/02/2020)

IZNALLOZ- EL FRAGE (ESP GRANADA) Altitude: 890 m.

Latitude: 37°23'N Longitude: 3°35'W

Temperature observation period.: 1975-1989 (15)

Rainfall observation period....: 1975-1989 (15)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	Epi
Jan.	5.50	10.90	0.00	18.20	-5.00	83.2	11.45
Feb.	6.70	12.20	1.20	19.10	-3.70	88.5	15.13
Mar.	8.30	14.20	2.30	22.80	-3.00	62.8	25.14
Apr.	10.60	16.90	4.30	25.00	-0.20	63.6	38.49
May.	14.20	21.50	7.00	28.70	2.10	48.6	65.67
Jun.	20.80	29.20	12.30	36.00	7.20	22.3	116.17
Jul.	24.10	33.30	14.90	39.30	10.10	6.0	146.66
Aug.	23.90	33.00	14.70	38.50	10.40	8.8	135.60
Sep.	20.90	29.20	12.60	34.70	6.30	16.0	97.97
Oct.	15.90	23.00	8.80	31.20	3.00	48.2	61.68
Nov.	10.30	16.30	4.30	25.00	-1.00	101.7	28.51
Dec.	7.50	12.40	2.60	19.30	-2.90	122.7	17.45
Year	14.06	21.01	7.08	28.15	1.94	672	759.93

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	250
Compensated thermicity index.....(Itc):	253
Simple continentality index.....(Ic):	18.6
Diurnality index.....(Id):	18.4
Annual ombrothermic index.....(Io):	3.99
Monthly estival ombrothermic index.....(Ios1):	0.25
Bimonthly estival ombrothermic index.....(Ios2):	0.31
Threemonthly estival ombrothermic index.....(Ios3):	0.54
Fourmonthly estival ombrothermic index.....(Ios4):	1.03
Annual ombro-evaporation index.....(Ioe):	0.88
Annual positive temperature.....(Tp):	1687
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	688
Positive precipitation.....(Pp):	672

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

Latitudinal Belt....: Low Eutemperate

Continentality.....: Oceanic - Low Semicontinental

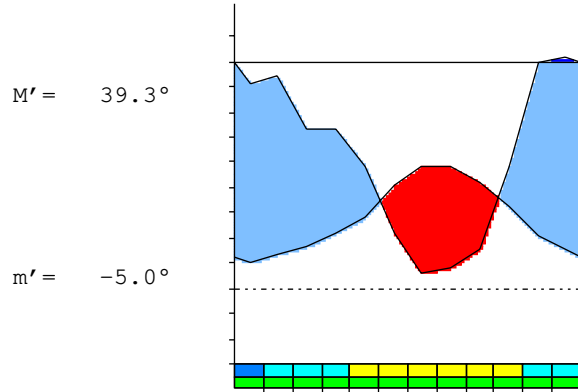
Bioclimate.....: MEDITERRANEAN PLUVISEASONAL-OCEANIC

Bioclimatic Belt....: UPPER MESOMEDITERRANEAN LOW SUBHUMID

IZNALLOZ- EL FRAGE (ESP GRANADA)

890 m

P= 672 37° 23'N 3° 35'W 15/15 y.
 T= 14.1 ° Ic= 18.6 Tp= 1687 Tn= 0
 m= 0.0 ° M= 10.9 ° Itc= 253 Io= 4.0



MEDITERRANEAN PLUVISEASONAL-OCEANIC
 UPPER MESOMEDITERRANEAN LOW SUBHUMID

WATER INDEX CARD IZNALLOZ- EL FRAGE (ESP GRANADA)

Altitude: 890 m. Latitude: 37° 23'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	5.5	11	83	0	100	11	0	72	56	6.2
Feb.	6.7	15	89	0	100	15	0	73	64	4.8
Mar.	8.3	25	63	0	100	25	0	38	51	1.4
Apr.	10.6	38	64	0	100	38	0	25	38	0.6
May.	14.2	66	49	-17	83	66	0	0	19	-0.2
Jun.	20.8	116	22	-83	0	105	11	0	10	-0.8
Jul.	24.1	147	6	0	0	6	141	0	5	-0.9
Aug.	23.9	136	9	0	0	9	127	0	2	-0.9
Sep.	20.9	98	16	0	0	16	82	0	1	-0.8
Oct.	15.9	62	48	0	0	48	13	0	1	-0.2
Nov.	10.3	29	102	73	73	29	0	0	0	2.5
Dec.	7.5	17	123	27	100	17	0	78	39	6.0
Year	14.1	760	672	*	*	386	374	286	286	*

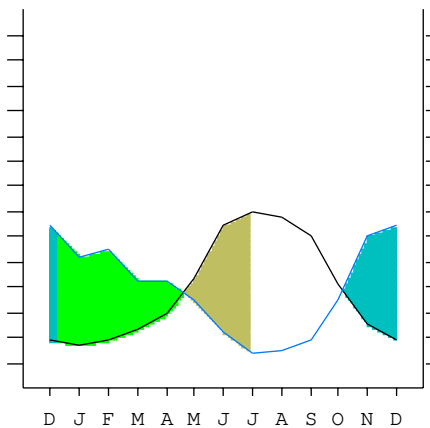
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

IZNALLOZ- EL FRAGE (ESP GRANADA)

37°23'N 3°35'W 890 m 15/15 y.

T= 14.1 Ic= 18.6 MEDITERRANEAN PLUVISEASONAL-OCEANIC
 m= 0.0 Tp= 1687 UPPER MESOMEDITERRANEAN
 M= 10.9 Tn= 0 LOW SUBHUMID
 M' = 39.3 Itc= 253
 m' = -5.0 Io= 4.0
 P= 672 mm
 PE= 760 mm

Imbibing	5 Oct.
Saturation	8 Dec.
Reserve Use	18 Apr.
Deficit	27 Jun.



IZNALLOZ- EL FRAGE (ESP GRANADA)

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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continentality Index [B1a]
 + Type: B. Oceanic
 + Subtype: 1. Semicontinental
 + Variant: a. 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.6b]
 + Macrobioclimate: B. MEDITERRANEAN
 + Bioclimate: 8. PLUVISEASONAL-OCEANIC
 + Bioclimatic variant .:
 + Thermic type.....: 3. MESOMEDITERRANEAN
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 6. SUBHUMID
 + Ombrothermic subtype : b. LOW

Bioclimatic ClassificationMepo.Mme.Shu.Sec

IZNALLOZ- EL FRAGE (ESP GRANADA)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 150
 Coldest semester of the year.....(Psw): 523
 Warmest four months period of the year.....(Pcm1): 53
 Following warmest four months period.....(Pcm2): 356
 Positive precipitation dryest 3 months.....(Ppd): 31
 Positive precipitation dryest 2 months.....(Ppd2): 15
 Positive precipitation dryest 1 month.....(Ppd1): 6
 Positive precipitation warmest 3 months.....(Pps): 31
 Positive precipitation warmest 2 months.....(Pps2): 15
 Positive precipitation warmest 1 month.....(Pps1): 6
 Positive precipitation coldest 3 months.....(Ppw): 294
 Positive precipitation coldest 2 months.....(Ppw2): 172
 Positive precipitation coldest 1 month.....(Ppw1): 83

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	294	175	37	165

Seasonal rainfall rhythms: W > P > F > S

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 24.1
 Average coldest month [T].....(Tmin): 5.5
 Maximum temp. warmest month [M].....(Tmax): 33.3
 Minimum temp. coldest month [m].....(Tmin): 0.0
 Absolute Max.temp. warmest month [M'].....(Tamax): 39.3
 Absolute Min.temp. coldest month [m'].....(Tamin): -5.0
 First warmest contrasted month [M].....(Tcmax): 33.3 (7)
 First coldest contrasted month [m].....(Tcmin): 14.9 (7)
 Estival temperature.....(Ts): 688
 Positive temperature dryest 3 months.....(Tpd): 689
 Positive temperature dryest 2 months.....(Tpd2): 480
 Positive temperature dryest 1 month.....(Tpd1): 241
 Positive temperature warmest 3 months.....(Tps): 689
 Positive temperature warmest 2 months.....(Tps2): 480
 Positive temperature warmest 1 month.....(Tps1): 241
 Positive temperature coldest 3 months.....(Tpw): 197
 Positive temperature coldest 2 months.....(Tpw2): 122
 Positive temperature coldest 1 month.....(Tpw1): 55

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

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 1.13
 Mediterranean index of July.[PE/P].....(Im1): 24.44
 Mediterranean index of July & August.....(Im2): 19.07
 Mediterranean index of June, July & August....(Im3): 10.74

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	1227	832	885	628	636	486	223	60	88	160	482	1017
Tp	75	55	67	83	106	142	208	241	239	209	159	103
Io (Iom)	16.4	15.1	13.2	7.57	6.00	3.42	1.07	0.25	0.37	0.77	3.03	9.87
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	2944 / 197			1750 / 331			371 / 688			1659 / 471		
Io (Iot)	14.94			5.287			0.539			3.522		
Semesters	December-May						June-November					
Pp(x10)/Tp	4694 / 528						2030 / 1159					
Io (Iosm)	8.890						1.752					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 6724/1687=3.99 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	1227	832	885	628	636	486	223	60	88	160	482	1017
Tp [T*10]	75	55	67	83	106	142	208	241	239	209	159	103
Iom [Pp/Tp]	\$\$	\$\$	\$\$	757	600	342	107	25	37	77	303	987
Avm [200-Iom]	***	***	***	***	***	***	93	175	163	123	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	2944 / 197			1750 / 331			371 / 688			1659 / 471		
Iot [Pp/Tp]	1494			529			54			352		
Avs E[Avm<200]	***			***			431			***		
Lower hyperarid [1]						Upper hyperarid [1]						
Weak lower arid [1]						Strong upper arid [1]						
Strong lower semiarid [1]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp): 18.60
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]	31.68
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]	28.97
+ Oceanic (20<CI<40)	
CI of Currey (1974) [CI=Sp/(1+Lat/3)]	1.38
+ Subcontinental (1.1<CI<1.7)	
Rainfall Index of Lang (1925) [R=P/T]	47.83
+ Semiarid (60>R>40)	
Aridity Index of Martonne (1926) [Ia=P/(T+10)]	27.95
+ Subhumid (30>Ia>20)	
I of Emberger (1930) [Q=100*P/(Tmmax ² -Tmmin ²)]	60.64
+ Subhumid (90>Q>50)	
I of Dantin & Revenga (1940) [DR=100*T/P]	2.09
+ Semiarid (3>DR>2)	
Aridity Index of UNEP [I=P/PE]	0.88
+ Humid (I>0.65)	
Potencial Erosion I of Fournier (1960) [K=Pi ² /P].....	22.39
+ 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: 4. Mesothermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.53	0.55	0.35	0.33	0.22	0.08	0.02	0.03	0.05	0.21	0.56	0.76
T-E ratio	2.47	3.01	3.74	4.77	6.39	9.36	10.85	10.75	9.40	7.15	4.64	3.38
Precipitation-effectiveness: 36.87						Temperature-efficiency: 75.91						
Moisture Index [MI=100*(P-PE)/PE]												
+ C1.Subhumid dry (-33.3<MI<0)												
Index of dryness [DI=100*d/PE]												
+ Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE]												
+ Strong surplus (20<HI)												
Potential Evapotranspiration PE												
+ Second mesothermic (712<PE<855)												

