

# Phytosociological Research Center

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## Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

TAFIRA (ESP LAS PALMAS)

Altitude: 375 m.

Latitude: 28°6'N Longitude: 15°28'W

Temperature observation period.: 1950-1970 (21)

Rainfall observation period....: 1950-1970 (21)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	12.70	16.40	9.00	20.00	6.50	39.0	40.23
Feb.	12.30	16.20	8.50	20.50	6.00	50.0	37.06
Mar.	13.30	17.40	9.30	24.70	6.60	19.0	48.83
Apr.	13.80	17.00	10.50	22.10	7.70	20.0	53.65
May.	15.10	18.50	11.80	24.70	9.20	13.0	67.24
Jun.	16.20	19.80	12.70	25.90	9.50	8.0	74.17
Jul.	17.40	21.50	13.40	31.40	10.70	1.0	84.09
Aug.	18.10	22.10	14.20	28.30	11.20	2.0	85.49
Sep.	17.70	21.90	13.50	27.70	11.00	15.0	75.32
Oct.	17.10	21.30	12.90	27.00	10.20	52.0	68.02
Nov.	15.00	18.50	11.50	22.60	9.10	83.0	51.21
Dec.	13.60	17.00	10.10	21.40	7.70	64.0	44.14
Year	15.19	18.97	11.45	24.69	8.78	366	729.44

### BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	399
Compensated thermicity index.....(Itc):	377
Simple continentality index.....(Ic):	5.8
Diurnality index.....(Id):	8.4
Annual ombrothermic index.....(Io):	2.01
Monthly estival ombrothermic index.....(Ios1):	0.06
Bimonthly estival ombrothermic index.....(Ios2):	0.08
Threemonthly estival ombrothermic index.....(Ios3):	0.21
Fourmonthly estival ombrothermic index.....(Ios4):	0.36
Annual ombro-evaporation index.....(Ioe):	0.33
Annual positive temperature.....(Tp):	1823
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	517
Positive precipitation.....(Pp):	366

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	3	2	2	5	0

Latitudinal Belt...: Subtropical

Continentalty.....: Hyperoceanic - High Euhyperoceanic

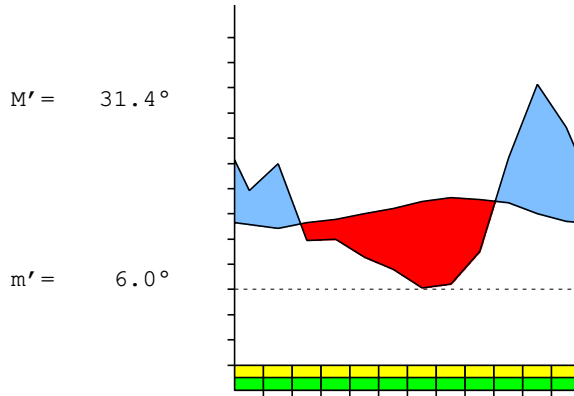
Bioclimate.....: MEDITERRANEAN PLUVISEASONAL-OCEANIC

Bioclimatic Belt...: UPPER THERMOMEDITERRANEAN LOW DRY

TAFIRA (ESP LAS PALMAS)

375 m

P= 366 28° 6'N 15° 28'W 21/21 y.  
 T= 15.2° Ic= 5.8 Tp= 1823 Tn= 0  
 m= 8.5° M= 16.2° Itc= 377 Io= 2.0



MEDITERRANEAN PLUVISEASONAL-OCEANIC  
 UPPER THERMOMEDITERRANEAN LOW DRY

WATER INDEX CARD  
 Altitude: 375 m.

TAFIRA (ESP LAS PALMAS)  
 Latitude: 28° 6'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	12.7	40	39	-1	50	40	0	0	0	0.0
Feb.	12.3	37	50	13	63	37	0	0	0	0.3
Mar.	13.3	49	19	-30	34	49	0	0	0	-0.6
Apr.	13.8	54	20	-34	0	54	0	0	0	-0.6
May.	15.1	67	13	0	0	13	54	0	0	-0.8
Jun.	16.2	74	8	0	0	8	66	0	0	-0.8
Jul.	17.4	84	1	0	0	1	83	0	0	-0.9
Aug.	18.1	85	2	0	0	2	83	0	0	-0.9
Sep.	17.7	75	15	0	0	15	60	0	0	-0.8
Oct.	17.1	68	52	0	0	52	16	0	0	-0.2
Nov.	15.0	51	83	32	32	51	0	0	0	0.6
Dec.	13.6	44	64	20	52	44	0	0	0	0.4
Year	15.2	729	366	*	*	366	363	0	0	*

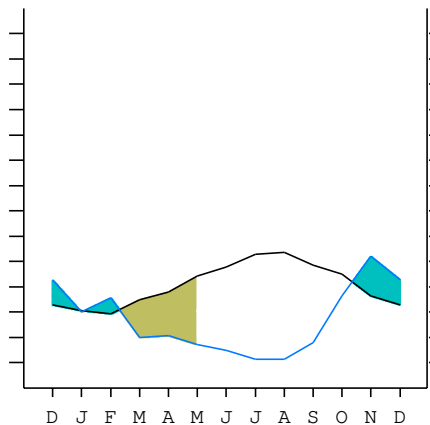
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration  
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

TAFIRA (ESP LAS PALMAS)

28°6'N 15°28'W 375 m 21/21 y.

T= 15.2 Ic= 5.8 MEDITERRANEAN PLUVISEASONAL-OCEANIC  
 m= 8.5 Tp= 1823 UPPER THERMOMEDITERRANEAN  
 M= 16.2 Tn= 0 LOW DRY  
 M' = 31.4 Itc= 377  
 m' = 6.0 Io= 2.0  
 P= 366 mm  
 PE= 729 mm

Imbibing	11 Oct.
Saturation	10 Feb.
Reserve Use	30 Apr.
Deficit	



TAFIRA (ESP LAS PALMAS)

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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continentality Index [A2a]  
 + Type .....: A. Hyperoceanic  
 + Subtype .....: 2. Euhyperoceanic  
 + Variant .....: a. High

Thermic types [A3.A3]  
 + Latitudinal zone ....: A. Warm  
 + Latitudinal belt ....: 3. Subtropical  
 + Thermic type .....: A. Warm  
 + Thermic subtype .....: 3. Subwarm

Bioclimatic types [B8.2a.5b]  
 + Macrobioclimate .....: B. MEDITERRANEAN  
 + Bioclimate .....: 8. PLUVISEASONAL-OCEANIC  
 + Bioclimatic variant .:  
 + Thermic type.....: 2. THERMOMEDITERRANEAN  
 + Thermic subtype.....: a. UPPER  
 + Ombrothermic type ...: 5. DRY  
 + Ombrothermic subtype : b. LOW

Bioclimatic Classification .....: Mehc.Tme.Dry

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 91  
 Coldest semester of the year.....(Psw): 275  
 Warmest four months period of the year.....(Pcm1): 70  
 Following warmest four months period.....(Pcm2): 236  
 Positive precipitation dryest 3 months.....(Ppd): 11  
 Positive precipitation dryest 2 months.....(Ppd2): 3  
 Positive precipitation dryest 1 month.....(Ppd1): 1  
 Positive precipitation warmest 3 months.....(Pps): 18  
 Positive precipitation warmest 2 months.....(Pps2): 17  
 Positive precipitation warmest 1 month.....(Pps1): 2  
 Positive precipitation coldest 3 months.....(Ppw): 108  
 Positive precipitation coldest 2 months.....(Ppw2): 89  
 Positive precipitation coldest 1 month.....(Ppw1): 50

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	153	52	11	150

Seasonal rainfall rhythms: W > F > P > S

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 18.1  
 Average coldest month [T].....(Tmin): 12.3  
 Maximum temp. warmest month [M].....(Tmmax): 22.1  
 Minimum temp. coldest month [m].....(Tmmin): 8.5  
 Absolute Max.temp. warmest month [M'].....(Tamax): 31.4  
 Absolute Min.temp. coldest month [m'].....(Tamin): 6.0  
 First warmest contrasted month [M].....(Tcmax): 21.9 (9)  
 First coldest contrasted month [m].....(Tcmin): 13.5 (9)  
 Estival temperature.....(Ts): 517  
 Positive temperature dryest 3 months.....(Tpd): 517  
 Positive temperature dryest 2 months.....(Tpd2): 355  
 Positive temperature dryest 1 month.....(Tpd1): 174  
 Positive temperature warmest 3 months.....(Tps): 532  
 Positive temperature warmest 2 months.....(Tps2): 358  
 Positive temperature warmest 1 month.....(Tps1): 181  
 Positive temperature coldest 3 months.....(Tpw): 383  
 Positive temperature coldest 2 months.....(Tpw2): 250  
 Positive temperature coldest 1 month.....(Tpw1): 123

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

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 1.99  
 Mediterranean index of July.[PE/P].....(Im1): 84.09  
 Mediterranean index of July & August.....(Im2): 56.52  
 Mediterranean index of June, July & August....(Im3): 22.16

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	640	390	500	190	200	130	80	10	20	150	520	830
Tp	136	127	123	133	138	151	162	174	181	177	171	150
Io (Iom)	4.71	3.07	4.07	1.43	1.45	0.86	0.49	0.06	0.11	0.85	3.04	5.53
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	1530 / 386			520 / 422			110 / 517			1500 / 498		
Io (Iot)	3.964			1.232			0.213			3.012		
Semesters	December-May						June-November					
Pp(x10)/Tp	2050 / 808						1610 / 1015					
Io (Iosm)	2.537						1.586					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 3660/1823=2.01 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	640	390	500	190	200	130	80	10	20	150	520	830
Tp [T*10]	136	127	123	133	138	151	162	174	181	177	171	150
Iom [Pp/Tp]	471	307	407	143	145	86	49	6	11	85	304	553
Avm [200-Iom]	***	***	***	57	55	114	151	194	189	115	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	1530 / 386			520 / 422			110 / 517			1500 / 498		
Iot [Pp/Tp]	396			123			21			301		
Avs E[Avm<200]	***			226			534			***		
Lower ultrahyperarid [1]							Upper ultrahyperarid [1]					
Lower hyperarid [1]							Strong lower arid [1]					
Weak upper arid [2]							Weak lower semiarid [3]					

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....	(Sp):	5.80
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....		0.53
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....		1.98
+ Hyperoceanic (-20<CI<20)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....		0.56
+ Hyperoceanic (0<CI<0.6)		
Rainfall Index of Lang (1925) [R=P/T] .....		24.09
+ Steppic (40>R>0)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....		14.53
+ Arid -steppic- (15>Ia>5)		
I of Emberger (1930) [Q=100*P/(Tmax <sup>2</sup> -Tmin <sup>2</sup> )] .....		87.95
+ Subhumid (90>Q>50)		
I of Dantin & Revenga (1940) [DR=100*T/P] .....		4.15
+ Arid (6>DR>3)		
Aridity Index of UNEP [I=P/PE] .....		0.50
+ Subhumid - dry (0.65>I>0.5)		
Potential Erosion I of Fournier (1960) [K=Pi <sup>2</sup> /P] .....		18.82
+ Very low (K<60)		

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)  
 + Climate .....

- + Climate .....
- + Region .....
- + Thermic type: 3. Macro-mesothermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.18	0.24	0.08	0.08	0.05	0.03	0.00	0.01	0.05	0.22	0.39	0.30
T-E ratio	5.71	5.54	5.99	6.21	6.80	7.29	7.83	8.15	7.97	7.70	6.75	6.12
Precipitation-effectiveness: 16.29						Temperature-efficiency .....						82.04
Moisture Index [MI=100*(P-PE)/PE] .....												-49.82
+ D.Semiarid (-66.7<MI<-33.3)												
Index of dryness [DI=100*d/PE] .....												49.82
+ Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE] .....												0.00
+ No surplus (0<HI<10)												
Potential Evapotranspiration PE .....												729.44
+ Second mesothermic (712<PE<855)												

