

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

OLAZAGUTIA OLAZTI (ESP NAVARRA)

Altitude: 888 m.

Latitude: 42°49'N Longitude: 2°10'W

Temperature observation period.: 1987-1997 (11)

Rainfall observation period....: 1987-1997 (11)

| (C/mm) | Ti | Mi | mi | M'i | m'i | Pi | EPI |
|--------|-------|-------|-------|-------|-------|-------|--------|
| Jan. | 3.40 | 7.10 | -0.20 | 12.60 | -9.10 | 110.9 | 12.22 |
| Feb. | 4.10 | 8.60 | -0.30 | 15.80 | -8.10 | 101.7 | 15.11 |
| Mar. | 6.20 | 11.10 | 1.30 | 20.30 | -6.40 | 117.4 | 29.23 |
| Apr. | 7.00 | 11.70 | 2.40 | 20.90 | -2.90 | 217.8 | 36.54 |
| May. | 11.70 | 17.10 | 6.30 | 25.10 | -0.90 | 123.1 | 71.14 |
| Jun. | 13.80 | 19.30 | 8.40 | 28.50 | 2.30 | 91.9 | 86.21 |
| Jul. | 17.20 | 23.10 | 11.30 | 31.80 | 5.80 | 52.8 | 109.92 |
| Aug. | 17.70 | 23.70 | 11.70 | 31.10 | 5.00 | 46.3 | 105.43 |
| Sep. | 13.50 | 18.90 | 8.10 | 26.70 | 1.70 | 82.2 | 68.42 |
| Oct. | 10.30 | 14.50 | 6.00 | 21.70 | -2.00 | 139.3 | 46.81 |
| Nov. | 7.00 | 10.90 | 3.20 | 18.40 | -5.60 | 157.6 | 26.42 |
| Dec. | 4.60 | 7.60 | 1.60 | 14.50 | -6.80 | 172.1 | 16.04 |
| Year | 9.71 | 14.47 | 4.98 | 22.28 | -2.25 | 1413 | 623.49 |

BIOCLIMATIC INDICES AND DIAGNOSIS

| | |
|-----------------------------------------------------|-------|
| Thermicity index.....(It): | 166 |
| Compensated thermicity index.....(Itc): | 166 |
| Simple continentality index.....(Ic): | 14.3 |
| Diurnality index.....(Id): | 12.0 |
| Annual ombrothermic index.....(Io): | 12.13 |
| Monthly estival ombrothermic index.....(Ios1): | 2.62 |
| Bimonthly estival ombrothermic index.....(Ios2): | 2.84 |
| Threemonthly estival ombrothermic index.....(Ios3): | 3.92 |
| Fourmonthly estival ombrothermic index.....(Ios4): | 5.20 |
| Annual ombro-evaporation index.....(Ioe): | 0.61 |
| Annual positive temperature.....(Tp): | 1165 |
| Annual negative temperature.....(Tn): | 0 |
| Estival temperature.....(Ts): | 487 |
| Positive precipitation.....(Pp): | 1413 |

| N. of | P>4T | P:2T-4T | PT-2T | P<T | T<0 |
|--------|------|---------|-------|-----|-----|
| Months | 10 | 2 | 0 | 0 | 0 |

Latitudinal Belt...: Low eutemperate

Continentality.....: Oceanic - High Euoceanic

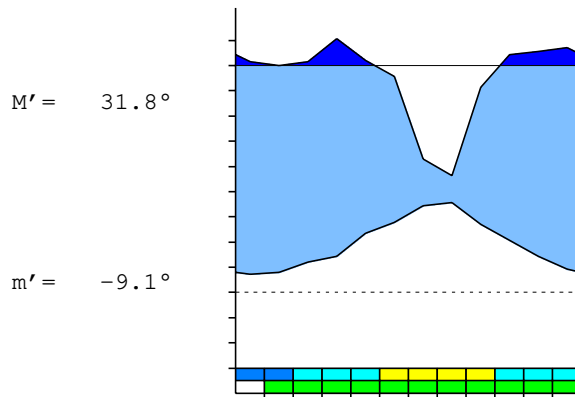
Bioclimate(Variant): TEMPERATE OCEANIC (SUBMEDITERRANEAN)

Bioclimatic Belt...: LOW SUPRATEMPERATE LOW HYPERHUMID

OLAZAGUTIA OLAZTI (ESP NAVARRA)

888 m

P= 1413 42° 49'N 2° 10'W 11/11 y.
 T= 9.7° Ic= 14.3 Tp= 1165 Tn= 0
 m= -0.2° M= 7.1° Itc= 166 Io= 12.1



TEMPERATE OCEANIC (SUBMEDITERRANEAN)
 LOW SUPRATEMPERATE LOW HYPERHUMID

WATER INDEX CARD OLAZAGUTIA OLAZTI (ESP NAVARRA)

Altitude: 888 m. Latitude: 42° 49'N

| (C/mm) | T | PE | P | VR | R | RE | DF | SP | DR | HC |
|--------|------|-----|------|-----|-----|-----|----|-----|-----|------|
| Jan. | 3.4 | 12 | 111 | 0 | 100 | 12 | 0 | 99 | 106 | 8.0 |
| Feb. | 4.1 | 15 | 102 | 0 | 100 | 15 | 0 | 87 | 96 | 5.7 |
| Mar. | 6.2 | 29 | 117 | 0 | 100 | 29 | 0 | 88 | 92 | 3.0 |
| Apr. | 7.0 | 37 | 218 | 0 | 100 | 37 | 0 | 181 | 137 | 4.9 |
| May. | 11.7 | 71 | 123 | 0 | 100 | 71 | 0 | 52 | 94 | 0.7 |
| Jun. | 13.8 | 86 | 92 | 0 | 100 | 86 | 0 | 6 | 50 | 0.0 |
| Jul. | 17.2 | 110 | 53 | -57 | 43 | 110 | 0 | 0 | 25 | -0.5 |
| Aug. | 17.7 | 105 | 46 | -43 | 0 | 89 | 16 | 0 | 13 | -0.5 |
| Sep. | 13.5 | 68 | 82 | 14 | 14 | 68 | 0 | 0 | 6 | 0.2 |
| Oct. | 10.3 | 47 | 139 | 86 | 100 | 47 | 0 | 6 | 6 | 1.9 |
| Nov. | 7.0 | 26 | 158 | 0 | 100 | 26 | 0 | 131 | 69 | 4.9 |
| Dec. | 4.6 | 16 | 172 | 0 | 100 | 16 | 0 | 156 | 112 | 9.7 |
| Year | 9.7 | 623 | 1413 | * | * | 607 | 16 | 806 | 806 | * |

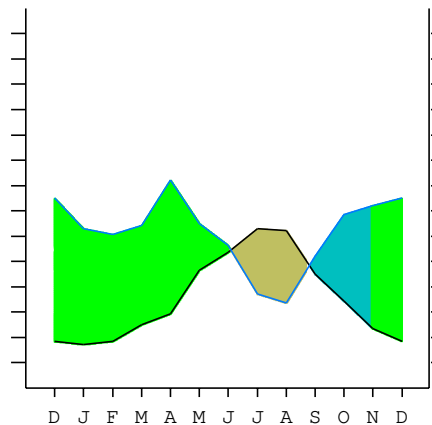
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

OLAZAGUTIA OLAZTI (ESP NAVARRA)

42°49'N 2°10'W 888 m 11/11 y.

T= 9.7 Ic= 14.3 TEMPERATE OCEANIC (SUBMEDITERRANEAN)
 m= -0.2 Tp= 1165 LOW SUPRATEMPERATE
 M= 7.1 Tn= 0 LOW HYPERHUMID
 M' = 31.8 Itc= 166
 m' = -9.1 Io= 12.1
 P= 1413 mm ———
 PE= 623 mm ———

| | |
|-------------|---------|
| Imbibing | 25 Aug. |
| Saturation | 28 Oct. |
| Reserve Use | 3 Jun. |
| Deficit | 22 Aug. |



OLAZAGUTIA OLAZTI (ESP NAVARRA)

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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 [C3b.4b.8b]
 + Macrobioclimate: C. TEMPERATE
 + Bioclimate: 3. OCEANIC
 + Bioclimatic variant .: b. SUBMEDITERRANEAN
 + Thermic type.....: 4. SUPRATEMPERATE
 + Thermic subtype.....: b. LOW
 + Ombrothermic type ...: 8. HYPERHUMID
 + Ombrothermic subtype : b. LOW
 Bioclimatic Classification: Teco (Sbm).Ste.Hhu

OLAZAGUTIA OLAZTI (ESP NAVARRA)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 536
 Coldest semester of the year.....(Psw): 878
 Warmest four months period of the year.....(Pcm1): 273
 Following warmest four months period.....(Pcm2): 580
 Positive precipitation dryest 3 months.....(Ppd): 181
 Positive precipitation dryest 2 months.....(Ppd2): 99
 Positive precipitation dryest 1 month.....(Ppd1): 46
 Positive precipitation warmest 3 months.....(Pps): 191
 Positive precipitation warmest 2 months.....(Pps2): 99
 Positive precipitation warmest 1 month.....(Pps1): 46
 Positive precipitation coldest 3 months.....(Ppw): 385
 Positive precipitation coldest 2 months.....(Ppw2): 213
 Positive precipitation coldest 1 month.....(Ppw1): 111

| Seasons | Winter Tr1-W | Spring Tr2-P | Summer Tr3-S | Automn Tr4-F |
|----------|-----------------|-----------------|-----------------|-----------------|
| Rainfall | 384 | 458 | 191 | 379 |

Seasonal rainfall rhythms: P > W > F > S

OLAZAGUTIA OLAZTI (ESP NAVARRA)

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 17.7
 Average coldest month [T].....(Tmin): 3.4
 Maximum temp. warmest month [M].....(Tmmax): 23.7
 Minimum temp. coldest month [m].....(Tmmin): -0.3
 Absolute Max.temp. warmest month [M'].....(Tamax): 31.8
 Absolute Min.temp. coldest month [m'].....(Tamin): -9.1
 First warmest contrasted month [M].....(Tcmax): 23.7 (8)
 First coldest contrasted month [m].....(Tcmin): 11.7 (8)
 Estival temperature.....(Ts): 487
 Positive temperature dryest 3 months.....(Tpd): 484
 Positive temperature dryest 2 months.....(Tpd2): 349
 Positive temperature dryest 1 month.....(Tpd1): 177
 Positive temperature warmest 3 months.....(Tps): 487
 Positive temperature warmest 2 months.....(Tps2): 349
 Positive temperature warmest 1 month.....(Tps1): 177
 Positive temperature coldest 3 months.....(Tpw): 121
 Positive temperature coldest 2 months.....(Tpw2): 75
 Positive temperature coldest 1 month.....(Tpw1): 34

OLAZAGUTIA OLAZTI (ESP NAVARRA)

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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 | | | | | | | | | | |
| 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 | | | |

OLAZAGUTIA OLAZTI (ESP NAVARRA)

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 0.44
 Mediterranean index of July.[PE/P].....(Im1): 2.08
 Mediterranean index of July & August.....(Im2): 2.17
 Mediterranean index of June, July & August....(Im3): 1.58

| Months | Dec. | Jan. | Feb. | Mar. | Apr. | May. | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. |
|------------|--------------|------|------|------------|------|------|---------------|------|------|------------|------|------|
| Pp(x10) | 1721 | 1109 | 1017 | 1174 | 2178 | 1231 | 919 | 528 | 463 | 822 | 1393 | 1576 |
| Tp | 46 | 34 | 41 | 62 | 70 | 117 | 138 | 172 | 177 | 135 | 103 | 70 |
| Io (Iom) | 37.4 | 32.6 | 24.8 | 18.9 | 31.1 | 10.5 | 6.66 | 3.07 | 2.62 | 6.09 | 13.5 | 22.5 |
| Seasons | Winter | | | Spring | | | Summer | | | Autumn | | |
| Pp(x10)/Tp | 3847 / 121 | | | 4583 / 249 | | | 1910 / 487 | | | 3791 / 308 | | |
| Io (Iot) | 31.79 | | | 18.41 | | | 3.922 | | | 12.31 | | |
| Semesters | December-May | | | | | | June-November | | | | | |
| Pp(x10)/Tp | 8430 / 370 | | | | | | 5701 / 795 | | | | | |
| Io (Iosm) | 22.78 | | | | | | 7.171 | | | | | |

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 14131/1165=12.13 **There is No Yearly Aridity**

| Months | Dec. | Jan. | Feb. | Mar. | Apr. | May. | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. |
|----------------|------------|------|------|------------|------|------|------------|------|------|------------|------|------|
| Pp [P*10] | 1721 | 1109 | 1017 | 1174 | 2178 | 1231 | 919 | 528 | 463 | 822 | 1393 | 1576 |
| Tp [T*10] | 46 | 34 | 41 | 62 | 70 | 117 | 138 | 172 | 177 | 135 | 103 | 70 |
| Iom [Pp/Tp] | \$\$ | \$\$ | \$\$ | \$\$ | \$\$ | \$\$ | 666 | 307 | 262 | 609 | \$\$ | \$\$ |
| Avm [200-Iom] | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** | *** |
| Seasons | Winter | | | Spring | | | Summer | | | Autumn | | |
| Pp / Tp | 3847 / 121 | | | 4583 / 249 | | | 1910 / 487 | | | 3791 / 308 | | |
| Iot [Pp/Tp] | \$\$ | | | 1841 | | | 392 | | | 1231 | | |
| Avs E[Avm<200] | *** | | | *** | | | *** | | | *** | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin](Sp): 14.30
 CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]: 15.37
 CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]: 16.51
 + Hyperoceanic (-20<CI<20)
 CI of Currey (1974) [CI=Sp/(1+Lat/3)]: 0.94
 + Oceanic (0.6<CI<1.1)
 Rainfall Index of Lang (1925) [R=P/T]: 145.56
 + Temperate humid (160>R>100)
 Aridity Index of Martonne (1926) [Ia=P/(T+10)]: 71.70
 + Perhumid (Ia>60)
 I of Emberger (1930) [Q=100*P/(Tmax²-Tmin²)]: 251.62
 + Humid (Q>90)
 I of Dantin & Revenga (1940) [DR=100*T/P]: 0.69
 + Humid (2>DR>0)
 Aridity Index of UNEP [I=P/PE]: 2.27
 + Humid (I>0.65)
 Potential Erosion I of Fournier (1960) [K=Pi²/P].....: 33.57
 + Very low (K<60)

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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 | 0.80 | 0.71 | 0.76 | 1.47 | 0.66 | 0.45 | 0.22 | 0.19 | 0.40 | 0.80 | 1.03 | 1.24 |
| T-E ratio | 1.53 | 1.84 | 2.79 | 3.15 | 5.26 | 6.21 | 7.74 | 7.97 | 6.07 | 4.64 | 3.15 | 2.07 |
| Precipitation-effectiveness: 87.26 | | | | | | Temperature-efficiency: 52.43 | | | | | | |
| Moisture Index [MI=100*(P-PE)/PE]: 126.64 + A.Extremely humid (MI>100) Index of dryness [DI=100*d/PE]: 2.60 + No deficit (0<DI<16.7) Index of humidity [HI=100*s/PE]: 129.24 + Strong surplus (20<HI) Potential Evapotranspiration PE: 623.49 + First mesothermic (570<PE<712) | | | | | | | | | | | | |

