

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

SAN MARTIN DE OSCOS (ESP OVIEDO)

Altitude: 697 m.

Latitude: 43°16'N Longitude: 6°57'W

Temperature observation period.: 1949-1969 (21)

Rainfall observation period....: 1949-1969 (21)

| (C/mm) | Ti | Mi | mi | M'i | m'i | Pi | EPi |
|--------|-------|-------|-------|-------|-------|-------|--------|
| Jan. | 4.60 | 8.90 | 0.30 | 15.70 | -6.10 | 195.0 | 16.59 |
| Feb. | 4.40 | 9.10 | -0.30 | 17.00 | -5.80 | 141.0 | 16.01 |
| Mar. | 7.10 | 12.50 | 1.80 | 20.00 | -3.40 | 145.0 | 33.35 |
| Apr. | 8.00 | 13.40 | 2.60 | 22.20 | -2.80 | 121.0 | 41.65 |
| May. | 11.00 | 17.10 | 4.90 | 27.10 | -0.60 | 96.0 | 66.04 |
| Jun. | 14.10 | 20.50 | 7.80 | 29.20 | 1.60 | 78.0 | 87.68 |
| Jul. | 16.10 | 22.90 | 9.30 | 31.50 | 3.60 | 32.0 | 101.94 |
| Aug. | 16.00 | 22.90 | 9.10 | 32.20 | 3.80 | 54.0 | 94.19 |
| Sep. | 14.40 | 20.60 | 8.30 | 29.50 | 2.50 | 92.0 | 72.87 |
| Oct. | 11.70 | 17.20 | 6.20 | 25.10 | 0.40 | 128.0 | 53.22 |
| Nov. | 7.00 | 11.70 | 2.20 | 17.90 | -3.40 | 193.0 | 26.09 |
| Dec. | 5.30 | 9.90 | 0.70 | 16.30 | -4.90 | 210.0 | 18.37 |
| Year | 9.97 | 15.56 | 4.41 | 23.64 | -1.26 | 1485 | 628.02 |

BIOCLIMATIC INDICES AND DIAGNOSIS

| | |
|--|-------|
| Thermicity index.....(It): | 188 |
| Compensated thermicity index.....(Itc): | 188 |
| Simple continentality index.....(Ic): | 11.7 |
| Diurnality index.....(Id): | 13.8 |
| Annual ombrothermic index.....(Io): | 12.41 |
| Monthly estival ombrothermic index.....(Ios1): | 1.99 |
| Bimonthly estival ombrothermic index.....(Ios2): | 2.68 |
| Three monthly estival ombrothermic index.....(Ios3): | 3.55 |
| Four monthly estival ombrothermic index.....(Ios4): | 4.55 |
| Annual ombro-evaporation index.....(Ioe): | 0.48 |
| Annual positive temperature.....(Tp): | 1197 |
| Annual negative temperature.....(Tn): | 0 |
| Estival temperature.....(Ts): | 462 |
| Positive precipitation.....(Pp): | 1485 |

| N. of | P>4T | P:2T-4T | PT-2T | P<T | T<0 |
|--------|------|---------|-------|-----|-----|
| Months | 10 | 1 | 1 | 0 | 0 |

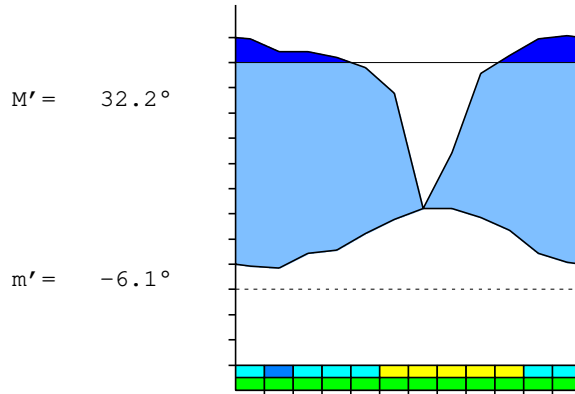
Latitudinal Belt...: High eutemperate

Continentalty.....: Oceanic - High Semihyperoceanic

Bioclimate(Variant): TEMPERATE OCEANIC (SUBMEDITERRANEAN)

Bioclimatic Belt...: LOW SUPRATEMPERATE LOW HYPERHUMID

SAN MARTIN DE OSCOS (ESP OVIEDO) 697 m
 P= 1485 43° 16'N 6° 57'W 21/21 y.
 T= 10.0° Ic= 11.7 Tp= 1197 Tn= 0
 m= -0.3° M= 9.1° Itc= 188 Io= 12.4



TEMPERATE OCEANIC (SUBMEDITERRANEAN)
 LOW SUPRATEMPERATE LOW HYPERHUMID

WATER INDEX CARD SAN MARTIN DE OSCOS (ESP OVIEDO)
 Altitude: 697 m. Latitude: 43° 16'N

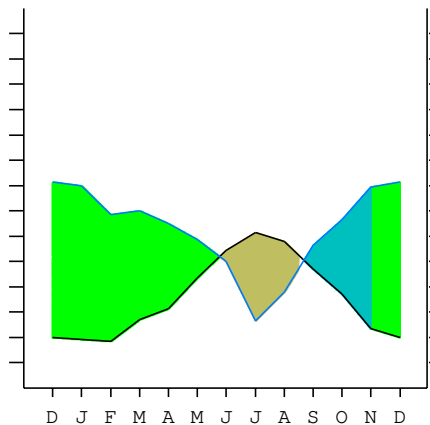
| (C/mm) | T | PE | P | VR | R | RE | DF | SP | DR | HC |
|--------|------|-----|------|-----|-----|-----|----|-----|-----|------|
| Jan. | 4.6 | 17 | 195 | 0 | 100 | 17 | 0 | 178 | 157 | 10.7 |
| Feb. | 4.4 | 16 | 141 | 0 | 100 | 16 | 0 | 125 | 141 | 7.8 |
| Mar. | 7.1 | 33 | 145 | 0 | 100 | 33 | 0 | 112 | 126 | 3.3 |
| Apr. | 8.0 | 42 | 121 | 0 | 100 | 42 | 0 | 79 | 103 | 1.9 |
| May. | 11.0 | 66 | 96 | 0 | 100 | 66 | 0 | 30 | 66 | 0.4 |
| Jun. | 14.1 | 88 | 78 | -10 | 90 | 88 | 0 | 0 | 33 | -0.1 |
| Jul. | 16.1 | 102 | 32 | -70 | 20 | 102 | 0 | 0 | 17 | -0.6 |
| Aug. | 16.0 | 94 | 54 | -20 | 0 | 74 | 20 | 0 | 8 | -0.4 |
| Sep. | 14.4 | 73 | 92 | 19 | 19 | 73 | 0 | 0 | 4 | 0.2 |
| Oct. | 11.7 | 53 | 128 | 75 | 94 | 53 | 0 | 0 | 2 | 1.4 |
| Nov. | 7.0 | 26 | 193 | 6 | 100 | 26 | 0 | 161 | 81 | 6.3 |
| Dec. | 5.3 | 18 | 210 | 0 | 100 | 18 | 0 | 192 | 137 | 10.4 |
| Year | 10.0 | 628 | 1485 | * | * | 608 | 20 | 877 | 877 | * |

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

SAN MARTIN DE OSCOS (ESP OVIEDO) 43°16'N 6°57'W 697 m 21/21 y.

T= 10.0 Ic= 11.7 TEMPERATE OCEANIC (SUBMEDITERRANEAN)
 m= -0.3 Tp= 1197 LOW SUPRATEMPERATE
 M= 9.1 Tn= 0 LOW HYPERHUMID
 M' = 32.2 Itc= 188
 m' = -6.1 Io= 12.4
 P= 1485 mm ———
 PE= 628 mm ———

| | |
|-------------|---------|
| Imbibing | 21 Aug. |
| Saturation | 2 Nov. |
| Reserve Use | 23 May. |
| Deficit | 16 Aug. |



SAN MARTIN DE OSCOS (ESP OVIEDO)

Latitude: 43°16'N Longitude: 6°57'W Altitude: 697 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [B1a]
 + Type: B. Oceanic
 + Subtype: 1. Semihyperoceanic
 + Variant: a. High

Thermic types [B1.B5]
 + Latitudinal zone: B. Temperate
 + Latitudinal belt: 1. High 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

SAN MARTIN DE OSCOS (ESP OVIEDO)

Latitude: 43°16'N Longitude: 6°57'W Altitude: 697 m

PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 480
 Coldest semester of the year.....(Psw): 1005
 Warmest four months period of the year.....(Pcm1): 256
 Following warmest four months period.....(Pcm2): 726
 Positive precipitation dryest 3 months.....(Ppd): 164
 Positive precipitation dryest 2 months.....(Ppd2): 86
 Positive precipitation dryest 1 month.....(Ppd1): 32
 Positive precipitation warmest 3 months.....(Pps): 178
 Positive precipitation warmest 2 months.....(Pps2): 86
 Positive precipitation warmest 1 month.....(Pps1): 32
 Positive precipitation coldest 3 months.....(Ppw): 546
 Positive precipitation coldest 2 months.....(Ppw2): 336
 Positive precipitation coldest 1 month.....(Ppw1): 141

| Seasons | Winter Tr1-W | Spring Tr2-P | Summer Tr3-S | Automn Tr4-F |
|----------|-----------------|-----------------|-----------------|-----------------|
| Rainfall | 546 | 362 | 164 | 413 |

Seasonal rainfall rhythms: W > F > P > S

SAN MARTIN DE OSCOS (ESP OVIEDO)

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 16.1
 Average coldest month [T].....(Tmin): 4.4
 Maximum temp. warmest month [M].....(Tmmax): 22.9
 Minimum temp. coldest month [m].....(Tmmin): -0.3
 Absolute Max.temp. warmest month [M'].....(Tamax): 32.2
 Absolute Min.temp. coldest month [m'].....(Tamin): -6.1
 First warmest contrasted month [M].....(Tcmax): 22.9 (8)
 First coldest contrasted month [m].....(Tcmin): 9.1 (8)
 Estival temperature.....(Ts): 462
 Positive temperature dryest 3 months.....(Tpd): 462
 Positive temperature dryest 2 months.....(Tpd2): 321
 Positive temperature dryest 1 month.....(Tpd1): 161
 Positive temperature warmest 3 months.....(Tps): 465
 Positive temperature warmest 2 months.....(Tps2): 321
 Positive temperature warmest 1 month.....(Tps1): 161
 Positive temperature coldest 3 months.....(Tpw): 143
 Positive temperature coldest 2 months.....(Tpw2): 90
 Positive temperature coldest 1 month.....(Tpw1): 44

SAN MARTIN DE OSCOS (ESP OVIEDO)

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

SAN MARTIN DE OSCOS (ESP OVIEDO)

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 0.42
 Mediterranean index of July.[PE/P].....(Im1): 3.19
 Mediterranean index of July & August.....(Im2): 2.28
 Mediterranean index of June, July & August....(Im3): 1.73

| Months | Dec. | Jan. | Feb. | Mar. | Apr. | May. | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. |
|------------|--------------|------|------|------------|------|------|---------------|------|------|------------|------|------|
| Pp(x10) | 2100 | 1950 | 1410 | 1450 | 1210 | 960 | 780 | 320 | 540 | 920 | 1280 | 1930 |
| Tp | 53 | 46 | 44 | 71 | 80 | 110 | 141 | 161 | 160 | 144 | 117 | 70 |
| Io (Iom) | 39.6 | 42.4 | 32.0 | 20.4 | 15.1 | 8.73 | 5.53 | 1.99 | 3.38 | 6.39 | 10.9 | 27.6 |
| Seasons | Winter | | | Spring | | | Summer | | | Autumn | | |
| Pp(x10)/Tp | 5460 / 143 | | | 3620 / 261 | | | 1640 / 462 | | | 4130 / 331 | | |
| Io (Iot) | 38.18 | | | 13.87 | | | 3.550 | | | 12.48 | | |
| Semesters | December-May | | | | | | June-November | | | | | |
| Pp(x10)/Tp | 9080 / 404 | | | | | | 5770 / 793 | | | | | |
| Io (Iosm) | 22.48 | | | | | | 7.276 | | | | | |

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 14850/1197=12.41 **There is No Yearly Aridity**

| Months | Dec. | Jan. | Feb. | Mar. | Apr. | May. | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. |
|-------------------------|------------|------|------|------------|------|------|------------|------|------|------------|------|------|
| Pp [P*10] | 2100 | 1950 | 1410 | 1450 | 1210 | 960 | 780 | 320 | 540 | 920 | 1280 | 1930 |
| Tp [T*10] | 53 | 46 | 44 | 71 | 80 | 110 | 141 | 161 | 160 | 144 | 117 | 70 |
| Iom [Pp/Tp] | \$\$ | \$\$ | \$\$ | \$\$ | \$\$ | 873 | 553 | 199 | 338 | 639 | \$\$ | \$\$ |
| Avm [200-Iom] | *** | *** | *** | *** | *** | *** | *** | 1 | *** | *** | *** | *** |
| Seasons | Winter | | | Spring | | | Summer | | | Autumn | | |
| Pp / Tp | 5460 / 143 | | | 3620 / 261 | | | 1640 / 462 | | | 4130 / 331 | | |
| Iot [Pp/Tp] | \$\$ | | | 1387 | | | 355 | | | 1248 | | |
| Avs E[Avm<200] | *** | | | *** | | | *** | | | *** | | |
| Weak upper semiarid [1] | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin](Sp): 11.70
 CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]: 8.62
 CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]: 10.82
 + Hyperoceanic (-20<CI<20)
 CI of Currey (1974) [CI=Sp/(1+Lat/3)]: 0.76
 + Oceanic (0.6<CI<1.1)
 Rainfall Index of Lang (1925) [R=P/T]: 148.87
 + Temperate humid (160>R>100)
 Aridity Index of Martonne (1926) [Ia=P/(T+10)]: 74.34
 + Perhumid (Ia>60)
 I of Emberger (1930) [Q=100*P/(Tmax²-Tmin²)]: 283.22
 + Humid (Q>90)
 I of Dantin & Revenga (1940) [DR=100*T/P]: 0.67
 + Humid (2>DR>0)
 Aridity Index of UNEP [I=P/PE]: 2.36
 + Humid (I>0.65)
 Potential Erosion I of Fournier (1960) [K=Pi²/P].....: 29.70
 + Very low (K<60)

SAN MARTIN DE OSCOS (ESP OVIEDO)

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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: 5. Meso-microthermic

| Thornthwaite (1948) | | | | | | | | | | | | |
|---|------|------|------|------|------|-------------------------------------|------|------|------|------|------|------|
| | Jan. | Feb. | Mar. | Apr. | May. | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. | Dec. |
| P-E ratio | 1.42 | 1.00 | 0.93 | 0.74 | 0.52 | 0.37 | 0.13 | 0.23 | 0.44 | 0.69 | 1.29 | 1.51 |
| T-E ratio | 2.07 | 1.98 | 3.19 | 3.60 | 4.95 | 6.35 | 7.25 | 7.20 | 6.48 | 5.26 | 3.15 | 2.39 |
| Precipitation-effectiveness: 92.77 | | | | | | Temperature-efficiency: 53.87 | | | | | | |
| Moisture Index [MI=100*(P-PE)/PE]: 136.46 + A.Extremely humid (MI>100) | | | | | | | | | | | | |
| Index of dryness [DI=100*d/PE]: 3.15 + No deficit (0<DI<16.7) | | | | | | | | | | | | |
| Index of humidity [HI=100*s/PE]: 139.60 + Strong surplus (20<HI) | | | | | | | | | | | | |
| Potential Evapotranspiration PE: 628.02 + First mesothermic (570<PE<712) | | | | | | | | | | | | |

