

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

ITACOATIARA (BRAZIL)

Altitude: 40 m.

Latitude: 3°8'S Longitude: 58°26'W

Temperature observation period.: 1967-1990 (24)

Rainfall observation period....: 1967-1990 (24)

| (C/mm) | Ti | Mi | mi | M'i | m'i | Pi | Epi |
|--------|-------|-------|-------|-------|-------|-------|--------|
| Jan. | 25.50 | 30.20 | 22.60 | 35.60 | 18.40 | 327.0 | 123.03 |
| Feb. | 25.30 | 29.90 | 22.50 | 35.60 | 18.80 | 316.0 | 107.12 |
| Mar. | 25.40 | 30.10 | 22.80 | 35.40 | 18.90 | 335.0 | 120.17 |
| Apr. | 25.60 | 30.20 | 22.80 | 34.50 | 18.30 | 272.0 | 119.99 |
| May. | 25.80 | 30.60 | 22.80 | 34.60 | 19.80 | 204.0 | 125.77 |
| Jun. | 25.60 | 30.90 | 22.00 | 34.70 | 19.00 | 138.0 | 118.80 |
| Jul. | 25.50 | 31.10 | 21.60 | 34.60 | 16.90 | 91.0 | 120.68 |
| Aug. | 26.10 | 32.00 | 21.70 | 34.80 | 18.40 | 50.0 | 132.29 |
| Sep. | 26.60 | 32.40 | 22.40 | 35.80 | 18.30 | 43.0 | 136.30 |
| Oct. | 26.80 | 32.50 | 22.80 | 38.80 | 18.50 | 42.0 | 143.42 |
| Nov. | 26.80 | 32.00 | 22.40 | 36.70 | 18.50 | 46.0 | 140.66 |
| Dec. | 26.30 | 31.30 | 22.30 | 35.90 | 18.80 | 65.0 | 137.21 |
| Year | 25.94 | 31.10 | 22.39 | 35.58 | 18.55 | 1929 | 1525.4 |

BIOCLIMATIC INDICES AND DIAGNOSIS

| | |
|--------------------------------------------------|------|
| Thermicity index.....(It): | 783 |
| Compensated thermicity index.....(Itc): | 783 |
| Simple continentality index.....(Ic): | 1.5 |
| Diurnality index.....(Id): | 10.3 |
| Annual ombrothermic index.....(Io): | 6.20 |
| Monthly dry ombrothermic index.....(Iod1): | 1.57 |
| Bimonthly dry ombrothermic index.....(Iod2): | 1.59 |
| Three monthly dry ombrothermic index.....(Iod3): | 1.63 |
| Four monthly dry ombrothermic index.....(Iod4): | 1.70 |
| Annual ombro-evaporation index.....(Ioe): | 0.21 |
| Annual positive temperature.....(Tp): | 3113 |
| Annual negative temperature.....(Tn): | 0 |
| Dry station temperature.....(Td): | 802 |
| Positive precipitation.....(Pp): | 1929 |

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

Latitudinal Belt...: Equatorial

Continentalty.....: Hyperoceanic - High Ultrahyperoceanic

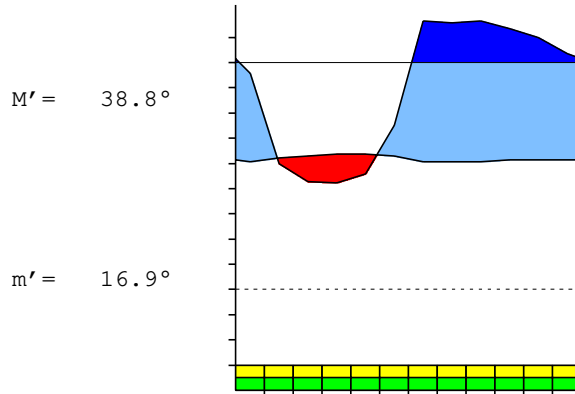
Bioclimate(Variant): TROPICAL PLUVISEASONAL (PLUVISEROTIN,MESOPHYTIC)

Bioclimatic Belt...: UPPER INFRATROPICAL LOW HUMID

ITACOATIARA (BRAZIL)

40 m

P= 1929 3° 8'S 58° 26'W 24/24 y.
 T= 25.9° Ic= 1.5 Tp= 3113 Tn= 0
 m= 22.5° M= 29.9° Itc= 783 Io= 6.2



TROPICAL PLUVISEASONAL (PLUVISEROTIN)
 UPPER INFRATROPICAL LOW HUMID

WATER INDEX CARD ITACOATIARA (BRAZIL)
 Altitude: 40 m. Latitude: 3° 8'S

| (C/mm) | T | PE | P | VR | R | RE | DF | SP | DR | HC |
|--------|------|------|------|-----|-----|------|-----|-----|-----|------|
| Jul. | 25.5 | 121 | 91 | -30 | 70 | 121 | 0 | 0 | 35 | -0.2 |
| Aug. | 26.1 | 132 | 50 | -70 | 0 | 120 | 12 | 0 | 17 | -0.6 |
| Sep. | 26.6 | 136 | 43 | 0 | 0 | 43 | 93 | 0 | 9 | -0.6 |
| Oct. | 26.8 | 143 | 42 | 0 | 0 | 42 | 101 | 0 | 4 | -0.7 |
| Nov. | 26.8 | 141 | 46 | 0 | 0 | 46 | 95 | 0 | 2 | -0.6 |
| Dec. | 26.3 | 137 | 65 | 0 | 0 | 65 | 72 | 0 | 1 | -0.5 |
| Jan. | 25.5 | 123 | 327 | 100 | 100 | 123 | 0 | 104 | 53 | 1.6 |
| Feb. | 25.3 | 107 | 316 | 0 | 100 | 107 | 0 | 209 | 131 | 1.9 |
| Mar. | 25.4 | 120 | 335 | 0 | 100 | 120 | 0 | 215 | 173 | 1.7 |
| Apr. | 25.6 | 120 | 272 | 0 | 100 | 120 | 0 | 152 | 162 | 1.2 |
| May. | 25.8 | 126 | 204 | 0 | 100 | 126 | 0 | 78 | 120 | 0.6 |
| Jun. | 25.6 | 119 | 138 | 0 | 100 | 119 | 0 | 19 | 70 | 0.1 |
| Year | 25.9 | 1525 | 1929 | * | * | 1152 | 374 | 777 | 777 | * |

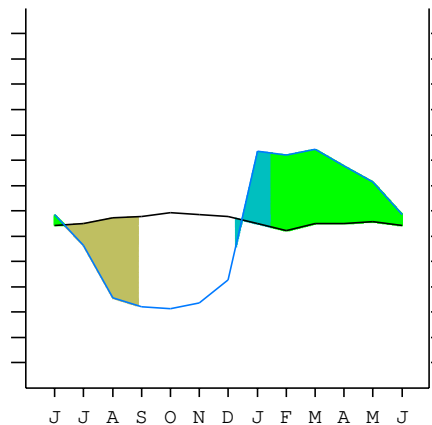
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

ITACOATIARA (BRAZIL)

3°8'S 58°26'W 40 m 24/24 y.

T= 25.9 Ic= 1.5 TROPICAL PLUVISEASONAL (PLUVISEROTIN)
 m= 22.5 Tp= 3113 UPPER INFRATROPICAL
 M= 29.9 Tn= 0 LOW HUMID
 M' = 38.8 Itc= 783
 m' = 16.9 Io= 6.2
 P= 1929 mm ————
 PE= 1525 mm ————

| | |
|-------------|---------|
| Imbibing | 8 Dec. |
| Saturation | 15 Jan. |
| Reserve Use | 12 Jun. |
| Deficit | 26 Aug. |



ITACOATIARA (BRAZIL)

Latitude: 3°8'S Longitude: 58°26'W Altitude: 40 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [A1a]
 + Type: A. Hyperoceanic
 + Subtype: 1. Ultrahyperoceanic
 + Variant: a. High
 Thermic types [A1.A1]
 + Latitudinal zone: A. Warm
 + Latitudinal belt: 1. Equatorial
 + Thermic type: A. Warm
 + Thermic subtype: 1. Torrid
 Bioclimatic types [A4e.1a.7b]
 + Macrobioclimate: A. TROPICAL
 + Bioclimate: 4. PLUVISEASONAL
 + Bioclimatic variant .: e. PLUVISEROTIN, MESOPHYTIC
 + Thermic type.....: 1. INFRATROPICAL
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 7. HUMID
 + Ombrothermic subtype : b. LOW
 Bioclimatic Classification: Trde (Pse).Itr.Hum

ITACOATIARA (BRAZIL)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 337
 Coldest semester of the year.....(Psw): 1592
 Warmest four months period of the year.....(Pcm1): 196
 Following warmest four months period.....(Pcm2): 1250
 Positive precipitation dryest 3 months.....(Ppd): 131
 Positive precipitation dryest 2 months.....(Ppd2): 85
 Positive precipitation dryest 1 month.....(Ppd1): 42
 Positive precipitation warmest 3 months.....(Pps): 131
 Positive precipitation warmest 2 months.....(Pps2): 88
 Positive precipitation warmest 1 month.....(Pps1): 42
 Positive precipitation coldest 3 months.....(Ppw): 978
 Positive precipitation coldest 2 months.....(Ppw2): 651
 Positive precipitation coldest 1 month.....(Ppw1): 316

| Seasons | Jun+Jul+Aug Ttr3-3 | Sep+Oct+Nov Ttr4-4 | Dec+Jan+Feb Ttr1-1 | Mar+Apr+May Ttr2-2 |
|----------|-----------------------|-----------------------|-----------------------|-----------------------|
| Rainfall | 279 | 131 | 708 | 811 |

Tropical rainfall rhythms: 2 > 1 > 3 > 4

ITACOATIARA (BRAZIL)

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 26.8
 Average coldest month [T].....(Tmin): 25.3
 Maximum temp. warmest month [M].....(Tmmax): 32.5
 Minimum temp. coldest month [m].....(Tmmin): 21.6
 Absolute Max.temp. warmest month [M'].....(Tamax): 38.8
 Absolute Min.temp. coldest month [m'].....(Tamin): 16.9
 First warmest contrasted month [M].....(Tcmax): 32.0 (8)
 First coldest contrasted month [m].....(Tcmin): 21.7 (8)
 Dry station temperature.....(Td): 802
 Positive temperature dryest 3 months.....(Tpd): 802
 Positive temperature dryest 2 months.....(Tpd2): 534
 Positive temperature dryest 1 month.....(Tpd1): 268
 Positive temperature warmest 3 months.....(Tps): 802
 Positive temperature warmest 2 months.....(Tps2): 536
 Positive temperature warmest 1 month.....(Tps1): 268
 Positive temperature coldest 3 months.....(Tpw): 762
 Positive temperature coldest 2 months.....(Tpw2): 507
 Positive temperature coldest 1 month.....(Tpw1): 253

ITACOATIARA (BRAZIL)

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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 |

ITACOATIARA (BRAZIL)

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 0.79
 Mediterranean index of January.....(Im1): No
 Mediterranean index of January & February.....(Im2): No
 Mediterranean index of December to February...(Im3): No

| Months | Dec. | Jan. | Feb. | Mar. | Apr. | May. | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. |
|------------|--------------|------|------|-------------|------|------|---------------|------|------|-------------|------|------|
| Pp(x10) | 650 | 3270 | 3160 | 3350 | 2720 | 2040 | 1380 | 910 | 500 | 430 | 420 | 460 |
| Tp | 263 | 255 | 253 | 254 | 256 | 258 | 256 | 255 | 261 | 266 | 268 | 268 |
| Io (Iom) | 2.47 | 12.8 | 12.5 | 13.2 | 10.6 | 7.91 | 5.39 | 3.57 | 1.92 | 1.62 | 1.57 | 1.72 |
| Seasons | Dec+Jan+Feb | | | Mar+Apr+May | | | Jun+Jul+Aug | | | Sep+Oct+Nov | | |
| Pp(x10)/Tp | 7080 / 771 | | | 8110 / 768 | | | 2790 / 772 | | | 1310 / 802 | | |
| Io (Iot) | 9.183 | | | 10.56 | | | 3.614 | | | 1.633 | | |
| Semesters | December-May | | | | | | June-November | | | | | |
| Pp(x10)/Tp | 15190 / 1539 | | | | | | 4100 / 1574 | | | | | |
| Io (Iosm) | 9.870 | | | | | | 2.605 | | | | | |

ITACOATIARA (BRAZIL)

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 19290/3113=6.20 **There is No Yearly Aridity**

| Months | Dec. | Jan. | Feb. | Mar. | Apr. | May. | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. |
|---------------------------|-------------|------|------|-------------|------|-------------------------|-------------|------|------|-------------|------|------|
| Pp [P*10] | 650 | 3270 | 3160 | 3350 | 2720 | 2040 | 1380 | 910 | 500 | 430 | 420 | 460 |
| Tp [T*10] | 263 | 255 | 253 | 254 | 256 | 258 | 256 | 255 | 261 | 266 | 268 | 268 |
| Iom [Pp/Tp] | 247 | \$\$ | \$\$ | \$\$ | \$\$ | 791 | 539 | 357 | 192 | 162 | 157 | 172 |
| Avm [200-Iom] | *** | *** | *** | *** | *** | *** | *** | *** | 8 | 38 | 43 | 28 |
| Seasons | Dec+Jan+Feb | | | Mar+Apr+May | | | Jun+Jul+Aug | | | Sep+Oct+Nov | | |
| Pp / Tp | 7080 / 771 | | | 8110 / 768 | | | 2790 / 772 | | | 1310 / 802 | | |
| Iot [Pp/Tp] | 918 | | | 1056 | | | 361 | | | 163 | | |
| Avs E[Avm<200] | *** | | | *** | | | *** | | | 110 | | |
| Strong upper semiarid [3] | | | | | | Weak upper semiarid [2] | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

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BIOCLIMATIC INDICES I

| | |
|------------------------------------------------------------------------------|------------|
| CI of Supan (1884) [Tmax-Tmin] | (Sp): 1.50 |
| CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] | 26.25 |
| CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] | -2.78 |
| + Hyperoceanic (-20<CI<20) | |
| CI of Currey (1974) [CI=Sp/(1+Lat/3)] | 0.73 |
| + Oceanic (0.6<CI<1.1) | |
| Rainfall Index of Lang (1925) [R=P/T] | 74.36 |
| + Temperate warm (100>R>60) | |
| Aridity Index of Martonne (1926) [Ia=P/(T+10)] | 53.67 |
| + Humid (60>Ia>30) | |
| I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)] | 327.12 |
| + Humid (Q>90) | |
| I of Dantin & Revenga (1940) [DR=100*T/P] | 1.34 |
| + Humid (2>DR>0) | |
| Aridity Index of UNEP [I=P/PE] | 1.26 |
| + Humid (I>0.65) | |
| Potential Erosion I of Fournier (1960) [K=Pi ² /P] | 58.18 |
| + Very low (K<60) | |

ITACOATIARA (BRAZIL)

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)
 + Climate

- + Climate
- + Region
- + Thermic type: 1. Megathermic

| Thornthwaite (1948) | | | | | | | | | | | | | |
|-----------------------------------------|-------|-------|-------|-------|-------|------------------------------|-------|-------|-------|-------|-------|---------|--------|
| | Jan. | Feb. | Mar. | Apr. | May. | Jun. | Jul. | Aug. | Sep. | Oct. | Nov. | Dec. | |
| P-E ratio | 1.36 | 1.32 | 1.40 | 1.11 | 0.80 | 0.52 | 0.33 | 0.17 | 0.14 | 0.14 | 0.15 | 0.22 | |
| T-E ratio | 11.48 | 11.38 | 11.43 | 11.52 | 11.61 | 11.52 | 11.48 | 11.75 | 11.97 | 12.06 | 12.06 | 11.83 | |
| Precipitation-effectiveness: | 76.45 | | | | | Temperature-efficiency | | | | | | | 140.08 |
| Moisture Index [MI=100*(P-PE)/PE] | | | | | | | | | | | | 26.45 | |
| + B1.Humid low-humid (20<MI<40) | | | | | | | | | | | | | |
| Index of dryness [DI=100*d/PE] | | | | | | | | | | | | 24.48 | |
| + Moderate deficit (16.7<DI<33.3) | | | | | | | | | | | | | |
| Index of humidity [HI=100*s/PE] | | | | | | | | | | | | 50.94 | |
| + Strong surplus (20<HI) | | | | | | | | | | | | | |
| Potential Evapotranspiration PE | | | | | | | | | | | | 1525.44 | |
| + Megathermic (PE>1440) | | | | | | | | | | | | | |

