

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

FERNANDO DE NORONHA (BRAZIL)

Altitude: 57 m.

Latitude: 3°51'S Longitude: 32°25'W

Temperature observation period.: 1961-1990 (30)

Rainfall observation period....: 1961-1990 (30)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	Epi
Jan.	27.00	29.80	24.90	32.00	22.00	63.0	146.48
Feb.	27.10	30.00	24.80	32.00	17.70	111.0	133.29
Mar.	26.90	29.70	24.60	32.20	21.80	264.0	144.25
Apr.	26.70	29.60	24.50	32.20	20.70	290.0	137.10
May.	26.60	29.20	24.50	31.60	20.60	280.0	140.39
Jun.	26.20	28.70	24.20	30.20	20.80	190.0	126.45
Jul.	25.70	28.10	23.80	30.00	19.40	122.0	122.48
Aug.	25.70	28.10	23.60	30.20	20.00	37.0	122.48
Sep.	26.00	28.70	24.10	30.50	21.50	19.0	124.15
Oct.	26.30	29.10	24.40	30.90	16.30	14.0	136.03
Nov.	26.60	29.50	24.60	40.10	18.30	13.0	140.39
Dec.	27.00	33.70	24.90	40.10	20.80	18.0	147.87
Year	26.48	29.52	24.41	32.67	19.99	1421	1621.4

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	784
Compensated thermicity index.....(Itc):	784
Simple continentality index.....(Ic):	1.4
Diurnality index.....(Id):	8.8
Annual ombrothermic index.....(Io):	4.47
Monthly dry ombrothermic index.....(Iod1):	0.49
Bimonthly dry ombrothermic index.....(Iod2):	0.51
Three monthly dry ombrothermic index.....(Iod3):	0.56
Four monthly dry ombrothermic index.....(Iod4):	0.60
Annual ombro-evaporation index.....(Ioe):	1.15
Annual positive temperature.....(Tp):	3178
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	799
Positive precipitation.....(Pp):	1421

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

Latitudinal Belt...: Equatorial

Continentalty.....: Hyperoceanic - High Ultrahyperoceanic

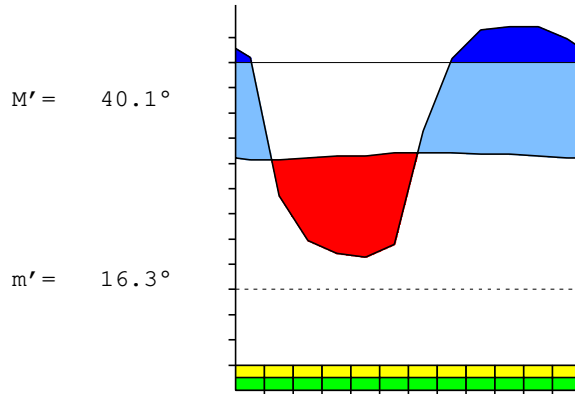
Bioclimate(Variant): TROPICAL PLUVISEASONAL (PLUVISEROTIN, SUBXEROPHYTIC)

Bioclimatic Belt...: UPPER INFRATROPICAL LOW SUBHUMID

FERNANDO DE NORONHA (BRAZIL)

57 m

P= 1421 3° 51'S 32° 25'W 30/30 y.
 T= 26.5° Ic= 1.4 Tp= 3178 Tn= 0
 m= 23.8° M= 28.1° Itc= 784 Io= 4.5



TROPICAL PLUVISEASONAL (PLUVISEROTIN)
 UPPER INFRATROPICAL LOW SUBHUMID

WATER INDEX CARD

FERNANDO DE NORONHA (BRAZIL)

Altitude: 57 m.

Latitude: 3° 51'S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	25.7	122	122	-0	100	122	0	0	44	0.0
Aug.	25.7	122	37	-85	14	122	0	0	22	-0.6
Sep.	26.0	124	19	-14	0	33	91	0	11	-0.8
Oct.	26.3	136	14	0	0	14	122	0	5	-0.8
Nov.	26.6	140	13	0	0	13	127	0	3	-0.9
Dec.	27.0	148	18	0	0	18	130	0	1	-0.8
Jan.	27.0	146	63	0	0	63	83	0	1	-0.5
Feb.	27.1	133	111	0	0	111	22	0	0	-0.1
Mar.	26.9	144	264	100	100	144	0	20	10	0.8
Apr.	26.7	137	290	0	100	137	0	153	81	1.1
May.	26.6	140	280	0	100	140	0	140	111	0.9
Jun.	26.2	126	190	0	100	126	0	64	87	0.5
Year	26.5	1621	1421	*	*	1045	576	376	376	*

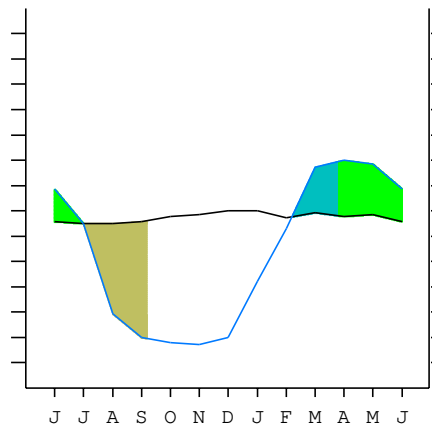
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

FERNANDO DE NORONHA (BRAZIL)

3°51'S 32°25'W 57 m 30/30 y.

T= 26.5 Ic= 1.4 TROPICAL PLUVISEASONAL (PLUVISEROTIN)
 m= 23.8 Tp= 3178 UPPER INFRATROPICAL
 M= 28.1 Tn= 0 LOW SUBHUMID
 M' = 40.1 Itc= 784
 m' = 16.3 Io= 4.5
 P= 1421 mm ———
 PE= 1621 mm ———

Imbibing	5 Feb.
Saturation	26 Mar.
Reserve Use	30 Jun.
Deficit	5 Sep.



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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.6b]
 + Macrobioclimate: A. TROPICAL
 + Bioclimate: 4. PLUVISEASONAL
 + Bioclimatic variant ..: e. PLUVISEROTIN, SUBXEROPHYTIC
 + Thermic type.....: 1. INFRATROPICAL
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 6. SUBHUMID
 + Ombrothermic subtype : b. LOW
 Bioclimatic Classification: Trde(Pse).Itr.Shu

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 759
 Coldest semester of the year.....(Psw): 662
 Warmest four months period of the year.....(Pcm1): 456
 Following warmest four months period.....(Pcm2): 882
 Positive precipitation dryest 3 months.....(Ppd): 45
 Positive precipitation dryest 2 months.....(Ppd2): 27
 Positive precipitation dryest 1 month.....(Ppd1): 13
 Positive precipitation warmest 3 months.....(Pps): 192
 Positive precipitation warmest 2 months.....(Pps2): 174
 Positive precipitation warmest 1 month.....(Pps1): 111
 Positive precipitation coldest 3 months.....(Ppw): 178
 Positive precipitation coldest 2 months.....(Ppw2): 159
 Positive precipitation coldest 1 month.....(Ppw1): 122

Seasons	Jun+Jul+Aug Ttr3-3	Sep+Oct+Nov Ttr4-4	Dec+Jan+Feb Ttr1-1	Mar+Apr+May Ttr2-2
Rainfall	349	46	192	834

Tropical rainfall rhythms: 2 > 3 > 1 > 4

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 27.1
 Average coldest month [T].....(Tmin): 25.7
 Maximum temp. warmest month [M].....(Tmmax): 33.7
 Minimum temp. coldest month [m].....(Tmmin): 23.6
 Absolute Max.temp. warmest month [M'].....(Tamax): 40.1
 Absolute Min.temp. coldest month [m'].....(Tamin): 16.3
 First warmest contrasted month [M].....(Tcmax): 33.7 (12)
 First coldest contrasted month [m].....(Tcmin): 24.9 (12)
 Dry station temperature.....(Td): 799
 Positive temperature dryest 3 months.....(Tpd): 799
 Positive temperature dryest 2 months.....(Tpd2): 529
 Positive temperature dryest 1 month.....(Tpd1): 266
 Positive temperature warmest 3 months.....(Tps): 811
 Positive temperature warmest 2 months.....(Tps2): 541
 Positive temperature warmest 1 month.....(Tps1): 271
 Positive temperature coldest 3 months.....(Tpw): 774
 Positive temperature coldest 2 months.....(Tpw2): 514
 Positive temperature coldest 1 month.....(Tpw1): 257

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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): 1.14
 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)	180	630	1110	2640	2900	2800	1900	1220	370	190	140	130
Tp	270	270	271	269	267	266	262	257	257	260	263	266
Io (Iom)	0.67	2.33	4.10	9.81	10.9	10.5	7.25	4.75	1.44	0.73	0.53	0.49
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	1920 / 811			8340 / 802			3490 / 776			460 / 789		
Io (Iot)	2.367			10.40			4.497			0.583		
Semesters	December-May						June-November					
Pp(x10)/Tp	10260 / 1613						3950 / 1565					
Io (Iosm)	6.361						2.524					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 14210/3178=4.47 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	180	630	1110	2640	2900	2800	1900	1220	370	190	140	130
Tp [T*10]	270	270	271	269	267	266	262	257	257	260	263	266
Iom [Pp/Tp]	67	233	410	981	\$\$	\$\$	725	475	144	73	53	49
Avm [200-Iom]	133	***	***	***	***	***	***	***	56	127	147	151
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	1920 / 811			8340 / 802			3490 / 776			460 / 789		
Iot [Pp/Tp]	237			1040			450			58		
Avs E[Avm<200]	***			***			***			425		
Strong lower arid [1]							Weak lower arid [3]					
Strong upper arid [1]							Weak lower semiarid [1]					

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin](Sp): 1.40
 CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]: 15.05
 CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]: -4.06
 + Hyperoceanic (-20<CI<20)
 CI of Currey (1974) [CI=Sp/(1+Lat/3)]: 0.61
 + Oceanic (0.6<CI<1.1)
 Rainfall Index of Lang (1925) [R=P/T]: 53.66
 + Semiarid (60>R>40)
 Aridity Index of Martonne (1926) [Ia=P/(T+10)]: 38.95
 + Humid (60>Ia>30)
 I of Emberger (1930) [Q=100*P/(Tmax²-Tmin²)]: 245.54
 + Humid (Q>90)
 I of Dantin & Revenga (1940) [DR=100*T/P]: 1.86
 + Humid (2>DR>0)
 Aridity Index of UNEP [I=P/PE]: 0.88
 + Humid (I>0.65)
 Potential Erosion I of Fournier (1960) [K=Pi²/P].....: 59.18
 + 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: 1. Megathermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.21	0.40	1.04	1.16	1.12	0.73	0.45	0.12	0.06	0.04	0.04	0.05
T-E ratio	12.15	12.20	12.10	12.02	11.97	11.79	11.57	11.57	11.70	11.83	11.97	12.15
Precipitation-effectiveness:	54.14					Temperature-efficiency: 143.01						
Moisture Index [MI=100*(P-PE)/PE]: -12.36 + C1.Subhumid dry (-33.3<MI<0)												
Index of dryness [DI=100*d/PE]: 35.53 + Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE]: 23.18 + Strong surplus (20<HI)												
Potential Evapotranspiration PE: 1621.37 + Megathermic (PE>1440)												

