

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

MATUKU (FIJI)

Altitude: 3 m.

Latitude: 19°8'S Longitude: 179°45'E

Temperature observation period.: 1981-1990 (10)

Rainfall observation period....: 1951-1989 (39)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	Epi
Jan.	27.29	28.98	25.73	0.00	0.00	235.7	161.68
Feb.	27.89	30.23	25.68	0.00	0.00	190.5	145.16
Mar.	27.39	28.43	26.48	0.00	0.00	263.8	149.76
Apr.	26.46	28.73	24.18	0.00	0.00	207.9	130.13
May.	25.27	28.55	22.05	0.00	0.00	138.7	110.22
Jun.	24.36	28.30	20.50	0.00	0.00	112.5	93.30
Jul.	23.32	26.00	20.80	0.00	0.00	97.8	83.12
Aug.	23.28	26.55	20.05	0.00	0.00	86.8	86.98
Sep.	23.39	26.55	20.05	0.00	0.00	104.6	88.38
Oct.	24.49	26.73	22.18	0.00	0.00	118.3	112.55
Nov.	25.59	27.55	23.65	0.00	0.00	123.5	130.59
Dec.	26.61	28.55	24.65	0.00	0.00	156.7	155.48
Year	25.45	27.93	23.00	0.00	0.00	1837	1447.3

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	720
Compensated thermicity index.....(Itc):	720
Simple continentality index.....(Ic):	4.6
Diurnality index.....(Id):	7.8
Annual ombrothermic index.....(Io):	6.02
Monthly dry ombrothermic index.....(Iod1):	3.73
Bimonthly dry ombrothermic index.....(Iod2):	3.96
Three monthly dry ombrothermic index.....(Iod3):	4.13
Four monthly dry ombrothermic index.....(Iod4):	4.26
Annual ombro-evaporation index.....(Ioe):	1.79
Annual positive temperature.....(Tp):	3053
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	700
Positive precipitation.....(Pp):	1837

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	11	1	0	0	0

Latitudinal Belt...: Eutropical

Continentalty.....: Hyperoceanic - High Euhyperoceanic

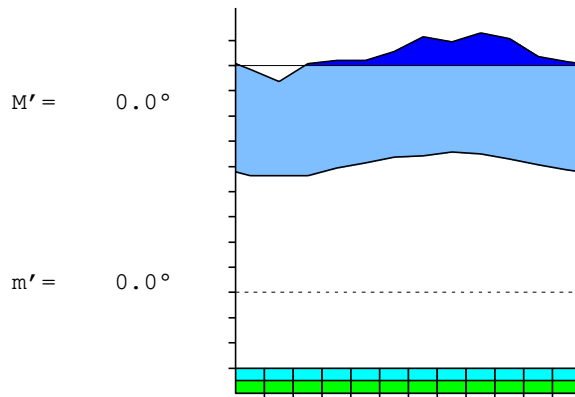
Bioclimate(Variant): TROPICAL PLUVIAL (HYGROPHYTIC)

Bioclimatic Belt...: UPPER INFRATROPICAL LOW HUMID

MATUKU (FIJI)

3 m

P= 1837 19° 8'S 179° 45'E 10/39 y.
 T= 25.4° Ic= 4.6 Tp= 3053 Tn= 0
 m= 20.0° M= 26.5° Itc= 720 Io= 6.0



TROPICAL PLUVIAL (HYGROPHYTIC)
 UPPER INFRATROPICAL LOW HUMID

WATER INDEX CARD

MATUKU (FIJI)

Altitude: 3 m.

Latitude: 19° 8'S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	23.3	83	98	0	100	83	0	15	25	0.1
Aug.	23.3	87	87	-0	100	87	0	0	13	0.0
Sep.	23.4	88	105	0	100	88	0	16	14	0.1
Oct.	24.5	113	118	0	100	113	0	6	10	0.0
Nov.	25.6	131	124	-7	93	131	0	0	5	0.0
Dec.	26.6	155	157	1	94	155	0	0	3	0.0
Jan.	27.3	162	236	6	100	162	0	68	35	0.4
Feb.	27.9	145	190	0	100	145	0	45	40	0.3
Mar.	27.4	150	264	0	100	150	0	114	77	0.7
Apr.	26.5	130	208	0	100	130	0	78	78	0.5
May.	25.3	110	139	0	100	110	0	29	53	0.2
Jun.	24.4	93	112	0	100	93	0	19	36	0.2
Year	25.4	1447	1837	*	*	1447	0	389	389	*

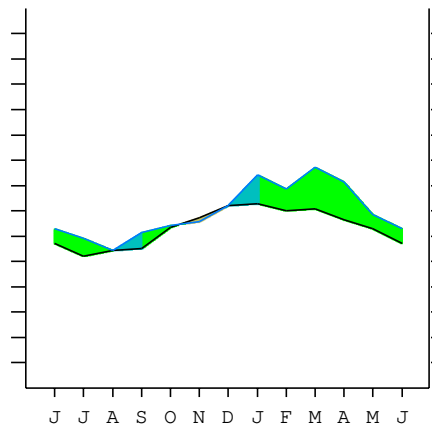
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

MATUKU (FIJI)

19°8'S 179°45'E 3 m 10/39 y.

T= 25.4 Ic= 4.6 TROPICAL PLUVIAL (HYGROPHYTIC)
 m= 20.0 Tp= 3053 UPPER INFRATROPICAL
 M= 26.5 Tn= 0 LOW HUMID
 M' = 0.0 Itc= 720
 m' = 0.0 Io= 6.0
 P= 1837 mm ———
 PE= 1447 mm ———

Imbibing	26 Nov.
Saturation	3 Jan.
Reserve Use	14 Oct.
Deficit	



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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [A2a]
 + Type: A. Hyperoceanic
 + Subtype: 2. Euhyperoceanic
 + Variant: a. High
 Thermic types [A2.A1]
 + Latitudinal zone: A. Warm
 + Latitudinal belt: 2. Eutropical
 + Thermic type: A. Warm
 + Thermic subtype: 1. Torrid
 Bioclimatic types [A5.1a.7b]
 + Macrobioclimate: A. TROPICAL
 + Bioclimate: 5. PLUVIAL
 + Bioclimatic variant ..:
 + Thermic type.....: 1. INFRATROPICAL
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 7. HUMID
 + Ombrothermic subtype : b. LOW
 Bioclimatic Classification: Trhd.Itr.Hum

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 1178
 Coldest semester of the year.....(Psw): 659
 Warmest four months period of the year.....(Pcm1): 847
 Following warmest four months period.....(Pcm2): 557
 Positive precipitation dryest 3 months.....(Ppd): 289
 Positive precipitation dryest 2 months.....(Ppd2): 185
 Positive precipitation dryest 1 month.....(Ppd1): 87
 Positive precipitation warmest 3 months.....(Pps): 690
 Positive precipitation warmest 2 months.....(Pps2): 454
 Positive precipitation warmest 1 month.....(Pps1): 190
 Positive precipitation coldest 3 months.....(Ppw): 289
 Positive precipitation coldest 2 months.....(Ppw2): 185
 Positive precipitation coldest 1 month.....(Ppw1): 87

Seasons	Jun+Jul+Aug Ttr3-3	Sep+Oct+Nov Ttr4-4	Dec+Jan+Feb Ttr1-1	Mar+Apr+May Ttr2-2
Rainfall	297	346	582	610

Tropical rainfall rhythms: 2 > 1 > 4 > 3

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 27.9
 Average coldest month [T].....(Tmin): 23.3
 Maximum temp. warmest month [M].....(Tmmax): 30.2
 Minimum temp. coldest month [m].....(Tmmin): 20.0
 Absolute Max.temp. warmest month [M'].....(Tamax): 0.0
 Absolute Min.temp. coldest month [m'].....(Tamin): 0.0
 First warmest contrasted month [M].....(Tcmax): 28.3 (6)
 First coldest contrasted month [m].....(Tcmin): 20.5 (6)
 Dry station temperature.....(Td): 700
 Positive temperature dryest 3 months.....(Tpd): 700
 Positive temperature dryest 2 months.....(Tpd2): 466
 Positive temperature dryest 1 month.....(Tpd1): 233
 Positive temperature warmest 3 months.....(Tps): 826
 Positive temperature warmest 2 months.....(Tps2): 553
 Positive temperature warmest 1 month.....(Tps1): 279
 Positive temperature coldest 3 months.....(Tpw): 700
 Positive temperature coldest 2 months.....(Tpw2): 466
 Positive temperature coldest 1 month.....(Tpw1): 233

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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)												
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): 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)	1567	2357	1905	2638	2079	1387	1125	978	868	1046	1183	1235
Tp	266	273	279	274	265	253	244	233	233	234	245	256
Io (Iom)	5.89	8.64	6.83	9.63	7.86	5.49	4.62	4.19	3.73	4.47	4.83	4.83
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	5829 / 818			6105 / 791			2970 / 710			3464 / 735		
Io (Iot)	7.126			7.716			4.186			4.715		
Semesters	December-May						June-November					
Pp(x10)/Tp	11934 / 1609						6434 / 1444					
Io (Iosm)	7.416						4.455					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 18368/3053=6.02 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	1567	2357	1905	2638	2079	1387	1125	978	868	1046	1183	1235
Tp [T*10]	266	273	279	274	265	253	244	233	233	234	245	256
Iom [Pp/Tp]	589	864	683	963	786	549	462	419	373	447	483	483
Avm [200-Iom]	***	***	***	***	***	***	***	***	***	***	***	***
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	5829 / 818			6105 / 791			2970 / 710			3464 / 735		
Iot [Pp/Tp]	713			772			419			471		
Avs E[Avm<200]	***			***			***			***		

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp):	4.61
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]		3.51
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]		2.10
+ Hyperoceanic (-20<CI<20)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)]		0.62
+ Oceanic (0.6<CI<1.1)		
Rainfall Index of Lang (1925) [R=P/T]		72.19
+ Temperate warm (100>R>60)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)]		51.82
+ Humid (60>Ia>30)		
I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)]		358.86
+ Humid (Q>90)		
I of Dantin & Revenga (1940) [DR=100*T/P]		1.39
+ Humid (2>DR>0)		
Aridity Index of UNEP [I=P/PE]		1.27
+ Humid (I>0.65)		
Potential Erosion I of Fournier (1960) [K=Pi ² /P]		37.89
+ Very low (K<60)		

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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	0.91	0.71	1.03	0.81	0.53	0.43	0.37	0.33	0.40	0.45	0.46	0.59
T-E ratio	12.28	12.55	12.33	11.91	11.37	10.96	10.49	10.48	10.53	11.02	11.52	11.97
Precipitation-effectiveness: 70.05						Temperature-efficiency						137.40
Moisture Index [MI=100*(P-PE)/PE]												26.91
+ B1.Humid low-humid (20<MI<40)												
Index of dryness [DI=100*d/PE]												0.00
+ No deficit (0<DI<16.7)												
Index of humidity [HI=100*s/PE]												26.90
+ Strong surplus (20<HI)												
Potential Evapotranspiration PE												1447.35
+ Megathermic (PE>1440)												

