

# Phytosociological Research Center

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## Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

SEAWELL (BARBADOS)

Altitude: 50 m.

Latitude: 13°4'N Longitude: 59°29'W

Temperature observation period.: 1991-1994 (4)

Rainfall observation period....: 1991-1994 (4)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	25.00	28.33	21.67	29.44	18.33	22.4	105.75
Feb.	25.28	28.89	21.67	30.00	18.33	26.9	103.41
Mar.	25.56	28.89	22.22	30.00	18.89	15.2	120.54
Apr.	26.11	29.44	22.78	30.56	21.11	54.6	131.57
May.	26.39	30.00	22.78	31.11	20.56	129.5	144.70
Jun.	27.22	30.00	24.44	31.67	21.11	70.4	151.15
Jul.	26.95	30.00	23.89	31.67	22.22	166.4	153.01
Aug.	27.23	30.56	23.89	31.11	21.11	175.8	152.65
Sep.	26.95	30.00	23.89	32.22	21.67	111.5	141.89
Oct.	26.95	30.00	23.89	31.67	21.11	195.8	140.49
Nov.	26.39	29.44	23.33	31.67	21.11	188.2	126.29
Dec.	25.84	28.89	22.78	30.00	20.56	86.9	119.35
Year	26.32	29.54	23.10	30.93	20.51	1244	1590.8

### BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	763
Compensated thermicity index.....(Itc):	763
Simple continentality index.....(Ic):	2.2
Diurnality index.....(Id):	7.2
Annual ombrothermic index.....(Io):	3.94
Monthly dry ombrothermic index.....(Iod1):	0.59
Bimonthly dry ombrothermic index.....(Iod2):	0.83
Three monthly dry ombrothermic index.....(Iod3):	0.85
Four monthly dry ombrothermic index.....(Iod4):	1.49
Annual ombro-evaporation index.....(Ioe):	2.15
Annual positive temperature.....(Tp):	3159
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	758
Positive precipitation.....(Pp):	1244

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	6	3	1	2	0

Latitudinal Belt...: Eutropical

Continentality.....: Hyperoceanic - Low Ultrahyperoceanic

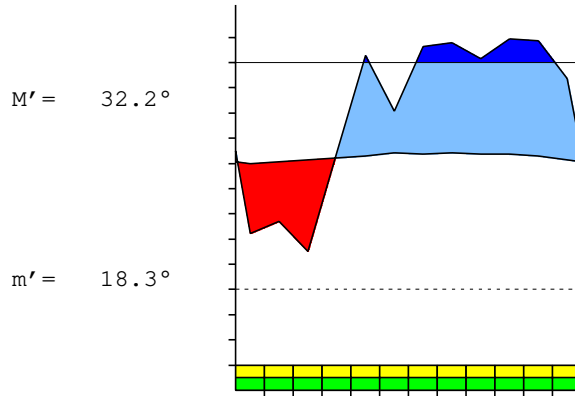
Bioclimate(Variant): TROPICAL PLUVISEASONAL (SUBMESOPHYTIC)

Bioclimatic Belt...: UPPER INFRATROPICAL LOW SUBHUMID

SEAWELL (BARBADOS)

50 m

P= 1244      13° 4'N      59° 29'W      4/4 y.  
 T= 26.3°      Ic= 2.2      Tp= 3159      Tn= 0  
 m= 21.7°      M= 28.3°      Itc= 763      Io= 3.9



TROPICAL PLUVISEASONAL (SUBMESOPHYTIC)  
 UPPER INFRATROPICAL LOW SUBHUMID

WATER INDEX CARD

SEAWELL (BARBADOS)

Altitude: 50 m.

Latitude: 13° 4'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	25.0	106	22	-68	0	90	16	0	3	-0.7
Feb.	25.3	103	27	0	0	27	77	0	1	-0.7
Mar.	25.6	121	15	0	0	15	105	0	1	-0.8
Apr.	26.1	132	55	0	0	55	77	0	0	-0.5
May.	26.4	145	130	0	0	130	15	0	0	-0.1
Jun.	27.2	151	70	0	0	70	81	0	0	-0.5
Jul.	27.0	153	166	13	13	153	0	0	0	0.0
Aug.	27.2	153	176	23	37	153	0	0	0	0.1
Sep.	27.0	142	112	-30	6	142	0	0	0	-0.2
Oct.	27.0	140	196	55	61	140	0	0	0	0.3
Nov.	26.4	126	188	39	100	126	0	23	12	0.4
Dec.	25.8	119	87	-32	68	119	0	0	6	-0.2
Year	26.3	1591	1244	*	*	1220	371	23	23	*

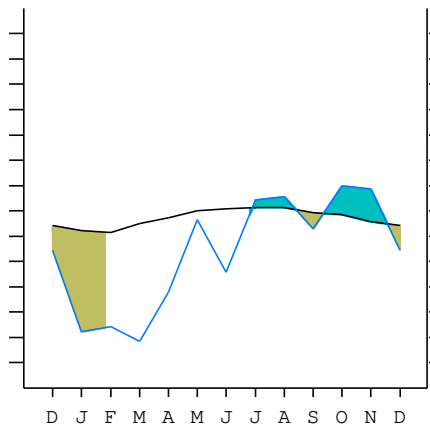
R = Reserve    VR = Variation of the reserve    RE = Real evapotranspiration  
 DR = Drainage    HC = Humidity coefficient    DF = Deficit    SP = Superavit

SEAWELL (BARBADOS)

13°4'N    59°29'W    50 m    4/4 y.

T= 26.3      Ic= 2.2      TROPICAL PLUVISEASONAL (SUBMESOPHYTIC)  
 m= 21.7      Tp= 3159      UPPER INFRATROPICAL  
 M= 28.3      Tn= 0      LOW SUBHUMID  
 M' = 32.2      Itc= 763  
 m' = 18.3      Io= 3.9  
 P= 1244      mm    ———  
 PE= 1591      mm    ———

Imbibing	11 Sep.
Saturation	19 Nov.
Reserve Use	20 Nov.
Deficit	25 Jan.



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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [A1b]  
 + Type .....: A. Hyperoceanic  
 + Subtype .....: 1. Ultrahyperoceanic  
 + Variant .....: b. Low

Thermic types [A2.A1]  
 + Latitudinal zone ....: A. Warm  
 + Latitudinal belt ....: 2. Eutropical  
 + Thermic type .....: A. Warm  
 + Thermic subtype .....: 1. Torrid

Bioclimatic types [A4.1a.6b]  
 + Macrobioclimate .....: A. TROPICAL  
 + Bioclimate .....: 4. PLUVISEASONAL  
 + Bioclimatic variant .:  
 + Thermic type.....: 1. INFRATROPICAL  
 + Thermic subtype.....: a. UPPER  
 + Ombrothermic type ...: 6. SUBHUMID  
 + Ombrothermic subtype : b. LOW

Bioclimatic Classification .....: Trde.Itr.Shu

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 849  
 Coldest semester of the year.....(Psw): 394  
 Warmest four months period of the year.....(Pcm1): 524  
 Following warmest four months period.....(Pcm2): 493  
 Positive precipitation dryest 3 months.....(Ppd): 65  
 Positive precipitation dryest 2 months.....(Ppd2): 42  
 Positive precipitation dryest 1 month.....(Ppd1): 15  
 Positive precipitation warmest 3 months.....(Pps): 413  
 Positive precipitation warmest 2 months.....(Pps2): 342  
 Positive precipitation warmest 1 month.....(Pps1): 176  
 Positive precipitation coldest 3 months.....(Ppw): 65  
 Positive precipitation coldest 2 months.....(Ppw2): 49  
 Positive precipitation coldest 1 month.....(Ppw1): 22

Seasons	Dec+Jan+Feb Ttr1-1	Mar+Apr+May Ttr2-2	Jun+Jul+Aug Ttr3-3	Sep+Oct+Nov Ttr4-4
Rainfall	136	199	412	495

Tropical rainfall rhythms: 4 > 3 > 2 > 1

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 27.2  
 Average coldest month [T].....(Tmin): 25.0  
 Maximum temp. warmest month [M].....(Tmmax): 30.6  
 Minimum temp. coldest month [m].....(Tmmin): 21.7  
 Absolute Max.temp. warmest month [M'].....(Tamax): 32.2  
 Absolute Min.temp. coldest month [m'].....(Tamin): 18.3  
 First warmest contrasted month [M].....(Tcmax): 28.9 (2)  
 First coldest contrasted month [m].....(Tcmin): 21.7 (2)  
 Dry station temperature.....(Td): 758  
 Positive temperature dryest 3 months.....(Tpd): 758  
 Positive temperature dryest 2 months.....(Tpd2): 508  
 Positive temperature dryest 1 month.....(Tpd1): 256  
 Positive temperature warmest 3 months.....(Tps): 814  
 Positive temperature warmest 2 months.....(Tps2): 542  
 Positive temperature warmest 1 month.....(Tps1): 272  
 Positive temperature coldest 3 months.....(Tpw): 758  
 Positive temperature coldest 2 months.....(Tpw2): 503  
 Positive temperature coldest 1 month.....(Tpw1): 250

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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): 1.28  
 Mediterranean index of July.[PE/P].....(Im1): No  
 Mediterranean index of July & August.....(Im2): No  
 Mediterranean index of June, July & August....(Im3): No

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	869	224	269	152	546	1295	704	1664	1758	1115	1958	1882
Tp	258	250	253	256	261	264	272	270	272	270	270	264
Io (Iom)	3.36	0.90	1.06	0.59	2.09	4.91	2.59	6.17	6.46	4.14	7.27	7.13
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	1362 / 761			1993 / 781			4126 / 814			4955 / 803		
Io (Iot)	1.789			2.553			5.069			6.171		
Semesters	December-May						June-November					
Pp(x10)/Tp	3355 / 1542						9081 / 1617					
Io (Iosm)	2.176						5.616					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 12436/3159=3.94 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	869	224	269	152	546	1295	704	1664	1758	1115	1958	1882
Tp [T*10]	258	250	253	256	261	264	272	270	272	270	270	264
Iom [Pp/Tp]	336	90	106	59	209	491	259	617	646	414	727	713
Avm [200-Iom]	***	110	94	141	***	***	***	***	***	***	***	***
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	1362 / 761			1993 / 781			4126 / 814			4955 / 803		
Iot [Pp/Tp]	179			255			507			617		
Avs E[Avm<200]	***			***			***			***		
Weak lower arid [1]							Weak upper arid [1]					
Strong lower semiarid [1]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....	(Sp):	2.23
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....		-3.63
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....		-4.32
+ Hyperoceanic (-20<CI<20)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....		0.42
+ Hyperoceanic (0<CI<0.6)		
Rainfall Index of Lang (1925) [R=P/T] .....		47.24
+ Semiarid (60>R>40)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....		34.24
+ Humid (60>Ia>30)		
I of Emberger (1930) [Q=100*P/(Tmax <sup>2</sup> -Tmin <sup>2</sup> )] .....		267.83
+ Humid (Q>90)		
I of Dantin & Revenga (1940) [DR=100*T/P] .....		2.12
+ Semiarid (3>DR>2)		
Aridity Index of UNEP [I=P/PE] .....		0.78
+ Humid (I>0.65)		
Potential Erosion I of Fournier (1960) [K=Pi <sup>2</sup> /P] .....		30.83
+ 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	0.07	0.09	0.04	0.18	0.48	0.24	0.62	0.66	0.40	0.74	0.72	0.31	
T-E ratio	11.25	11.38	11.50	11.75	11.88	12.25	12.13	12.25	12.13	12.13	11.88	11.63	
Precipitation-effectiveness:	45.51					Temperature-efficiency .....							142.14
Moisture Index [MI=100*(P-PE)/PE] .....	-21.83												
+ C1.Subhumid dry (-33.3<MI<0)													
Index of dryness [DI=100*d/PE] .....	23.29												
+ Moderate deficit (16.7<DI<33.3)													
Index of humidity [HI=100*s/PE] .....	1.46												
+ No surplus (0<HI<10)													
Potential Evapotranspiration PE .....	1590.81												
+ Megathermic (PE>1440)													

