

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

CHITTAGONG (BANGLADESH)

Altitude: 27 m.

Latitude: 22°21'N Longitude: 91°50'E

Temperature observation period.: 1920-1980 (61)

Rainfall observation period....: 1920-1980 (61)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPi
Jan.	19.40	26.10	12.80	31.70	7.20	5.0	45.40
Feb.	21.40	27.80	15.00	33.90	7.80	28.0	59.41
Mar.	25.00	30.60	19.40	37.20	10.60	64.0	114.84
Apr.	27.20	31.70	22.80	38.90	15.00	150.0	149.57
May.	27.80	31.70	23.90	36.70	18.30	264.0	166.33
Jun.	27.80	30.60	25.00	36.70	20.00	533.0	163.41
Jul.	27.50	30.00	25.00	34.40	19.40	597.0	165.03
Aug.	27.20	30.00	24.40	33.90	22.20	518.0	156.63
Sep.	27.50	30.60	24.40	35.00	21.70	320.0	146.38
Oct.	26.70	30.60	22.80	34.40	16.70	180.0	135.73
Nov.	23.60	28.90	18.30	33.90	11.10	56.0	84.82
Dec.	20.00	26.10	13.90	31.10	8.30	15.0	49.66
Year	25.09	29.56	20.64	34.82	14.86	2730	1437.2

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	640
Compensated thermicity index.....(Itc):	640
Simple continentality index.....(Ic):	8.4
Diurnality index.....(Id):	13.3
Annual ombrothermic index.....(Io):	9.07
Monthly dry ombrothermic index.....(Iod1):	0.26
Bimonthly dry ombrothermic index.....(Iod2):	0.51
Three monthly dry ombrothermic index.....(Iod3):	0.79
Four monthly dry ombrothermic index.....(Iod4):	1.23
Annual ombro-evaporation index.....(Ioe):	6.84
Annual positive temperature.....(Tp):	3011
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	608
Positive precipitation.....(Pp):	2730

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	7	2	1	2	0

Latitudinal Belt...: Eutropical

Continentalty.....: Hyperoceanic - High Subhyperoceanic

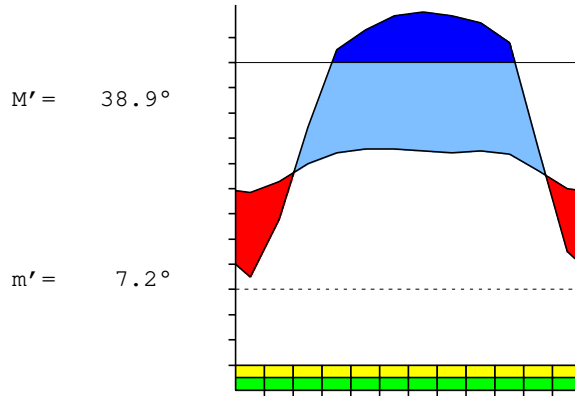
Bioclimate(Variant): TROPICAL PLUVISEASONAL (SUBMESOPHYTIC)

Bioclimatic Belt...: LOW THERMOTROPICAL UPPER HUMID

CHITTAGONG (BANGLADESH)

27 m

P= 2730 22° 21'N 91° 50'E 61/61 y.
 T= 25.1° Ic= 8.4 Tp= 3011 Tn= 0
 m= 12.8° M= 26.1° Itc= 640 Io= 9.1



TROPICAL PLUVISEASONAL (SUBMESOPHYTIC)
 LOW THERMOTROPICAL UPPER HUMID

WATER INDEX CARD
 Altitude: 27 m.

CHITTAGONG (BANGLADESH)
 Latitude: 22° 21'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	19.4	45	5	-37	0	42	4	0	19	-0.8
Feb.	21.4	59	28	0	0	28	31	0	9	-0.5
Mar.	25.0	115	64	0	0	64	51	0	5	-0.4
Apr.	27.2	150	150	0	0	150	0	0	2	0.0
May.	27.8	166	264	98	98	166	0	0	1	0.5
Jun.	27.8	163	533	2	100	163	0	368	184	2.2
Jul.	27.5	165	597	0	100	165	0	432	308	2.6
Aug.	27.2	157	518	0	100	157	0	361	335	2.3
Sep.	27.5	146	320	0	100	146	0	174	254	1.1
Oct.	26.7	136	180	0	100	136	0	44	149	0.3
Nov.	23.6	85	56	-29	71	85	0	0	75	-0.3
Dec.	20.0	50	15	-35	37	50	0	0	37	-0.6
Year	25.1	1437	2730	*	*	1351	86	1379	1379	*

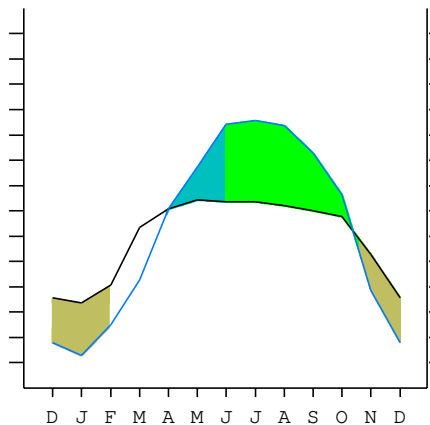
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

CHITTAGONG (BANGLADESH)

22°21'N 91°50'E 27 m 61/61 y.

T= 25.1 Ic= 8.4 TROPICAL PLUVISEASONAL (SUBMESOPHYTIC)
 m= 12.8 Tp= 3011 LOW THERMOTROPICAL
 M= 26.1 Tn= 0 UPPER HUMID
 M' = 38.9 Itc= 640
 m' = 7.2 Io= 9.1
 P= 2730 mm ———
 PE= 1437 mm ———

Imbibing	30 Mar.
Saturation	1 Jun.
Reserve Use	19 Oct.
Deficit	28 Jan.



CHITTAGONG (BANGLADESH)

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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [A3a]
 + Type: A. Hyperoceanic
 + Subtype: 3. Subhyperoceanic
 + 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 [A4.2b.7a]
 + Macrobioclimate: A. TROPICAL
 + Bioclimate: 4. PLUVISEASONAL
 + Bioclimatic variant ..:
 + Thermic type.....: 2. THERMOTROPICAL
 + Thermic subtype.....: b. LOW
 + Ombrothermic type ...: 7. HUMID
 + Ombrothermic subtype : a. UPPER
 Bioclimatic Classification: Trde.Ttr.Hum

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 2382
 Coldest semester of the year.....(Psw): 348
 Warmest four months period of the year.....(Pcm1): 1544
 Following warmest four months period.....(Pcm2): 1074
 Positive precipitation dryest 3 months.....(Ppd): 48
 Positive precipitation dryest 2 months.....(Ppd2): 20
 Positive precipitation dryest 1 month.....(Ppd1): 5
 Positive precipitation warmest 3 months.....(Pps): 1394
 Positive precipitation warmest 2 months.....(Pps2): 797
 Positive precipitation warmest 1 month.....(Pps1): 264
 Positive precipitation coldest 3 months.....(Ppw): 48
 Positive precipitation coldest 2 months.....(Ppw2): 20
 Positive precipitation coldest 1 month.....(Ppw1): 5

Seasons	Dec+Jan+Feb Ttr1-1	Mar+Apr+May Ttr2-2	Jun+Jul+Aug Ttr3-3	Sep+Oct+Nov Ttr4-4
Rainfall	48	478	1648	556

Tropical rainfall rhythms: 3 > 4 > 2 > 1

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 27.8
 Average coldest month [T].....(Tmin): 19.4
 Maximum temp. warmest month [M].....(Tmmax): 31.7
 Minimum temp. coldest month [m].....(Tmmin): 12.8
 Absolute Max.temp. warmest month [M'].....(Tamax): 38.9
 Absolute Min.temp. coldest month [m'].....(Tamin): 7.2
 First warmest contrasted month [M].....(Tcmax): 26.1 (1)
 First coldest contrasted month [m].....(Tcmin): 12.8 (1)
 Dry station temperature.....(Td): 608
 Positive temperature dryest 3 months.....(Tpd): 608
 Positive temperature dryest 2 months.....(Tpd2): 394
 Positive temperature dryest 1 month.....(Tpd1): 194
 Positive temperature warmest 3 months.....(Tps): 831
 Positive temperature warmest 2 months.....(Tps2): 556
 Positive temperature warmest 1 month.....(Tps1): 278
 Positive temperature coldest 3 months.....(Tpw): 608
 Positive temperature coldest 2 months.....(Tpw2): 394
 Positive temperature coldest 1 month.....(Tpw1): 194

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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): 0.53
 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)	150	50	280	640	1500	2640	5330	5970	5180	3200	1800	560
Tp	200	194	214	250	272	278	278	275	272	275	267	236
Io (Iom)	0.75	0.26	1.31	2.56	5.51	9.50	19.2	21.7	19.0	11.6	6.74	2.37
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	480 / 608			4780 / 800			16480 / 825			5560 / 778		
Io (Iot)	0.789			5.975			19.98			7.147		
Semesters	December-May						June-November					
Pp(x10)/Tp	5260 / 1408						22040 / 1603					
Io (Iosm)	3.736						13.75					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 27300/3011=9.07 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	150	50	280	640	1500	2640	5330	5970	5180	3200	1800	560
Tp [T*10]	200	194	214	250	272	278	278	275	272	275	267	236
Iom [Pp/Tp]	75	26	131	256	551	950	\$\$	\$\$	\$\$	\$\$	674	237
Avm [200-Iom]	125	174	69	***	***	***	***	***	***	***	***	***
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	480 / 608			4780 / 800			16480 / 825			5560 / 778		
Iot [Pp/Tp]	79			598			1998			715		
Avs E[Avm<200]	368			***			***			***		
Lower hyperarid [1]							Strong upper arid [2]					
Weak lower semiarid [1]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin](Sp): 8.40
 CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]: 17.15
 CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]: 12.69
 + Hyperoceanic (-20<CI<20)
 CI of Currey (1974) [CI=Sp/(1+Lat/3)]: 0.99
 + Oceanic (0.6<CI<1.1)
 Rainfall Index of Lang (1925) [R=P/T]: 108.80
 + Temperate humid (160>R>100)
 Aridity Index of Martonne (1926) [Ia=P/(T+10)]: 77.80
 + Perhumid (Ia>60)
 I of Emberger (1930) [Q=100*P/(Tmax²-Tmin²)]: 324.59
 + Humid (Q>90)
 I of Dantin & Revenga (1940) [DR=100*T/P]: 0.92
 + Humid (2>DR>0)
 Aridity Index of UNEP [I=P/PE]: 1.90
 + Humid (I>0.65)
 Potential Erosion I of Fournier (1960) [K=Pi²/P].....: 130.55
 + High (120<K<160)

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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	0.02	0.10	0.22	0.55	1.02	2.22	2.54	2.18	1.27	0.68	0.20	0.05
T-E ratio	8.73	9.63	11.25	12.24	12.51	12.51	12.38	12.24	12.38	12.02	10.62	9.00
Precipitation-effectiveness:	110.59					Temperature-efficiency: 135.50						
Moisture Index [MI=100*(P-PE)/PE]: 89.95 + B4.Humid highest-humid (80<MI<100)												
Index of dryness [DI=100*d/PE]: 5.99 + No deficit (0<DI<16.7)												
Index of humidity [HI=100*s/PE]: 95.94 + Strong surplus (20<HI)												
Potential Evapotranspiration PE: 1437.22 + Forth mesothermic (997<PE<1440)												

