

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

BALIKPAPAN (INDONESIA)

Altitude: 7 m.

Latitude: 1°17'S Longitude: 116°51'E

Temperature observation period.: 1974-1980 (7)

Rainfall observation period....: 1937-1980 (44)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPi
Jan.	26.10	29.40	22.80	33.30	21.10	201.0	131.80
Feb.	26.40	30.00	22.80	33.30	21.70	175.0	124.14
Mar.	26.40	30.00	22.80	33.30	21.10	231.0	137.35
Apr.	26.10	29.40	22.80	32.20	21.10	208.0	128.00
May.	26.40	29.40	23.30	32.80	21.70	231.0	137.35
Jun.	26.10	28.90	23.30	32.20	15.60	193.0	128.00
Jul.	25.60	28.30	22.80	29.40	20.00	180.0	122.93
Aug.	26.10	28.90	23.30	30.00	20.60	163.0	131.80
Sep.	26.10	28.90	23.30	31.10	19.40	140.0	128.00
Oct.	26.40	29.40	23.30	32.80	20.60	132.0	137.35
Nov.	26.10	29.40	22.80	33.30	21.10	168.0	128.00
Dec.	26.10	29.40	22.80	33.30	21.10	206.0	131.80
Year	26.16	29.28	23.01	32.25	20.43	2228	1566.5

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	773
Compensated thermicity index.....(Itc):	773
Simple continentality index.....(Ic):	0.8
Diurnality index.....(Id):	7.2
Annual ombrothermic index.....(Io):	7.10
Monthly dry ombrothermic index.....(Iod1):	5.00
Bimonthly dry ombrothermic index.....(Iod2):	5.18
Three monthly dry ombrothermic index.....(Iod3):	5.53
Four monthly dry ombrothermic index.....(Iod4):	5.90
Annual ombro-evaporation index.....(Ioe):	1.11
Annual positive temperature.....(Tp):	3139
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	786
Positive precipitation.....(Pp):	2228

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	12	0	0	0	0

Latitudinal Belt...: Equatorial

Continentalty.....: Hyperoceanic - High Ultrahyperoceanic

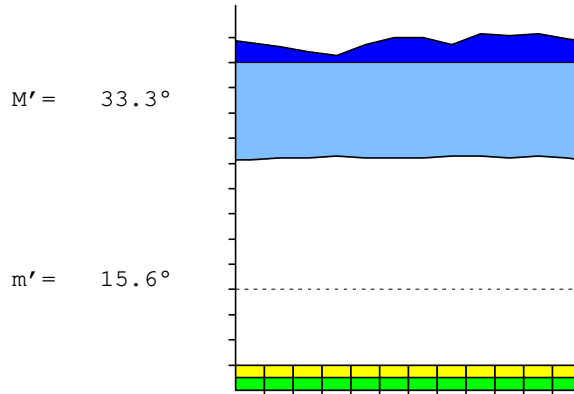
Bioclimate(Variant): TROPICAL PLUVIAL (HYGROPHYTIC)

Bioclimatic Belt...: UPPER INFRATROPICAL LOW HUMID

BALIKPAPAN (INDONESIA)

7 m

P= 2228 1° 17' S 116° 51' E 7/44 y.
 T= 26.2° Ic= 0.8 Tp= 3139 Tn= 0
 m= 22.8° M= 28.3° Itc= 773 Io= 7.1



TROPICAL PLUVIAL (HYGROPHYTIC)
 UPPER INFRATROPICAL LOW HUMID

WATER INDEX CARD BALIKPAPAN (INDONESIA)
 Altitude: 7 m. Latitude: 1° 17' S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	25.6	123	180	0	100	123	0	57	66	0.4
Aug.	26.1	132	163	0	100	132	0	31	49	0.2
Sep.	26.1	128	140	0	100	128	0	12	30	0.0
Oct.	26.4	137	132	-5	95	137	0	0	15	0.0
Nov.	26.1	128	168	5	100	128	0	35	25	0.3
Dec.	26.1	132	206	0	100	132	0	74	50	0.5
Jan.	26.1	132	201	0	100	132	0	69	59	0.5
Feb.	26.4	124	175	0	100	124	0	51	55	0.4
Mar.	26.4	137	231	0	100	137	0	94	74	0.6
Apr.	26.1	128	208	0	100	128	0	80	77	0.6
May.	26.4	137	231	0	100	137	0	94	85	0.6
Jun.	26.1	128	193	0	100	128	0	65	75	0.5
Year	26.2	1567	2228	*	*	1567	0	661	661	*

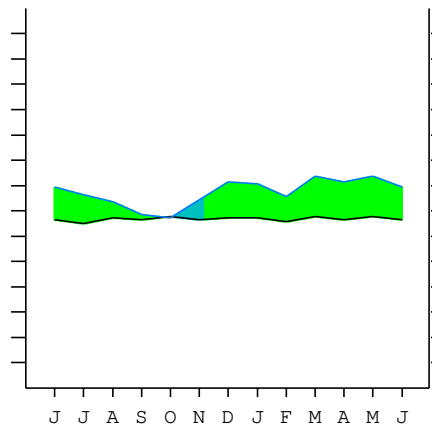
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

BALIKPAPAN (INDONESIA)

1°17' S 116°51' E 7 m 7/44 y.

T= 26.2 Ic= 0.8 TROPICAL PLUVIAL (HYGROPHYTIC)
 m= 22.8 Tp= 3139 UPPER INFRATROPICAL
 M= 28.3 Tn= 0 LOW HUMID
 M' = 33.3 Itc= 773
 m' = 15.6 Io= 7.1
 P= 2228 mm ———
 PE= 1567 mm ———

Imbibing	4 Oct.
Saturation	5 Nov.
Reserve Use	21 Sep.
Deficit	



BALIKPAPAN (INDONESIA)

Latitude: 1°17'S Longitude: 116°51'E Altitude: 7 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 [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

BALIKPAPAN (INDONESIA)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 1239
 Coldest semester of the year.....(Psw): 1115
 Warmest four months period of the year.....(Pcm1): 845
 Following warmest four months period.....(Pcm2): 676
 Positive precipitation dryest 3 months.....(Ppd): 435
 Positive precipitation dryest 2 months.....(Ppd2): 272
 Positive precipitation dryest 1 month.....(Ppd1): 132
 Positive precipitation warmest 3 months.....(Pps): 607
 Positive precipitation warmest 2 months.....(Pps2): 406
 Positive precipitation warmest 1 month.....(Pps1): 175
 Positive precipitation coldest 3 months.....(Ppw): 536
 Positive precipitation coldest 2 months.....(Ppw2): 373
 Positive precipitation coldest 1 month.....(Ppw1): 180

Seasons	Jun+Jul+Aug Ttr3-3	Sep+Oct+Nov Ttr4-4	Dec+Jan+Feb Ttr1-1	Mar+Apr+May Ttr2-2
Rainfall	536	440	582	670

Tropical rainfall rhythms: 2 > 1 > 3 > 4

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 26.4
 Average coldest month [T].....(Tmin): 25.6
 Maximum temp. warmest month [M].....(Tmmax): 30.0
 Minimum temp. coldest month [m].....(Tmmin): 22.8
 Absolute Max.temp. warmest month [M'].....(Tamax): 33.3
 Absolute Min.temp. coldest month [m'].....(Tamin): 15.6
 First warmest contrasted month [M].....(Tcmax): 30.0 (2)
 First coldest contrasted month [m].....(Tcmin): 22.8 (2)
 Dry station temperature.....(Td): 786
 Positive temperature dryest 3 months.....(Tpd): 786
 Positive temperature dryest 2 months.....(Tpd2): 525
 Positive temperature dryest 1 month.....(Tpd1): 264
 Positive temperature warmest 3 months.....(Tps): 789
 Positive temperature warmest 2 months.....(Tps2): 528
 Positive temperature warmest 1 month.....(Tps1): 264
 Positive temperature coldest 3 months.....(Tpw): 778
 Positive temperature coldest 2 months.....(Tpw2): 517
 Positive temperature coldest 1 month.....(Tpw1): 256

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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): 0.70
 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)	2060	2010	1750	2310	2080	2310	1930	1800	1630	1400	1320	1680
Tp	261	261	264	264	261	264	261	256	261	261	264	261
Io (Iom)	7.89	7.70	6.63	8.75	7.97	8.75	7.39	7.03	6.25	5.36	5.00	6.44
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	5820 / 786			6700 / 789			5360 / 778			4400 / 786		
Io (Iot)	7.405			8.492			6.889			5.598		
Semesters	December-May						June-November					
Pp(x10)/Tp	12520 / 1575						9760 / 1564					
Io (Iosm)	7.949						6.240					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 22280/3139=7.10 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	2060	2010	1750	2310	2080	2310	1930	1800	1630	1400	1320	1680
Tp [T*10]	261	261	264	264	261	264	261	256	261	261	264	261
Iom [Pp/Tp]	789	770	663	875	797	875	739	703	625	536	500	644
Avm [200-Iom]	***	***	***	***	***	***	***	***	***	***	***	***
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	5820 / 786			6700 / 789			5360 / 778			4400 / 786		
Iot [Pp/Tp]	740			849			689			560		
Avs E [Avm<200]	***			***			***			***		

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp): 0.80
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]	40.32
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]	-7.05
+ Hyperoceanic (-20<CI<20)	
CI of Currey (1974) [CI=Sp/(1+Lat/3)]	0.56
+ Hyperoceanic (0<CI<0.6)	
Rainfall Index of Lang (1925) [R=P/T]	85.17
+ Temperate warm (100>R>60)	
Aridity Index of Martonne (1926) [Ia=P/(T+10)]	61.62
+ Perhumid (Ia>60)	
I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)]	586.07
+ Humid (Q>90)	
I of Dantin & Revenga (1940) [DR=100*T/P]	1.17
+ Humid (2>DR>0)	
Aridity Index of UNEP [I=P/PE]	1.42
+ Humid (I>0.65)	
Potential Erosion I of Fournier (1960) [K=Pi ² /P]	23.95
+ 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	0.78	0.67	0.91	0.81	0.91	0.75	0.70	0.62	0.52	0.49	0.64	0.80
T-E ratio	11.75	11.88	11.88	11.75	11.88	11.75	11.52	11.75	11.75	11.88	11.75	11.75
Precipitation-effectiveness:	85.90					Temperature-efficiency						
Moisture Index [MI=100*(P-PE)/PE]												
+ B2.Humid medium-humid (40<MI<60)												
Index of dryness [DI=100*d/PE]												
+ No deficit (0<DI<16.7)												
Index of humidity [HI=100*s/PE]												
+ Strong surplus (20<HI)												
Potential Evapotranspiration PE												
+ Megathermic (PE>1440)												

