

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

JAMSHEDPUR (INDIA)

Altitude: 129 m.

Latitude: 22°49'N Longitude: 86°11'E

Temperature observation period.: 1974-1994 (21)

Rainfall observation period....: 1974-1994 (21)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	19.17	26.67	11.67	32.78	3.89	17.8	36.75
Feb.	21.39	28.89	13.89	36.67	5.00	30.5	53.04
Mar.	26.67	35.00	18.33	41.67	10.00	17.8	140.97
Apr.	31.11	38.89	23.33	44.44	16.11	25.4	182.74
May.	33.06	40.00	26.11	46.11	19.44	68.6	214.33
Jun.	31.67	36.67	26.67	47.22	20.00	190.5	199.87
Jul.	28.62	31.67	25.56	40.56	21.11	416.6	176.86
Aug.	28.62	31.67	25.56	38.89	20.00	365.8	170.77
Sep.	28.61	32.22	25.00	36.11	20.00	190.5	155.44
Oct.	26.67	31.67	21.67	36.11	13.33	71.1	135.49
Nov.	22.22	29.44	15.00	33.89	6.11	20.3	63.24
Dec.	18.61	26.11	11.11	31.11	5.00	7.6	32.53
Year	26.37	32.41	20.32	38.80	13.33	1423	1562.0

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	636
Compensated thermicity index.....(Itc):	636
Simple continentality index.....(Ic):	14.5
Diurnality index.....(Id):	16.7
Annual ombrothermic index.....(Io):	4.50
Monthly dry ombrothermic index.....(Iod1):	0.41
Bimonthly dry ombrothermic index.....(Iod2):	0.67
Three monthly dry ombrothermic index.....(Iod3):	0.76
Four monthly dry ombrothermic index.....(Iod4):	1.35
Annual ombro-evaporation index.....(Ioe):	7.62
Annual positive temperature.....(Tp):	3164
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	600
Positive precipitation.....(Pp):	1423

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	4	2	1	5	0

Latitudinal Belt...: Eutropical

Continentality.....: Oceanic - High Euoceanic

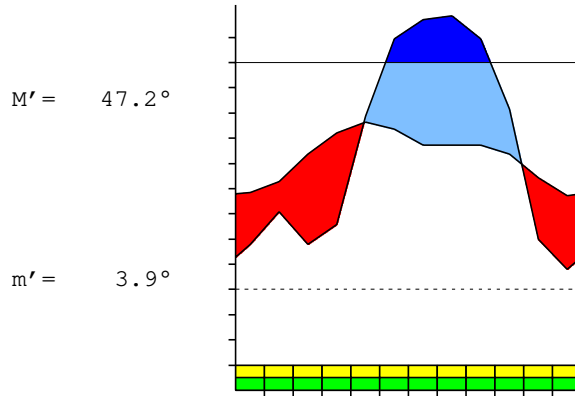
Bioclimate(Variant): TROPICAL PLUVISEASONAL (SUBXEROPHYTIC)

Bioclimatic Belt...: LOW THERMOTROPICAL LOW SUBHUMID

JAMSHEDPUR (INDIA)

129 m

P= 1423 22° 49'N 86° 11'E 21/21 y.
 T= 26.4° Ic= 14.5 Tp= 3164 Tn= 0
 m= 11.1° M= 26.1° Itc= 636 Io= 4.5



TROPICAL PLUVISEASONAL (SUBXEROPHYTIC)
 LOW THERMOTROPICAL LOW SUBHUMID

WATER INDEX CARD

JAMSHEDPUR (INDIA)

Altitude: 129 m.

Latitude: 22° 49'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	19.2	37	18	0	0	18	19	0	5	-0.5
Feb.	21.4	53	31	0	0	31	23	0	3	-0.4
Mar.	26.7	141	18	0	0	18	123	0	1	-0.8
Apr.	31.1	183	25	0	0	25	157	0	1	-0.8
May.	33.1	214	69	0	0	69	146	0	0	-0.6
Jun.	31.7	200	191	0	0	191	9	0	0	0.0
Jul.	28.6	177	417	100	100	177	0	140	70	1.3
Aug.	28.6	171	366	0	100	171	0	195	132	1.1
Sep.	28.6	155	191	0	100	155	0	35	84	0.2
Oct.	26.7	135	71	-64	36	135	0	0	42	-0.4
Nov.	22.2	63	20	-36	0	56	7	0	21	-0.6
Dec.	18.6	33	8	0	0	8	25	0	10	-0.7
Year	26.4	1562	1423	*	*	1053	509	370	370	*

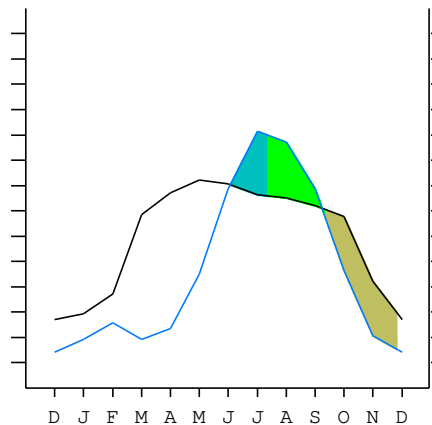
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

JAMSHEDPUR (INDIA)

22°49'N 86°11'E 129 m 21/21 y.

T= 26.4 Ic= 14.5 TROPICAL PLUVISEASONAL (SUBXEROPHYTIC)
 m= 11.1 Tp= 3164 LOW THERMOTROPICAL
 M= 26.1 Tn= 0 LOW SUBHUMID
 M' = 47.2 Itc= 636
 m' = 3.9 Io= 4.5
 P= 1423 mm ———
 PE= 1562 mm ———

Imbibing	2 Jun.
Saturation	13 Jul.
Reserve Use	11 Sep.
Deficit	25 Nov.



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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [B2a]
 + Type: B. Oceanic
 + Subtype: 2. Euoceanic
 + 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.6b]
 + Macrobioclimate: A. TROPICAL
 + Bioclimate: 4. PLUVISEASONAL
 + Bioclimatic variant ..:
 + Thermic type.....: 2. THERMOTROPICAL
 + Thermic subtype.....: b. LOW
 + Ombrothermic type ...: 6. SUBHUMID
 + Ombrothermic subtype : b. LOW
 Bioclimatic Classification: Trde.Ttr.Shu

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 1257
 Coldest semester of the year.....(Psw): 165
 Warmest four months period of the year.....(Pcm1): 701
 Following warmest four months period.....(Pcm2): 648
 Positive precipitation dryest 3 months.....(Ppd): 46
 Positive precipitation dryest 2 months.....(Ppd2): 25
 Positive precipitation dryest 1 month.....(Ppd1): 8
 Positive precipitation warmest 3 months.....(Pps): 285
 Positive precipitation warmest 2 months.....(Pps2): 259
 Positive precipitation warmest 1 month.....(Pps1): 69
 Positive precipitation coldest 3 months.....(Ppw): 56
 Positive precipitation coldest 2 months.....(Ppw2): 25
 Positive precipitation coldest 1 month.....(Ppw1): 8

Seasons	Dec+Jan+Feb Ttr1-1	Mar+Apr+May Ttr2-2	Jun+Jul+Aug Ttr3-3	Sep+Oct+Nov Ttr4-4
Rainfall	55	111	972	281

Tropical rainfall rhythms: 3 > 4 > 2 > 1

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 33.1
 Average coldest month [T].....(Tmin): 18.6
 Maximum temp. warmest month [M].....(Tmmax): 40.0
 Minimum temp. coldest month [m].....(Tmmin): 11.1
 Absolute Max.temp. warmest month [M'].....(Tamax): 47.2
 Absolute Min.temp. coldest month [m'].....(Tamin): 3.9
 First warmest contrasted month [M].....(Tcmax): 35.0 (3)
 First coldest contrasted month [m].....(Tcmin): 18.3 (3)
 Dry station temperature.....(Td): 600
 Positive temperature dryest 3 months.....(Tpd): 600
 Positive temperature dryest 2 months.....(Tpd2): 378
 Positive temperature dryest 1 month.....(Tpd1): 186
 Positive temperature warmest 3 months.....(Tps): 958
 Positive temperature warmest 2 months.....(Tps2): 647
 Positive temperature warmest 1 month.....(Tps1): 331
 Positive temperature coldest 3 months.....(Tpw): 592
 Positive temperature coldest 2 months.....(Tpw2): 378
 Positive temperature coldest 1 month.....(Tpw1): 186

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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): 1.10
 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)	76	178	305	178	254	686	1905	4166	3658	1905	711	203
Tp	186	192	214	267	311	331	317	286	286	286	267	222
Io (Iom)	0.41	0.93	1.43	0.67	0.82	2.08	6.02	14.6	12.8	6.66	2.67	0.91
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	559 / 592			1118 / 908			9729 / 889			2819 / 775		
Io (Iot)	0.945			1.231			10.94			3.637		
Semesters	December-May						June-November					
Pp(x10)/Tp	1677 / 1500						12548 / 1664					
Io (Iosm)	1.118						7.540					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 14225/3164=4.50 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	76	178	305	178	254	686	1905	4166	3658	1905	711	203
Tp [T*10]	186	192	214	267	311	331	317	286	286	286	267	222
Iom [Pp/Tp]	41	93	143	67	82	208	602	\$\$	\$\$	666	267	91
Avm [200-Iom]	159	107	57	133	118	***	***	***	***	***	***	109
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	559 / 592			1118 / 908			9729 / 889			2819 / 775		
Iot [Pp/Tp]	94			123			1094			364		
Avs E[Avm<200]	324			***			***			***		
Strong lower arid [1]						Weak lower arid [1]						
Weak upper arid [4]						Weak lower semiarid [1]						

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin](Sp): 14.45
 CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]: 42.95
 CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]: 31.33
 + Oceanic (20<CI<40)
 CI of Currey (1974) [CI=Sp/(1+Lat/3)]: 1.68
 + Subcontinental (1.1<CI<1.7)
 Rainfall Index of Lang (1925) [R=P/T]: 53.95
 + Semiarid (60>R>40)
 Aridity Index of Martonne (1926) [Ia=P/(T+10)]: 39.11
 + Humid (60>Ia>30)
 I of Emberger (1930) [Q=100*P/(Tmax²-Tmin²)]: 96.34
 + Humid (Q>90)
 I of Dantin & Revenga (1940) [DR=100*T/P]: 1.85
 + Humid (2>DR>0)
 Aridity Index of UNEP [I=P/PE]: 0.91
 + Humid (I>0.65)
 Potential Erosion I of Fournier (1960) [K=Pi²/P].....: 122.01
 + 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	0.06	0.11	0.05	0.07	0.20	0.65	1.66	1.44	0.70	0.24	0.07	0.02
T-E ratio	8.63	9.63	12.00	14.00	14.88	14.25	12.88	12.88	12.87	12.00	10.00	8.37
Precipitation-effectiveness:	52.84					Temperature-efficiency: 142.39						
Moisture Index [MI=100*(P-PE)/PE]: -8.93 + C1.Subhumid dry (-33.3<MI<0)												
Index of dryness [DI=100*d/PE]: 32.60 + Moderate deficit (16.7<DI<33.3)												
Index of humidity [HI=100*s/PE]: 23.67 + Strong surplus (20<HI)												
Potential Evapotranspiration PE: 1562.03 + Megathermic (PE>1440)												

