

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 14/02/2020)

TRUJILLO (PERU)

Altitude: 33 m.

Latitude: 8°5'S Longitude: 79°6'W

Temperature observation period.: 1974-1982 (9)

Rainfall observation period....: 1971-1982 (12)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	20.80	24.50	16.80	0.00	0.00	4.0	89.03
Feb.	21.70	25.70	17.80	0.00	0.00	2.0	86.90
Mar.	21.70	25.80	18.20	0.00	0.00	5.0	95.05
Apr.	20.60	24.40	17.00	0.00	0.00	0.0	80.81
May.	19.40	23.10	16.10	0.00	0.00	0.0	73.16
Jun.	15.60	21.70	14.70	0.00	0.00	0.0	45.54
Jul.	18.00	21.10	14.30	0.00	0.00	0.0	63.03
Aug.	17.30	20.20	14.30	0.00	0.00	0.0	58.83
Sep.	17.00	20.20	13.70	0.00	0.00	0.0	55.70
Oct.	17.30	20.60	14.20	0.00	0.00	0.0	61.14
Nov.	18.50	22.00	14.80	0.00	0.00	0.0	68.54
Dec.	19.90	23.40	15.80	0.00	0.00	0.0	83.06
Year	18.98	22.73	15.64	0.00	0.00	11	860.80

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	554
Compensated thermicity index.....(Itc):	554
Simple continentality index.....(Ic):	6.1
Diurnality index.....(Id):	7.9
Annual ombrothermic index.....(Io):	0.05
Monthly dry ombrothermic index.....(Iod1):	No
Bimonthly dry ombrothermic index.....(Iod2):	No
Threemonthly dry ombrothermic index.....(Iod3):	No
Fourmonthly dry ombrothermic index.....(Iod4):	0.06
Annual ombro-evaporation index.....(Ioe):	0.01
Annual positive temperature.....(Tp):	2278
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	556
Positive precipitation.....(Pp):	11

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

Latitudinal Belt...: Eutropical

Continentality.....: Hyperoceanic - Low Euhyperoceanic

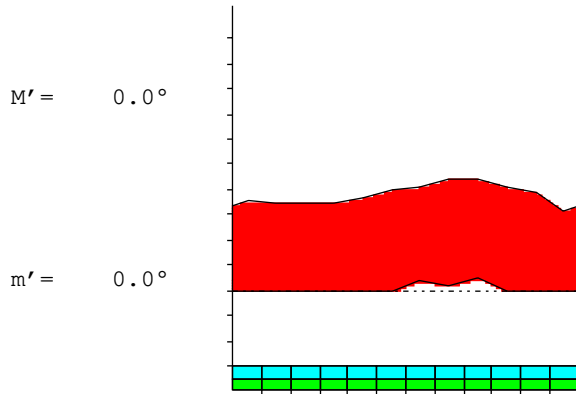
Bioclimate(Variant): TROPICAL HYPERDESERTIC (HA-EXTREME)

Bioclimatic Belt...: UPPER THERMOTROPICAL LOW ULTRAHYPERARID

TRUJILLO (PERU)

33 m

P= 11 8° 5'S 79° 6'W 9/12 y.
 T= 19.0 ° Ic= 6.1 Tp= 2278 Tn= 0
 m= 14.7 ° M= 21.7 ° Itc= 554 Io= 0.0



TROPICAL HYPERDESERTIC (HA-EXTREME)
 UPPER THERMOTROPICAL LOW ULTRAHYPERARID

WATER INDEX CARD TRUJILLO (PERU)
 Altitude: 33 m. Latitude: 8° 5'S

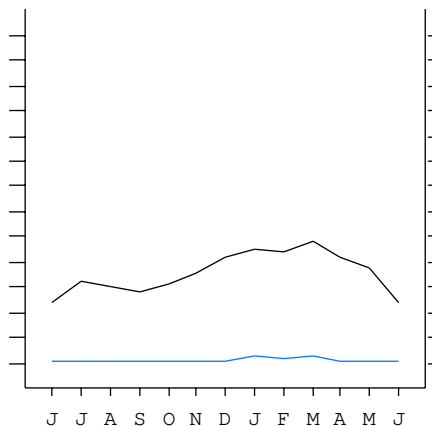
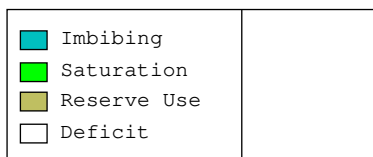
(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	18.0	63	0	0	0	0	63	0	0	-1.0
Aug.	17.3	59	0	0	0	0	59	0	0	-1.0
Sep.	17.0	56	0	0	0	0	56	0	0	-1.0
Oct.	17.3	61	0	0	0	0	61	0	0	-1.0
Nov.	18.5	69	0	0	0	0	69	0	0	-1.0
Dec.	19.9	83	0	0	0	0	83	0	0	-1.0
Jan.	20.8	89	4	0	0	4	85	0	0	-0.9
Feb.	21.7	87	2	0	0	2	85	0	0	-0.9
Mar.	21.7	95	5	0	0	5	90	0	0	-0.9
Apr.	20.6	81	0	0	0	0	81	0	0	-1.0
May.	19.4	73	0	0	0	0	73	0	0	-1.0
Jun.	15.6	46	0	0	0	0	46	0	0	-1.0
Year	19.0	861	11	*	*	11	850	0	0	*

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

TRUJILLO (PERU)

8°5'S 79°6'W 33 m 9/12 y.

T= 19.0 Ic= 6.1 TROPICAL HYPERDESERTIC (HA-EXTREME)
 m= 14.7 Tp= 2278 UPPER THERMOTROPICAL
 M= 21.7 Tn= 0 LOW ULTRAHYPERARID
 M' = 0.0 Itc= 554
 m' = 0.0 Io= 0.0
 P= 11 mm ———
 PE= 861 mm ———



All over the year,
 there is hydic deficit

TRUJILLO (PERU)

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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [A2b]
 + Type: A. Hyperoceanic
 + Subtype: 2. Euhyperoceanic
 + Variant: b. Low

Thermic types [A2.A3]
 + Latitudinal zone: A. Warm
 + Latitudinal belt: 2. Eutropical
 + Thermic type: A. Warm
 + Thermic subtype: 3. Subwarm

Bioclimatic types [A1.2a.1b]
 + Macrobioclimate: A. TROPICAL
 + Bioclimate: 1. HYPERDESERTIC
 + Bioclimatic variant .: HA-EXTREME
 + Thermic type.....: 2. THERMOTROPICAL
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 1. ULTRAHYPERARID
 + Ombrothermic subtype : b. LOW

Bioclimatic ClassificationTrhd(Hi2).Ttr.Uha.Eho

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 11
 Coldest semester of the year.....(Psw): 0
 Warmest four months period of the year.....(Pcm1): 11
 Following warmest four months period.....(Pcm2): 0
 Positive precipitation dryest 3 months.....(Ppd): 0
 Positive precipitation dryest 2 months.....(Ppd2): 0
 Positive precipitation dryest 1 month.....(Ppd1): 0
 Positive precipitation warmest 3 months.....(Pps): 11
 Positive precipitation warmest 2 months.....(Pps2): 7
 Positive precipitation warmest 1 month.....(Pps1): 2
 Positive precipitation coldest 3 months.....(Ppw): 0
 Positive precipitation coldest 2 months.....(Ppw2): 0
 Positive precipitation coldest 1 month.....(Ppw1): 0

Seasons	Jun+Jul+Aug Ttr3-3	Sep+Oct+Nov Ttr4-4	Dec+Jan+Feb Ttr1-1	Mar+Apr+May Ttr2-2
Rainfall	0	0	6	5

Tropical rainfall rhythms: 1 > 2 > 4 > 3

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 21.7
 Average coldest month [T].....(Tmin): 15.6
 Maximum temp. warmest month [M].....(Tmax): 25.8
 Minimum temp. coldest month [m].....(Tmin): 13.7
 Absolute Max.temp. warmest month [M'].....(Tamax): 0.0
 Absolute Min.temp. coldest month [m'].....(Tamin): 0.0
 First warmest contrasted month [M].....(Tcmax): 25.7 (2)
 First coldest contrasted month [m].....(Tcmin): 17.8 (2)
 Dry station temperature.....(Td): 556
 Positive temperature dryest 3 months.....(Tpd): 556
 Positive temperature dryest 2 months.....(Tpd2): 400
 Positive temperature dryest 1 month.....(Tpd1): 206
 Positive temperature warmest 3 months.....(Tps): 642
 Positive temperature warmest 2 months.....(Tps2): 434
 Positive temperature warmest 1 month.....(Tps1): 217
 Positive temperature coldest 3 months.....(Tpw): 509
 Positive temperature coldest 2 months.....(Tpw2): 336
 Positive temperature coldest 1 month.....(Tpw1): 156

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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): 78.25
 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)	0	40	20	50	0	0	0	0	0	0	0	0
Tp	199	208	217	217	206	194	156	180	173	170	173	185
Io (Iom)	0.00	0.19	0.09	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	60 / 624			50 / 617			0 / 509			0 / 528		
Io (Iot)	0.096			0.081			0.000			0.000		
Semesters	December-May						June-November					
Pp(x10)/Tp	110 / 1241						0 / 1037					
Io (Iosm)	0.089						0.000					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 110/2278=0.05 Lower ultrahyperarid (1) [2349]

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	0	40	20	50	0	0	0	0	0	0	0	0
Tp [T*10]	199	208	217	217	206	194	156	180	173	170	173	185
Iom [Pp/Tp]	0	19	9	23	0	0	0	0	0	0	0	0
Avm [200-Iom]	200	181	191	177	200	200	200	200	200	200	200	200
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	60 / 624			50 / 617			0 / 509			0 / 528		
Iot [Pp/Tp]	10			8			0			0		
Avs E[Avm<200]	572			577			600			600		
Lower ultrahyperarid [14]							Upper ultrahyperarid [1]					
Lower hyperarid [1]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin](Sp): 6.10
 CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]: 53.35
 CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]: 19.41
 + Hyperoceanic (-20<CI<20)
 CI of Currey (1974) [CI=Sp/(1+Lat/3)]: 1.65
 + Subcontinental (1.1<CI<1.7)
 Rainfall Index of Lang (1925) [R=P/T]: 0.58
 + Steppic (40>R>0)
 Aridity Index of Martonne (1926) [Ia=P/(T+10)]: 0.38
 + Extremely arid -desert- (5>Ia>0)
 I of Emberger (1930) [Q=100*P/(Tmax²-Tmin²)]: 2.30
 + Arid (30>Q>0)
 I of Dantin & Revenga (1940) [DR=100*T/P]: 172.58
 + Extremely arid (DR>6)
 Aridity Index of UNEP [I=P/PE]: 0.01
 + Hyperarid (0.05>Im)
 Potential Erosion I of Fournier (1960) [K=Pi²/P].....: 2.27
 + Very low (K<60)

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)
 + Climate: A. Warm and temperate warm
 + Region: 1. Termoeremic (Desertic warm)
 + Thermic type: 3. Macro-mesothermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
T-E ratio	9.36	9.77	9.77	9.27	8.73	7.02	8.10	7.78	7.65	7.78	8.32	8.95
Precipitation-effectiveness: 0.31						Temperature-efficiency: 102.51						
Moisture Index [MI=100*(P-PE)/PE]: -98.72 + E.Dry (-110<MI<-66.7)												
Index of dryness [DI=100*d/PE]: 98.71 + Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE]: 0.00 + No surplus (0<HI<10)												
Potential Evapotranspiration PE: 860.80 + Third mesothermic (855<PE<997)												

