

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

LA PAZ (BOLIVIA)

Altitude: 3632 m.

Latitude: 16°30'S Longitude: 68°8'W

Temperature observation period.: 1960-1970 (11)

Rainfall observation period....: 1960-1970 (11)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	Epi
Jan.	17.50	18.20	6.10	25.00	3.00	92.0	84.34
Feb.	16.20	17.20	6.10	24.00	3.00	89.0	65.51
Mar.	15.50	17.80	5.60	24.00	1.00	62.0	65.89
Apr.	14.10	18.30	4.40	23.00	-1.00	26.0	53.17
May.	11.70	17.80	2.80	23.00	-1.00	11.0	40.73
Jun.	10.10	16.70	1.10	22.00	-3.00	2.0	31.65
Jul.	9.80	16.70	0.60	21.00	-2.00	4.0	31.29
Aug.	10.90	17.20	1.70	22.00	-1.00	7.0	38.71
Sep.	14.40	17.80	3.30	24.00	1.00	34.0	56.49
Oct.	15.50	18.90	4.40	25.00	2.00	28.0	68.40
Nov.	17.50	19.40	5.60	24.00	1.00	48.0	80.61
Dec.	17.90	18.30	5.60	25.00	2.00	85.0	87.11
Year	14.26	17.86	3.94	23.50	0.42	488	703.89

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	316
Compensated thermicity index.....(Itc):	316
Simple continentality index.....(Ic):	8.1
Diurnality index.....(Id):	16.1
Annual ombrothermic index.....(Io):	2.85
Monthly dry ombrothermic index.....(Iod1):	0.20
Bimonthly dry ombrothermic index.....(Iod2):	0.30
Three monthly dry ombrothermic index.....(Iod3):	0.42
Four monthly dry ombrothermic index.....(Iod4):	0.56
Annual ombro-evaporation index.....(Ioe):	4.81
Annual positive temperature.....(Tp):	1711
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	308
Positive precipitation.....(Pp):	488

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

Latitudinal Belt...: Eutropical

Continentalty.....: Hyperoceanic - High Subhyperoceanic

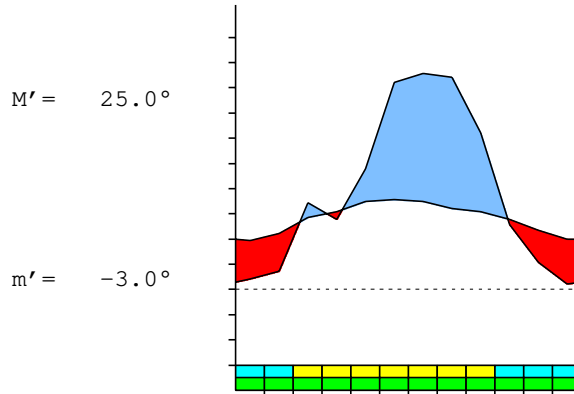
Bioclimate(Variant): TROPICAL XERIC (DRY)

Bioclimatic Belt...: LOW SUPRATROPICAL UPPER DRY

LA PAZ (BOLIVIA)

3632 m

P= 488 16° 30'S 68° 8'W 11/11 y.
 T= 14.3° Ic= 8.1 Tp= 1711 Tn= 0
 m= 0.6° M= 16.7° Itc= 316 Io= 2.9



TROPICAL XERIC (DRY)
 LOW SUPRATROPICAL UPPER DRY

WATER INDEX CARD LA PAZ (BOLIVIA)
 Altitude: 3632 m. Latitude: 16° 30'S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	9.8	31	4	0	0	4	27	0	0	-0.8
Aug.	10.9	39	7	0	0	7	32	0	0	-0.8
Sep.	14.4	56	34	0	0	34	22	0	0	-0.3
Oct.	15.5	68	28	0	0	28	40	0	0	-0.5
Nov.	17.5	81	48	0	0	48	33	0	0	-0.4
Dec.	17.9	87	85	0	0	85	2	0	0	0.0
Jan.	17.5	84	92	8	8	84	0	0	0	0.0
Feb.	16.2	66	89	23	31	66	0	0	0	0.3
Mar.	15.5	66	62	-4	27	66	0	0	0	0.0
Apr.	14.1	53	26	-27	0	53	0	0	0	-0.5
May.	11.7	41	11	0	0	11	30	0	0	-0.7
Jun.	10.1	32	2	0	0	2	30	0	0	-0.9
Year	14.3	704	488	*	*	488	216	0	0	*

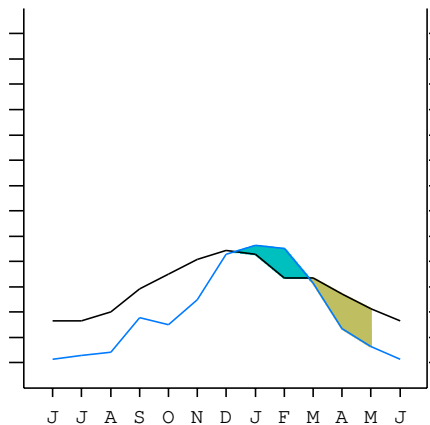
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

LA PAZ (BOLIVIA)

16°30'S 68°8'W 3632 m 11/11 y.

T= 14.3 Ic= 8.1 TROPICAL XERIC (DRY)
 m= 0.6 Tp= 1711 LOW SUPRATROPICAL
 M= 16.7 Tn= 0 UPPER DRY
 M' = 25.0 Itc= 316
 m' = -3.0 Io= 2.9
 P= 488 mm ———
 PE= 704 mm ———

Imbibing	7 Dec.
Saturation	26 Feb.
Reserve Use	1 May.
Deficit	



LA PAZ (BOLIVIA)

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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [A3a]
 + Type: A. Hyperoceanic
 + Subtype: 3. Subhyperoceanic
 + Variant: a. High

Thermic types [A2.B4]
 + Latitudinal zone: A. Warm
 + Latitudinal belt: 2. Eutropical
 + Thermic type: B. Temperate
 + Thermic subtype: 4. Temperate

Bioclimatic types [A3.4b.5a]
 + Macrobioclimate: A. TROPICAL
 + Bioclimate: 3. XERIC
 + Bioclimatic variant ..:
 + Thermic type.....: 4. SUPRATROPICAL
 + Thermic subtype.....: b. LOW
 + Ombrothermic type ...: 5. DRY
 + Ombrothermic subtype : a. UPPER

Bioclimatic Classification: Trxe.Str.Dry

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 404
 Coldest semester of the year.....(Psw): 84
 Warmest four months period of the year.....(Pcm1): 314
 Following warmest four months period.....(Pcm2): 101
 Positive precipitation dryest 3 months.....(Ppd): 13
 Positive precipitation dryest 2 months.....(Ppd2): 6
 Positive precipitation dryest 1 month.....(Ppd1): 2
 Positive precipitation warmest 3 months.....(Pps): 225
 Positive precipitation warmest 2 months.....(Pps2): 133
 Positive precipitation warmest 1 month.....(Pps1): 85
 Positive precipitation coldest 3 months.....(Ppw): 13
 Positive precipitation coldest 2 months.....(Ppw2): 6
 Positive precipitation coldest 1 month.....(Ppw1): 4

Seasons	Jun+Jul+Aug Ttr3-3	Sep+Oct+Nov Ttr4-4	Dec+Jan+Feb Ttr1-1	Mar+Apr+May Ttr2-2
Rainfall	13	110	266	99

Tropical rainfall rhythms: 1 > 4 > 2 > 3

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 17.9
 Average coldest month [T].....(Tmin): 9.8
 Maximum temp. warmest month [M].....(Tmmax): 19.4
 Minimum temp. coldest month [m].....(Tmmin): 0.6
 Absolute Max.temp. warmest month [M'].....(Tamax): 25.0
 Absolute Min.temp. coldest month [m'].....(Tamin): -3.0
 First warmest contrasted month [M].....(Tcmax): 16.7 (7)
 First coldest contrasted month [m].....(Tcmin): 0.6 (7)
 Dry station temperature.....(Td): 308
 Positive temperature dryest 3 months.....(Tpd): 308
 Positive temperature dryest 2 months.....(Tpd2): 199
 Positive temperature dryest 1 month.....(Tpd1): 101
 Positive temperature warmest 3 months.....(Tps): 529
 Positive temperature warmest 2 months.....(Tps2): 354
 Positive temperature warmest 1 month.....(Tps1): 179
 Positive temperature coldest 3 months.....(Tpw): 308
 Positive temperature coldest 2 months.....(Tpw2): 199
 Positive temperature coldest 1 month.....(Tpw1): 98

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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)				o	o	o	o	o				
Agelid.....[m' > 0] (Pf)	o	o	o						o	o	o	o
HiperAgelid..[all>0] (Pf)	o	o	o						o	o	o	o

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 1.44
 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)	850	920	890	620	260	110	20	40	70	340	280	480
Tp	179	175	162	155	141	117	101	98	109	144	155	175
Io (Iom)	4.75	5.26	5.49	4.00	1.84	0.94	0.20	0.41	0.64	2.36	1.81	2.74
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	2660 / 516			990 / 413			130 / 308			1100 / 474		
Io (Iot)	5.155			2.397			0.422			2.321		
Semesters	December-May						June-November					
Pp(x10)/Tp	3650 / 929						1230 / 782					
Io (Iosm)	3.929						1.573					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 4880/1711=2.85 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	850	920	890	620	260	110	20	40	70	340	280	480
Tp [T*10]	179	175	162	155	141	117	101	98	109	144	155	175
Iom [Pp/Tp]	475	526	549	400	184	94	20	41	64	236	181	274
Avm [200-Iom]	***	***	***	***	16	106	180	159	136	***	19	***
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	2660 / 516			990 / 413			130 / 308			1100 / 474		
Iot [Pp/Tp]	516			240			42			232		
Avs E[Avm<200]	***			***			475			***		
Upper ultrahyperarid [1]						Strong lower arid [2]						
Weak lower arid [1]						Weak upper arid [1]						
Weak upper semiarid [2]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin](Sp): 8.10
 CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]: 28.08
 CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]: 16.86
 + Hyperoceanic (-20<CI<20)
 CI of Currey (1974) [CI=Sp/(1+Lat/3)]: 1.25
 + Subcontinental (1.1<CI<1.7)
 Rainfall Index of Lang (1925) [R=P/T]: 34.23
 + Steppic (40>R>0)
 Aridity Index of Martonne (1926) [Ia=P/(T+10)]: 20.12
 + Subhumid (30>Ia>20)
 I of Emberger (1930) [Q=100*P/(Tmax²-Tmin²)]: 129.79
 + Humid (Q>90)
 I of Dantin & Revenga (1940) [DR=100*T/P]: 2.92
 + Semiarid (3>DR>2)
 Aridity Index of UNEP [I=P/PE]: 0.69
 + Humid (I>0.65)
 Potential Erosion I of Fournier (1960) [K=Pi²/P].....: 17.34
 + Very low (K<60)

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)

- + Climate: A. Warm and temperate warm
- + Region: 5. Bixeric (Bixeric)
- + Thermic type: 4. Mesothermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.41	0.41	0.28	0.11	0.05	0.01	0.02	0.03	0.15	0.11	0.20	0.37
T-E ratio	7.88	7.29	6.97	6.35	5.26	4.55	4.41	4.90	6.48	6.97	7.88	8.05
Precipitation-effectiveness: 21.19						Temperature-efficiency: 77.00						
Moisture Index [MI=100*(P-PE)/PE]: -30.67 + C1.Subhumid dry (-33.3<MI<0)												
Index of dryness [DI=100*d/PE]: 30.66 + Moderate deficit (16.7<DI<33.3)												
Index of humidity [HI=100*s/PE]: 0.00 + No surplus (0<HI<10)												
Potential Evapotranspiration PE: 703.89 + First mesothermic (570<PE<712)												

