

# Phytosociological Research Center

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## Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

SAN BORJA -BENI- (BOLIVIA)

Altitude: 194 m.

Latitude: 14°52'S Longitude: 66°52'W

Temperature observation period.: 1972-1996 (25)

Rainfall observation period....: 1972-1996 (25)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	26.70	31.10	22.40	0.00	0.00	271.8	153.55
Feb.	26.50	31.00	22.00	0.00	0.00	295.7	132.41
Mar.	26.60	31.30	21.90	0.00	0.00	238.3	143.12
Apr.	25.70	30.50	20.90	0.00	0.00	165.4	119.66
May.	24.00	28.80	19.30	0.00	0.00	115.4	95.45
Jun.	22.40	27.70	17.20	0.00	0.00	64.8	72.89
Jul.	22.10	28.00	16.20	0.00	0.00	54.7	71.94
Aug.	23.60	30.00	17.30	0.00	0.00	74.3	93.98
Sep.	24.60	30.70	18.50	0.00	0.00	96.5	105.67
Oct.	26.50	32.40	20.50	0.00	0.00	182.1	144.57
Nov.	26.70	31.80	21.60	0.00	0.00	194.2	146.70
Dec.	26.70	31.40	22.00	0.00	0.00	285.9	153.55
Year	25.18	30.39	19.98	0.00	0.00	2039	1433.5

### BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	694
Compensated thermicity index.....(Itc):	694
Simple continentality index.....(Ic):	4.6
Diurnality index.....(Id):	12.7
Annual ombrothermic index.....(Io):	6.75
Monthly dry ombrothermic index.....(Iod1):	2.48
Bimonthly dry ombrothermic index.....(Iod2):	2.69
Three monthly dry ombrothermic index.....(Iod3):	2.85
Four monthly dry ombrothermic index.....(Iod4):	3.36
Annual ombro-evaporation index.....(Ioe):	2.57
Annual positive temperature.....(Tp):	3021
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	681
Positive precipitation.....(Pp):	2039

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	8	4	0	0	0

Latitudinal Belt...: Eutropical

Continentalty.....: Hyperoceanic - High Euhyperoceanic

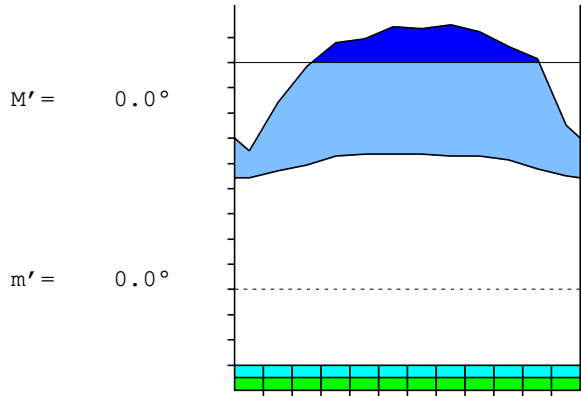
Bioclimate(Variant): TROPICAL PLUVIAL (SUBHYGROPHYTIC)

Bioclimatic Belt...: UPPER INFRATROPICAL LOW HUMID

SAN BORJA -BENI- (BOLIVIA)

194 m

P= 2039      14° 52' S      66° 52' W      25/25 y.  
 T= 25.2°      Ic= 4.6      Tp= 3021      Tn= 0  
 m= 16.2°      M= 28.0°      Itc= 694      Io= 6.7



TROPICAL PLUVIAL (SUBHYGROPHYTIC)  
 UPPER INFRATROPICAL LOW HUMID

WATER INDEX CARD      SAN BORJA -BENI- (BOLIVIA)

Altitude: 194 m.      Latitude: 14° 52' S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	22.1	72	55	-17	75	72	0	0	12	-0.2
Aug.	23.6	94	74	-20	55	94	0	0	6	-0.2
Sep.	24.6	106	97	-9	46	106	0	0	3	0.0
Oct.	26.5	145	182	38	83	145	0	0	2	0.2
Nov.	26.7	147	194	17	100	147	0	31	16	0.3
Dec.	26.7	154	286	0	100	154	0	132	74	0.8
Jan.	26.7	154	272	0	100	154	0	118	96	0.7
Feb.	26.5	132	296	0	100	132	0	163	130	1.2
Mar.	26.6	143	238	0	100	143	0	95	112	0.6
Apr.	25.7	120	165	0	100	120	0	46	79	0.3
May.	24.0	95	115	0	100	95	0	20	50	0.2
Jun.	22.4	73	65	-8	92	73	0	0	25	-0.1
Year	25.2	1434	2039	*	*	1434	0	606	606	*

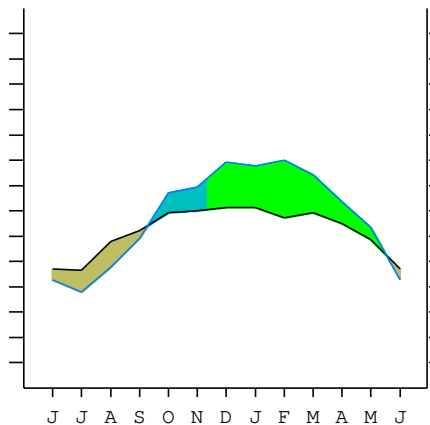
R = Reserve      VR = Variation of the reserve      RE = Real evapotranspiration  
 DR = Drainage      HC = Humidity coefficient      DF = Deficit      SP = Superavit

SAN BORJA -BENI- (BOLIVIA)

14°52' S      66°52' W      194 m 25/25 y.

T= 25.2      Ic= 4.6      TROPICAL PLUVIAL (SUBHYGROPHYTIC)  
 m= 16.2      Tp= 3021      UPPER INFRATROPICAL  
 M= 28.0      Tn= 0      LOW HUMID  
 M' = 0.0      Itc= 694  
 m' = 0.0      Io= 6.7  
 P= 2039      mm ———  
 PE= 1434      mm ———

Imbibing	6 Sep.
Saturation	11 Nov.
Reserve Use	22 May.
Deficit	



SAN BORJA -BENI- (BOLIVIA)

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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continentality Index [A2a]  
 + Type .....: A. Hyperoceanic  
 + Subtype .....: 2. Euhyperoceanic  
 + 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 [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

SAN BORJA -BENI- (BOLIVIA)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 1468  
 Coldest semester of the year.....(Psw): 571  
 Warmest four months period of the year.....(Pcm1): 934  
 Following warmest four months period.....(Pcm2): 815  
 Positive precipitation dryest 3 months.....(Ppd): 194  
 Positive precipitation dryest 2 months.....(Ppd2): 120  
 Positive precipitation dryest 1 month.....(Ppd1): 55  
 Positive precipitation warmest 3 months.....(Pps): 752  
 Positive precipitation warmest 2 months.....(Pps2): 480  
 Positive precipitation warmest 1 month.....(Pps1): 272  
 Positive precipitation coldest 3 months.....(Ppw): 194  
 Positive precipitation coldest 2 months.....(Ppw2): 120  
 Positive precipitation coldest 1 month.....(Ppw1): 55

Seasons	Jun+Jul+Aug Ttr3-3	Sep+Oct+Nov Ttr4-4	Dec+Jan+Feb Ttr1-1	Mar+Apr+May Ttr2-2
Rainfall	193	472	853	519

Tropical rainfall rhythms: 1 > 2 > 4 > 3

SAN BORJA -BENI- (BOLIVIA)

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 26.7  
 Average coldest month [T].....(Tmin): 22.1  
 Maximum temp. warmest month [M].....(Tmmax): 32.4  
 Minimum temp. coldest month [m].....(Tmmin): 16.2  
 Absolute Max.temp. warmest month [M'].....(Tamax): 0.0  
 Absolute Min.temp. coldest month [m'].....(Tamin): 0.0  
 First warmest contrasted month [M].....(Tcmax): 30.0 (8)  
 First coldest contrasted month [m].....(Tcmin): 17.3 (8)  
 Dry station temperature.....(Td): 681  
 Positive temperature dryest 3 months.....(Tpd): 681  
 Positive temperature dryest 2 months.....(Tpd2): 445  
 Positive temperature dryest 1 month.....(Tpd1): 221  
 Positive temperature warmest 3 months.....(Tps): 801  
 Positive temperature warmest 2 months.....(Tps2): 534  
 Positive temperature warmest 1 month.....(Tps1): 267  
 Positive temperature coldest 3 months.....(Tpw): 681  
 Positive temperature coldest 2 months.....(Tpw2): 445  
 Positive temperature coldest 1 month.....(Tpw1): 221

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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

SAN BORJA -BENI- (BOLIVIA)

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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)	2859	2718	2957	2383	1654	1154	648	547	743	965	1821	1942
Tp	267	267	265	266	257	240	224	221	236	246	265	267
Io (Iom)	10.7	10.2	11.2	8.96	6.44	4.81	2.89	2.48	3.15	3.92	6.87	7.27
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	8534 / 799			5191 / 763			1938 / 681			4728 / 778		
Io (Iot)	10.68			6.803			2.846			6.077		
Semesters	December-May						June-November					
Pp(x10)/Tp	13725 / 1562						6666 / 1459					
Io (Iosm)	8.787						4.569					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 20391/3021=6.75 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	2859	2718	2957	2383	1654	1154	648	547	743	965	1821	1942
Tp [T*10]	267	267	265	266	257	240	224	221	236	246	265	267
Iom [Pp/Tp]	<b>\$\$</b>	<b>\$\$</b>	<b>\$\$</b>	<b>896</b>	<b>644</b>	<b>481</b>	<b>289</b>	<b>248</b>	<b>315</b>	<b>392</b>	<b>687</b>	<b>727</b>
Avm [200-Iom]	<b>***</b>	<b>***</b>	<b>***</b>	<b>***</b>	<b>***</b>	<b>***</b>	<b>***</b>	<b>***</b>	<b>***</b>	<b>***</b>	<b>***</b>	<b>***</b>
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	8534 / 799			5191 / 763			1938 / 681			4728 / 778		
Iot [Pp/Tp]	1068			680			285			608		
Avs E [Avm<200]	<b>***</b>			<b>***</b>			<b>***</b>			<b>***</b>		

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....	(Sp):	4.60
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....		10.08
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....		4.60
+ Hyperoceanic (-20<CI<20)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....		0.77
+ Oceanic (0.6<CI<1.1)		
Rainfall Index of Lang (1925) [R=P/T] .....		81.00
+ Temperate warm (100>R>60)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....		57.97
+ Humid (60>Ia>30)		
I of Emberger (1930) [Q=100*P/(Tmax <sup>2</sup> -Tmin <sup>2</sup> )] .....		258.99
+ Humid (Q>90)		
I of Dantin & Revenga (1940) [DR=100*T/P] .....		1.23
+ 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 <sup>2</sup> /P] .....		42.88
+ 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	1.08	1.19	0.93	0.64	0.44	0.24	0.20	0.27	0.36	0.69	0.74	1.14	
T-E ratio	12.02	11.92	11.97	11.57	10.80	10.08	9.95	10.62	11.07	11.92	12.02	12.02	
Precipitation-effectiveness:	79.33						Temperature-efficiency .....						135.95
Moisture Index [MI=100*(P-PE)/PE] .....												42.25	
+ B2.Humid medium-humid (40<MI<60)													
Index of dryness [DI=100*d/PE] .....												0.00	
+ No deficit (0<DI<16.7)													
Index of humidity [HI=100*s/PE] .....												42.24	
+ Strong surplus (20<HI)													
Potential Evapotranspiration PE .....												1433.50	
+ Forth mesothermic (997<PE<1440)													

