

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 14/02/2020)

RIBERALTA (BOLIVIA)

Altitude: 172 m.

Latitude: 11°1'S Longitude: 66°5'W

Temperature observation period.: 1991-1994 (4)

Rainfall observation period....: 1977-1994 (18)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	26.95	31.11	22.78	35.00	21.11	231.4	151.62
Feb.	26.95	31.11	22.78	35.00	20.56	172.5	134.93
Mar.	26.67	31.67	21.67	36.11	17.78	208.5	143.71
Apr.	25.56	29.44	21.67	33.33	18.33	106.9	116.66
May.	24.45	28.89	20.00	32.78	12.78	46.2	100.57
Jun.	25.00	31.11	18.89	33.33	12.78	18.5	104.53
Jul.	25.28	31.67	18.89	34.44	15.00	11.4	112.16
Aug.	24.73	31.67	17.78	36.11	8.33	13.7	106.84
Sep.	26.39	33.33	19.44	37.22	15.56	43.2	132.07
Oct.	26.67	32.22	21.11	36.67	16.11	116.1	145.07
Nov.	26.67	31.11	22.22	35.56	19.44	145.5	143.71
Dec.	27.23	31.67	22.78	36.11	19.44	201.2	155.48
Year	26.05	31.25	20.83	35.14	16.43	1315	1547.3

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	749
Compensated thermicity index.....(Itc):	749
Simple continentality index.....(Ic):	2.8
Diurnality index.....(Id):	13.9
Annual ombrothermic index.....(Io):	4.21
Monthly dry ombrothermic index.....(Iod1):	0.45
Bimonthly dry ombrothermic index.....(Iod2):	0.50
Threemonthly dry ombrothermic index.....(Iod3):	0.58
Fourmonthly dry ombrothermic index.....(Iod4):	0.90
Annual ombro-evaporation index.....(Ioe):	0.85
Annual positive temperature.....(Tp):	3126
Annual negative temperature.....(Tn):	0
Dry station temperature.....(Td):	750
Positive precipitation.....(Pp):	1315

N. of Months	P>4T	P:2T-4T	PT-2T	P<T	T<0
	7	0	2	3	0

Latitudinal Belt...: Eutropical

Continentality.....: Hyperoceanic - Low Ultrahyperoceanic

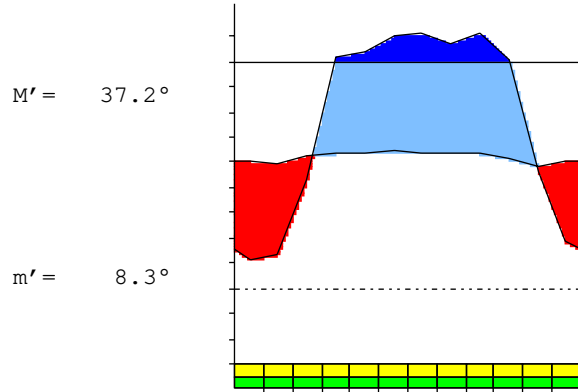
Bioclimate(Variant): TROPICAL PLUVISEASONAL (SUBXEROPHYTIC)

Bioclimatic Belt...: UPPER INFRATROPICAL LOW SUBHUMID

RIBERALTA (BOLIVIA)

172 m

P= 1315 11° 1'S 66° 5'W 4/18 y.
 T= 26.0 ° Ic= 2.8 Tp= 3126 Tn= 0
 m= 20.0 ° M= 28.9 ° Itc= 749 Io= 4.2



TROPICAL PLUVISEASONAL (SUBXEROPHYTIC)
 UPPER INFRATROPICAL LOW SUBHUMID

WATER INDEX CARD RIBERALTA (BOLIVIA)
 Altitude: 172 m. Latitude: 11° 1'S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	25.3	112	11	0	0	11	101	0	3	-0.8
Aug.	24.7	107	14	0	0	14	93	0	1	-0.8
Sep.	26.4	132	43	0	0	43	89	0	1	-0.6
Oct.	26.7	145	116	0	0	116	29	0	0	-0.1
Nov.	26.7	144	146	2	2	144	0	0	0	0.0
Dec.	27.2	155	201	46	48	155	0	0	0	0.2
Jan.	27.0	152	231	52	100	152	0	27	14	0.5
Feb.	27.0	135	173	0	100	135	0	38	26	0.2
Mar.	26.7	144	209	0	100	144	0	65	45	0.4
Apr.	25.6	117	107	-10	90	117	0	0	23	0.0
May.	24.5	101	46	-54	36	101	0	0	11	-0.5
Jun.	25.0	105	19	-36	0	54	50	0	6	-0.8
Year	26.0	1547	1315	*	*	1185	362	130	130	*

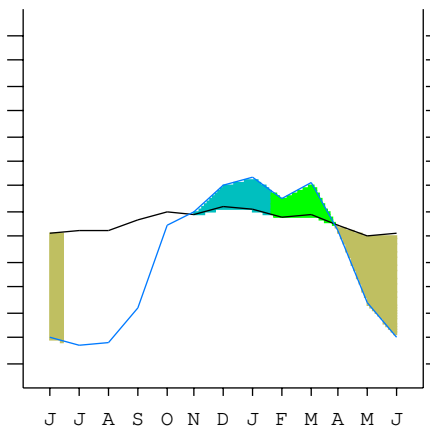
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

RIBERALTA (BOLIVIA)

11°1'S 66°5'W 172 m 4/18 y.

T= 26.0 Ic= 2.8 TROPICAL PLUVISEASONAL (SUBXEROPHYTIC)
 m= 20.0 Tp= 3126 UPPER INFRATROPICAL
 M= 28.9 Tn= 0 LOW SUBHUMID
 M' = 37.2 Itc= 749
 m' = 8.3 Io= 4.2
 P= 1315 mm ———
 PE= 1547 mm ———

Imbibing	29 Oct.
Saturation	20 Jan.
Reserve Use	27 Mar.
Deficit	13 Jun.



RIBERALTA (BOLIVIA)

Latitude: 11°1'S Longitude: 66°5'W Altitude: 172 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continentality Index [A1b]
 + Type: A. Hyperoceanic
 + Subtype: 1. Ultrahyperoceanic
 + Variant: b. Low
 Thermic types [A2.A1]
 + Latitudinal zone: A. Warm
 + Latitudinal belt: 2. Eutropical
 + Thermic type: A. Warm
 + Thermic subtype: 1. Torrid
 Bioclimatic types [A4.1a.6b]
 + Macrobioclimate: A. TROPICAL
 + Bioclimate: 4. PLUVISEASONAL
 + Bioclimatic variant .: SUBXEROPHYTIC
 + Thermic type.....: 1. INFRATROPICAL
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 6. SUBHUMID
 + Ombrothermic subtype : b. LOW
 Bioclimatic ClassificationTrps (Sxe).Itr.Shu.Uho

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 1075
 Coldest semester of the year.....(Psw): 240
 Warmest four months period of the year.....(Pcm1): 751
 Following warmest four months period.....(Pcm2): 380
 Positive precipitation dryest 3 months.....(Ppd): 44
 Positive precipitation dryest 2 months.....(Ppd2): 25
 Positive precipitation dryest 1 month.....(Ppd1): 11
 Positive precipitation warmest 3 months.....(Pps): 605
 Positive precipitation warmest 2 months.....(Pps2): 433
 Positive precipitation warmest 1 month.....(Pps1): 201
 Positive precipitation coldest 3 months.....(Ppw): 76
 Positive precipitation coldest 2 months.....(Ppw2): 65
 Positive precipitation coldest 1 month.....(Ppw1): 46

Seasons	Jun+Jul+Aug Ttr3-3	Sep+Oct+Nov Ttr4-4	Dec+Jan+Feb Ttr1-1	Mar+Apr+May Ttr2-2
Rainfall	43	304	605	361

Tropical rainfall rhythms: 1 > 2 > 4 > 3

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 27.2
 Average coldest month [T].....(Tmin): 24.5
 Maximum temp. warmest month [M].....(Tmmax): 33.3
 Minimum temp. coldest month [m].....(Tmmin): 17.8
 Absolute Max.temp. warmest month [M'].....(Tamax): 37.2
 Absolute Min.temp. coldest month [m'].....(Tamin): 8.3
 First warmest contrasted month [M].....(Tcmax): 31.7 (8)
 First coldest contrasted month [m].....(Tcmin): 17.8 (8)
 Dry station temperature.....(Td): 750
 Positive temperature dryest 3 months.....(Tpd): 750
 Positive temperature dryest 2 months.....(Tpd2): 500
 Positive temperature dryest 1 month.....(Tpd1): 253
 Positive temperature warmest 3 months.....(Tps): 811
 Positive temperature warmest 2 months.....(Tps2): 542
 Positive temperature warmest 1 month.....(Tps1): 272
 Positive temperature coldest 3 months.....(Tpw): 747
 Positive temperature coldest 2 months.....(Tpw2): 495
 Positive temperature coldest 1 month.....(Tpw1): 245

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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): 1.18
 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)	2012	2314	1725	2085	1069	462	185	114	137	432	1161	1455
Tp	272	270	270	267	256	245	250	253	247	264	267	267
Io (Iom)	7.39	8.59	6.40	7.82	4.18	1.89	0.74	0.45	0.55	1.64	4.35	5.46
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp(x10)/Tp	6051 / 811			3616 / 767			436 / 750			3048 / 797		
Io (Iot)	7.458			4.716			0.581			3.823		
Semesters	December-May						June-November					
Pp(x10)/Tp	9667 / 1578						3484 / 1547					
Io (Iosm)	6.126						2.252					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 13151/3126=4.21 There is No Yearly Aridity

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	2012	2314	1725	2085	1069	462	185	114	137	432	1161	1455
Tp [T*10]	272	270	270	267	256	245	250	253	247	264	267	267
Iom [Pp/Tp]	739	859	640	782	418	189	74	45	55	164	435	546
Avm [200-Iom]	***	***	***	***	***	11	126	155	145	36	***	***
Seasons	Dec+Jan+Feb			Mar+Apr+May			Jun+Jul+Aug			Sep+Oct+Nov		
Pp / Tp	6051 / 811			3616 / 767			436 / 750			3048 / 797		
Iot [Pp/Tp]	746			472			58			382		
Avs E[Avm<200]	***			***			426			***		
Strong lower arid [1]							Weak lower arid [2]					
Strong upper arid [1]							Strong upper semiarid [1]					
Weak upper semiarid [1]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp):	2.78
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]		4.33
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]		-0.82
+ Hyperoceanic (-20<CI<20)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)]		0.60
+ Hyperoceanic (0<CI<0.6)		
Rainfall Index of Lang (1925) [R=P/T]		50.49
+ Semiarid (60>R>40)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)]		36.48
+ Humid (60>Ia>30)		
I of Emberger (1930) [Q=100*P/(Tmmax ² -Tmmin ²)]		165.47
+ Humid (Q>90)		
I of Dantin & Revenga (1940) [DR=100*T/P]		1.98
+ Humid (2>DR>0)		
Aridity Index of UNEP [I=P/PE]		0.85
+ Humid (I>0.65)		
Potencial Erosion I of Fournier (1960) [K=Pi ² /P].....		40.72
+ Very low (K<60)		

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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	0.90	0.65	0.80	0.39	0.16	0.06	0.03	0.04	0.14	0.42	0.54	0.76
T-E ratio	12.13	12.13	12.00	11.50	11.00	11.25	11.38	11.13	11.88	12.00	12.00	12.25
Precipitation-effectiveness: 48.91						Temperature-efficiency: 140.65						
Moisture Index [MI=100*(P-PE)/PE]												
+ C1.Subhumid dry (-33.3<MI<0)												
Index of dryness [DI=100*d/PE]												
+ Moderate deficit (16.7<DI<33.3)												
Index of humidity [HI=100*s/PE]												
+ No surplus (0<HI<10)												
Potential Evapotranspiration PE												
+ Megathermic (PE>1440)												

