Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 14/02/2020)

CHEPES (ARGENTINA) Altitude: 654 m.

Latitude: 31°20'S Longitude: 66°35'W
Temperature observation period.: 1941-1950 (10)
Rainfall observation period....: 1941-1950 (10)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPi
Jan.	26.80	34.10	19.60	41.50	9.50	48.0	165.48
Feb.	25.10	32.30	18.30	41.00	5.50	67.0	124.30
Mar.	22.00	28.60	16.50	39.00	5.50	33.0	97.84
Apr.	18.70	25.30	12.00	35.00	-0.40	9.0	63.00
May.	14.50	21.20	8.10	33.60	-3.80	7.0	35.97
Jun.	10.70	17.10	4.00	30.50	-6.50	7.0	18.11
Jul.	9.80	16.60	3.00	31.00	-5.50	12.0	16.04
Aug.	12.70	20.00	5.30	32.00	-3.00	7.0	28.98
Sep.	16.30	23.60	8.60	35.20	-2.40	7.0	50.15
Oct.	20.10	27.20	13.20	38.60	2.50	36.0	86.03
Nov.	23.30	30.60	15.90	39.70	4.60	27.0	118.25
Dec.	26.40	33.80	19.00	42.00	6.00	43.0	161.82
Year	18.87	25.87	11.96	36.59	1.00	303	965.97

BIOCLIMATIC INDICES AND DIAGNOSIS

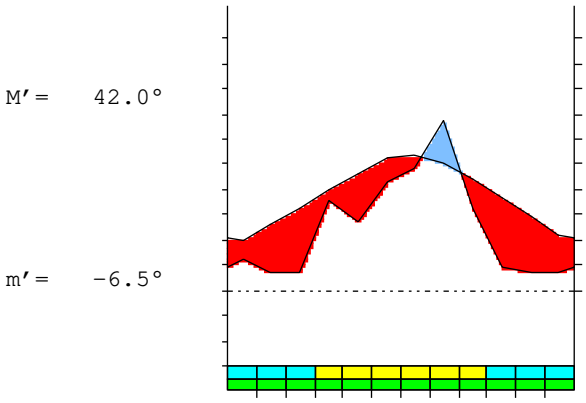
Thermicity index.....(It): 385
Compensated thermicity index.....(Itc): 385
Simple continentality index.....(Ic): 17.0
Diurnality index.....(Id): 15.0
Annual ombrothermic index.....(Io): 1.34
Monthly dry ombrothermic index.....(Iod1): 0.48
Bimonthly dry ombrothermic index.....(Iod2): 0.56
Threemonthly dry ombrothermic index.....(Iod3): 0.52
Fourmonthly dry ombrothermic index.....(Iod4): 0.85
Annual ombro-evaporation index.....(Ioe): 0.31
Annual positive temperature.....(Tp): 2264
Annual negative temperature.....(Tn): 0
Dry station temperature.....(Td): 439
Positive precipitation.....(Pp): 303

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	0	1	6	5	0

Latitudinal Belt...: Subtropical
Continentality.....: Oceanic - Low Euoceanic
Bioclimate(Variant): TROPICAL XERIC (SEMIARID)
Bioclimatic Belt...: UPPER MESOTROPICAL LOW SEMIARID

CHEPES (ARGENTINA) 654 m

P= 303 31° 20'S 66° 35'W 10/10 y.
T= 18.9 ° Ic= 17.0 Tp= 2264 Tn= 0
m= 3.0 ° M= 16.6 ° Itc= 385 Io= 1.3



TROPICAL XERIC (SEMIARID)
UPPER MESOTROPICAL LOW SEMIARID

WATER INDEX CARD CHEPES (ARGENTINA)
Altitude: 654 m. Latitude: 31° 20'S

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jul.	9.8	16	12	0	0	12	4	0	0	-0.2
Aug.	12.7	29	7	0	0	7	22	0	0	-0.7
Sep.	16.3	50	7	0	0	7	43	0	0	-0.8
Oct.	20.1	86	36	0	0	36	50	0	0	-0.5
Nov.	23.3	118	27	0	0	27	91	0	0	-0.7
Dec.	26.4	162	43	0	0	43	119	0	0	-0.7
Jan.	26.8	165	48	0	0	48	117	0	0	-0.7
Feb.	25.1	124	67	0	0	67	57	0	0	-0.4
Mar.	22.0	98	33	0	0	33	65	0	0	-0.6
Apr.	18.7	63	9	0	0	9	54	0	0	-0.8
May.	14.5	36	7	0	0	7	29	0	0	-0.8
Jun.	10.7	18	7	0	0	7	11	0	0	-0.6
Year	18.9	966	303	*	*	303	663	0	0	*

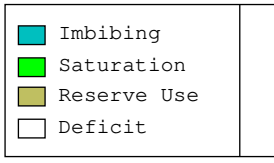
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
DR = Drainage HC = Humidity coeficient DF = Deficit SP = Superavit

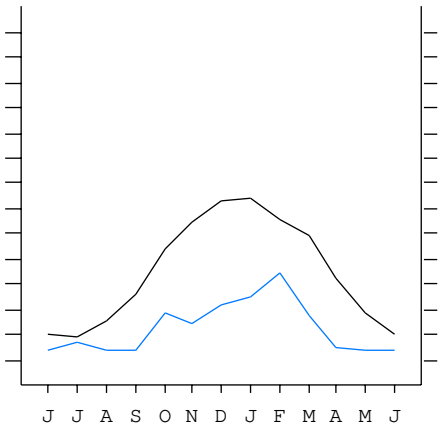
CHEPES (ARGENTINA)

31°20'S 66°35'W 654 m 10/10 y.

T= 18.9 Ic= 17.0
m= 3.0 Tp= 2264
M= 16.6 Tn= 0
M'= 42.0 Itc= 385
m'= -6.5 Io= 1.3
P= 303 mm
PE= 966 mm

TROPICAL XERIC (SEMIARID)
UPPER MESOTROPICAL
LOW SEMIARID





All over the year,
there is hydric deficit

CHEPES (ARGENTINA)

Latitude: 31°20'S Longitude: 66°35'W Altitude: 654 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continentality Index [B2b]
- + Type .....: B. Oceanic
- + Subtype .....: 2. Euoceanic
- + Variant .....: b. Low

Thermic types [A3.A3]
- + Latitudinal zone ....: A. Warm
- + Latitudinal belt ....: 3. Subtropical
- + Thermic type .....: A. Warm
- + Thermic subtype .....: 3. Subwarm

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

Bioclimatic Classification .....Trxe(Sdr).Mtr.Sar.Euo

CHEPES (ARGENTINA)

Latitude: 31°20'S Longitude: 66°35'W Altitude: 654 m

PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 254
Coldest semester of the year.....(Psw): 49
Warmest four months period of the year.....(Pcm1): 185
Following warmest four months period.....(Pcm2): 56
Positive precipitation dryest 3 months.....(Ppd): 23
Positive precipitation dryest 2 months.....(Ppd2): 14
Positive precipitation dryest 1 month.....(Ppd1): 7
Positive precipitation warmest 3 months.....(Pps): 158
Positive precipitation warmest 2 months.....(Pps2): 91
Positive precipitation warmest 1 month.....(Pps1): 48
Positive precipitation coldest 3 months.....(Ppw): 26
Positive precipitation coldest 2 months.....(Ppw2): 19
Positive precipitation coldest 1 month.....(Ppw1): 12

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	26	70	158	49

Seasonal rainfall rhythms: S > P > F > W

CHEPES (ARGENTINA)

Latitude: 31°20'S Longitude: 66°35'W Altitude: 654 m

TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 26.8
Average coldest month [T].....(Tmin): 9.8
Maximum temp. warmest month [M].....(Tmmax): 34.1
Minimum temp. coldest month [m].....(Tmmin): 3.0
Absolute Max.temp. warmest month [M'].....(Tamax): 42.0
Absolute Min.temp. coldest month [m'].....(Tamin): -6.5
First warmest contrasted month [M].....(Tcmax): 23.6 (9)
First coldest contrasted month [m].....(Tcmin): 8.6 (9)
Dry station temperature.....(Td): 439
Positive temperature dryest 3 months.....(Tpd): 439
Positive temperature dryest 2 months.....(Tpd2): 252
Positive temperature dryest 1 month.....(Tpd1): 145
Positive temperature warmest 3 months.....(Tps): 783
Positive temperature warmest 2 months.....(Tps2): 532
Positive temperature warmest 1 month.....(Tps1): 268
Positive temperature coldest 3 months.....(Tpw): 332
Positive temperature coldest 2 months.....(Tpw2): 205
Positive temperature coldest 1 month.....(Tpw1): 98

CHEPES (ARGENTINA)

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

CHEPES (ARGENTINA)

Latitude: 31°20'S Longitude: 66°35'W Altitude: 654 m

OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 3.19
Mediterranean index of January.....(Im1): 3.45
Mediterranean index of January & February.....(Im2): 2.52
Mediterranean index of December to February...(Im3): 2.86

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	430	480	670	330	90	70	70	120	70	70	360	270
Tp	264	268	251	220	187	145	107	98	127	163	201	233
Io (Iom)	1.63	1.79	2.67	1.50	0.48	0.48	0.65	1.22	0.55	0.43	1.79	1.16
Seasons	Summer			Automn			Winter			Spring		
Pp(x10)/Tp	1580 / 783			490 / 552			260 / 332			700 / 597		
Io (Iot)	2.018			0.888			0.783			1.173		
Semesters	December-May						June-November					
Pp(x10)/Tp	2070 / 1335						960 / 929					
Io (Iosm)	1.551						1.033					

CHEPES (ARGENTINA)

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 3030/2264=1.34 There is No Yearly Aridity

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	430	480	670	330	90	70	70	120	70	70	360	270
Tp [T*10]	264	268	251	220	187	145	107	98	127	163	201	233
Iom [Pp/Tp]	163	179	267	150	48	48	65	122	55	43	179	116
Avm [200-Iom]	37	21	***	50	152	152	135	78	145	157	21	84
Seasons	Summer			Automn			Winter			Spring		
Pp / Tp	1580 / 783			490 / 552			260 / 332			700 / 597		
Iot [Pp/Tp]	202			89			78			117		
Avs E[Avm<200]	***			354			357			262		

Strong lower arid [3]	Weak lower arid [2]
Weak upper arid [2]	Strong lower semiarid [2]
Weak lower semiarid [2]	Strong upper semiarid [1]
Weak upper semiarid [2]	

CHEPES (ARGENTINA)

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....(Sp): 17.00
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....: 35.18
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....: 29.76
  + Oceanic (20<CI<40)
CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....: 1.49
  + Subcontinental (1.1<CI<1.7)
Rainfall Index of Lang (1925) [R=P/T] .....: 16.06
  + Steppic (40>R>0)
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....: 10.50
  + Arid -steppic- (15>Ia>5)
I of Emberger (1930) [Q=100*P/(Tmmax²-Tmmin²)] .....: 26.26
  + Arid (30>Q>0)
I of Dantin & Revenga (1940) [DR=100*T/P] .....: 6.23
  + Extremely arid (DR>6)
Aridity Index of UNEP [I=P/PE] .....: 0.31
  + Semiarid (0.5>Im>0.2)
Potencial Erosion I of Fournier (1960) [K=Pi²/P].....: 14.82
  + Very low (K<60)

CHEPES (ARGENTINA)

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BIOCLIMATIC INDICES II

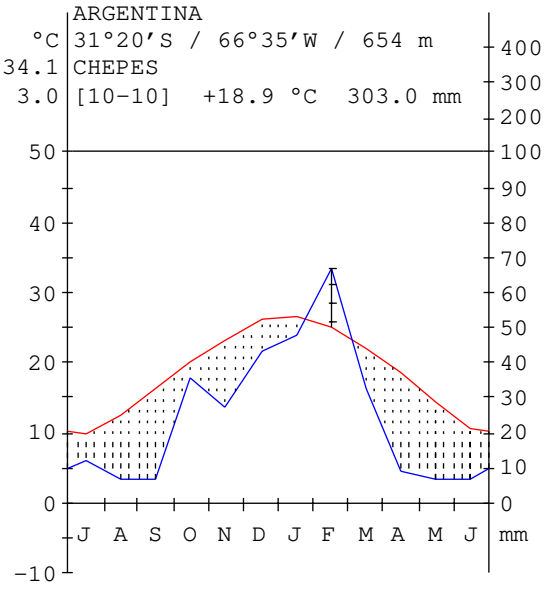
Bioclimatic classification of Gaussen & Bagnouls (1957)
  + Climate ....: A. Warm and temperate warm
  + Region .....: 2. Termohemieremic (Subdesertic warm)
  + Thermic type: 3. Macro-mesothermic

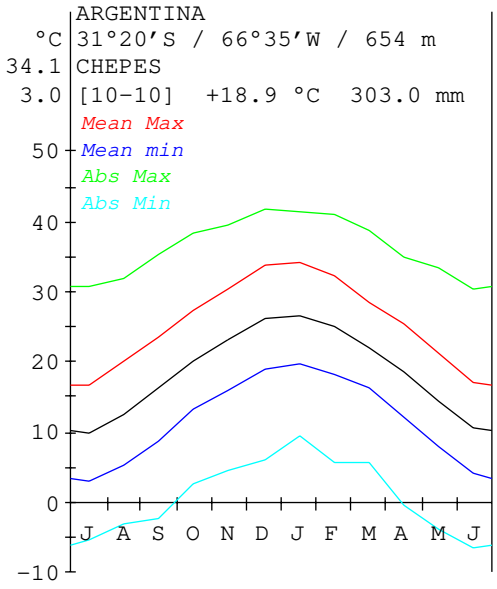
Thornthwaite (1948)

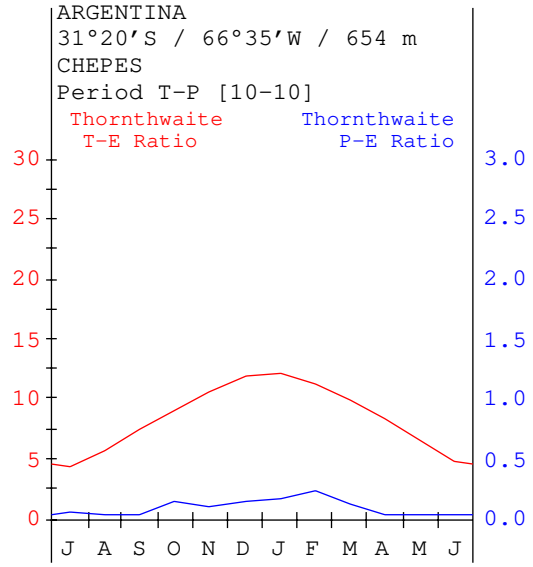
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.16	0.24	0.12	0.03	0.03	0.03	0.05	0.03	0.02	0.13	0.09	0.14
T-E ratio	12.06	11.30	9.90	8.42	6.52	4.81	4.41	5.71	7.33	9.05	10.48	11.88

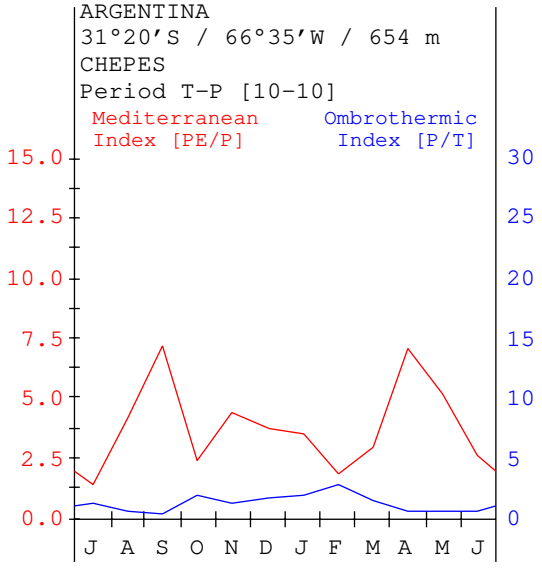
Precipitation-effectiveness: 10.58 Temperature-efficiency ....: 101.88

Moisture Index [MI=100*(P-PE)/PE] .....: -68.63
  + E.Dry (-110<MI<-66.7)
Index of dryness [DI=100*d/PE] .....: 68.63
  + Strong deficit (33.3<DI)
Index of humidity [HI=100*s/PE] .....: 0.00
  + No surplus (0<HI<10)
Potential Evapotranspiration PE .....: 965.97
  + Third mesothermic (855<PE<997)




ARGENTINA
°C 31°20'S / 66°35'W / 654 m
34.1 CHEPES
3.0 [10-10] +18.9 °C 303.0 mm
Mean Max
Mean min
Abs Max
Abs Min
50
40
30
20
10
0
-10
J A S O N D J F M A M J


ARGENTINA
31°20'S / 66°35'W / 654 m
CHEPES
Period T-P [10-10]
Thornthwaite T-E Ratio
Thornthwaite P-E Ratio
30
25
20
15
10
5
0
3.0
2.5
2.0
1.5
1.0
0.5
0.0
J A S O N D J F M A M J


ARGENTINA
31°20'S / 66°35'W / 654 m
CHEPES
Period T-P [10-10]
Mediterranean Index [PE/P]
Ombrothermic Index [P/T]
15.0
12.5
10.0
7.5
5.0
2.5
0.0
30
25
20
15
10
5
0
J A S O N D J F M A M J